Department of Education

# Case Studies of Effective Practice: Evidence from the Fostering Effective Early Learning (FEEL) Study

**Final Report**

Funded NSW DoE (DECEAR-15-35) 2017-2018

**Report prepared by**

Early Start, University of Wollongong


Authors:

Dr. Cathrine Neilsen-Hewett

cnhewett@uow.edu.au

Prof. Iram Siraj

iram.siraj@education.ox.ac.uk

Dr. Steven Howard Ms Joanne Grimmond

Ms Christine Fitzgerald



education.nsw.gov.au


NSW GOVERNMENT

# Table of Contents

# Executive Summary

## Background

There is a growing body of evidence which links high quality early childhood education and care (ECEC) with children's development and learning outcomes. The quality of many young children's experiences and opportunities depends on the skills, dispositions and understandings of the adult ECEC workforce.

This report builds on (and should be read alongside) the evidence taken during the Fostering Effective Early Learning (FEEL) study (Siraj, et al., 2018, DoE, NSW); this involved the implementation of an evidence-based professional development (PD) program (Leadership for Learning), and showed direct impact on early childhood educators in 45 intervention centres and indirect impact on 677 children.

This report focuses on the results of intensive case studies which were conducted after the FEEL study in six of its 45 intervention centres. These six had been identified as demonstrating the most significant growth in environmental quality and children's developmental outcomes.

The FEEL study was conducted between 2016-2017; it involved 90 ECEC settings across NSW (i.e. preschools, long-day care services) each with an Early Childhood Teacher (ECT) and in the year before school entry. Half the centres participated in the PD (the intervention group) in the first year, 2016, and the control group received the PD in 2017 after the study had been completed.

To evaluate the intervention, environmental ratings of quality were conducted at the end of the 2015, and child assessments were conducted at the beginning of the intervention year, 2016. Follow-up assessments were conducted at the end of the intervention year. The approach of the study, along with the random assignment of centres to intervention and control groups, conformed to a cluster randomised controlled trial design: this was the strongest available design for drawing conclusions about the causal effects of the PD intervention.

The main objective of the FEEL study, therefore, was to evaluate whether the Leadership for Learning PD program, when compared to routine practice, could enhance ECEC classroom quality and child development and learning outcomes.

The Leadership for Learning PD covered the foundational principles of child learning and development, including: self-regulation; language and communication; conceptual development in maths; and science and critical thinking.

The PD featured a cascading model of delivery to prepare participants to take a leadership role within their workplaces, and to share their new knowledge with their colleagues and families. The ultimate goal of the PD was to improve the knowledge, skills and attitudes of the educators who took part in the intervention, with the aim of improving their children's experiences and, ultimately, their outcomes.

## Case Study Design

This follow-on investigation from FEEL adopted a multiple-case study design to help determine the practices involved in those FEEL classrooms which were high quality and whose children made the most developmental progress. The primary objectives of this report were:

1. to identify those factors which support practice change and promote positive learning and development among young children; and
2. to develop a comprehensive model of effective practice and practice change for the Australian ECEC context.

Consideration was given to the fidelity and dosage of those practices in relation to the teaching and learning within the FEEL PD, especially in the following areas which were highlighted in the Researching Effective Pedagogy in the Early Years Study (Siraj-Blatchford et al 2002) the first study to look at pedagogy in centres with proven effectiveness:

- adult-child verbal interactions
- differentiation and formative assessment
- parental partnership and support for the home learning environment
- behaviour for learning and adult support for social engagement and dealing with conflict
- relational and intentional pedagogical strategies
- leadership for learning.

Six centres were selected on the basis of their improvements during FEEL in curricular and interactional quality and in child outcomes. Individual centres were selected to capture different growth rates, including some which had started low in quality and had shown substantial improvement and others which had started high in quality and had continued to improve.

Trained observers spent one week in each of these six ECEC services to identify the specific pedagogical practices associated with both better child outcomes and any factors which either supported or challenged practice change following involvement in the Leadership for Learning PD. Data collection involved one full-week classroom observation in each centre/preschool and included:

(a) environmental quality ratings
(b) naturalistic observations
(c) document analysis, and
(d) semi-structured interviews with directors, educators and parents.

## Key Findings

The data were analysed to determine:

1. the key aspects of environmental quality and staff pedagogy which had impacted on children's learning, and
2. the structural characteristics which had supported practice change. While each centre was responsive to the unique context in which it was embedded, all six shared common characteristics and facilitators for change.

The quality of each setting was linked to the following key practices which were seen to be instrumental in influencing the overall quality of their service:

- high levels of intentional and relational pedagogy
- opportunities for reflective practice
- the organisational structure of learning experiences
- resource allocation and classroom arrangement
- approaches to extension and engagement
- engagement in sustained shared thinking
- a broad range of curriculum content and integrated experiences
- use of assessment to inform planning; an understanding of child development and the need for differentiation
- valuing of diversity and responsiveness to individual needs
- commitment to quality leadership and staff collaboration
- effective communication; supportive management structure
- staff stability and connections with families and the broader community.

While each of the above elements of quality practice worked to support children in the six centres in different ways, all the elements were considered necessary to achieve the high quality environments required for fostering child growth and development.

Overwhelmingly, educators in the six centres reported experiencing a positive shift in their personal pedagogy (e.g. higher expectations, increased awareness of the children's capacity to learn), increased reflective practice, and a deeper understanding of child development and the evidence base underpinning effective practice. An important feature of the FEEL PD was its cascading model of delivery, with participants asked to adopt a leadership role with responsibility for leading not only personal change, but also change in their centre teams. The staff from these six high performing settings had embraced this learning model of influence, and had been intentional and purposeful in their strategies for ensuring their peers' engagement in the PD journey. They had shared their passion and excitement for change, had been supportive mentors and advocates for children – which had resulted in enhanced practice among all educators in their centre.

The findings from these case studies underscore the instrumental role of centre-based leadership in supporting practice change and fostering high quality pedagogy and practice. A strong sense of collaboration and effective communication characterised all six centres. Their leadership styles had adopted many personas and had involved not only their director but also the PD participants: it depended on strong collegial relationships, mutual respect, motivation, shared decision-making, a common purpose and empowerment of others. Consistent with previous research, these findings paint a picture of leadership which extends beyond an individual or role to encompass several staff within the centre.

Even so, the role of the director as a principal leader continues to be important for building a learning community, managing internal structures and creating a positive centre culture. The directors in these centres had created structures which supported practice change; for example, they employed additional staff, supported mentoring models and the development of new models of planning, and prioritised time for planning and collaboration. They fostered a climate of high expectations, whilst acknowledging variations in qualifications and experience; they showed respect for their staff and demonstrated value for the new knowledge brought into the centre as a result of staff involvement in the PD (irrespective of whether or not they were involved directly in the face-to-face PD sessions).

# 1. Case Studies of Effective Practice: Evidence from the Fostering Effective Early Learning (FEEL) Study

## 1.1 Introduction and Research Context

Attendance at high quality Early Childhood Education and Care (ECEC) settings has been shown consistently to have a positive impact on children's learning and developmental outcomes (for a review, see Siraj et al., 2017). Given the wealth of evidence underscoring the importance of high-quality ECEC settings and adult-child interactions in promoting these positive outcomes (LSAC, 2013; Sylva et al., 2004), there is a pressing need to equip ECEC educators with the capacity to provide high-quality environments which are conducive to children's learning, development and wellbeing. To understand the link between ECEC and child outcomes, it is necessary to consider, (a) the aspects of quality most important for affecting child growth and, more importantly, (b) how this can be achieved across the ECEC sector.

ECEC research has moved beyond a narrow definition of the influences of particular types of provision on children to a broader examination of the interplay of program processes, staff experiences, family experiences and child characteristics. The quality of ECEC is a multidimensional construct encompassing the physical environment, the educational curriculum, staff training and qualifications, child-staff ratios, group sizes, staff turnover and interpersonal relationships. Assessments of quality typically involve:

(a) global measures of structural program features (e.g. ratings of program environmental features such as child-adult ratios and group size), and

(b) indicators of dynamic processes or process quality (e.g. educators' interactions with children, families and each other). While both process and structural aspects of ECEC quality are important predictors of child outcomes, research now shows that the process aspect of adult-child interaction is the more important predictor of impact on child outcomes (Sylva, Siraj-Blatchford, & Taggart, 2003; Timperley et al., 2007; Timperley, 2008; Desimone, 2009; Pianta, 2012).

> **Recent studies also promote the concept of sustained shared thinking (SST; Sylva et al., 2004), which occurs when, […] two or more individuals 'work together' in an intellectual way to solve a problem, clarify a concept, evaluate an activity, extend a narrative, and so forth. Both parties must contribute to the thinking, and it must develop and extend the understanding (Siraj-Blatchford et al. 2002, p. 8)**

Cognitive extension requires highly skilled staff who are knowledgeable in both children's learning and assessing, monitoring and supporting children's socio-emotional, linguistic and cognitive development – thus ensuring that children are safe and stimulated, ready to learn and to think deeply.

A setting's quality depends on many process and structural variables, and the relationships between these and a well-trained, high-quality workforce are not straightforward (Siraj & Kingston, 2015). For example, staff with higher levels of education, training and salary, combined with lower levels of staff turnover, produce better measures of quality care. So, while staff-child ratios are important, these need to be understood within the context of educator qualifications (Melhuish, 2014). Despite the complexity in these relationships, the educator's role is the one factor which remains fundamental to quality practice. Improving the quality of ECEC and learning outcomes for children demands a skilled pedagogue – one who is capable of reflective practice, sound decision making, responsive and individualised care and instruction (Cooke & Lawton, 2008; Siraj & Kingston, 2015).

The complex role of the pedagogue in ECEC settings is increasingly being recognised (Siraj et al., 2017). Effective early childhood educators are knowledgeable, reflective, planful and purposeful. They require wide-ranging knowledge about how young children learn and develop, a repertoire of different teaching and learning strategies, and specific curriculum content knowledge about what the children are learning (Siraj et al., 2017).

Effective pedagogy depends, in part, on the educators' ability to develop meaningful, secure and trusting relationships with children – and to use this as their foundation for engaging with their children in meaningful activities which promote their conceptual understanding of the world (Howes et al., 2008; Pianta et al., 2007).

The Researching Effective Pedagogy in the Early Years (REPEY) study (Siraj-Blatchford et al., 2003) provides a detailed list of the educator characteristics which are associated with effective practice and better child outcomes. These include:

1. strong leadership and staff stability
2. equal focus on children's cognitive development and social development
3. a mixture of practitioner-initiated group work and freely chosen play
4. adult-led interactions which involve SST and open-ended questioning to extend children's thinking
5. differentiated learning opportunities
6. strong parental involvement, especially in terms of shared educational aims
7. formative assessment and regular reporting and discussion with parents about their child's progress.

Despite this growing awareness, many large-scale studies of ECEC suggest that too few educators have the necessary skills and knowledge to plan and provide optimal learning and social-emotional support for young children's development (Duncan et al., 2007; Howes et al., 2008). While it is important to recognise the different elements of quality practice, this provides only optimal models of ECEC; questions about how change is affected are, surely, far more pressing.

Variations in educator pedagogy and practice have been linked to the level and type of educator qualifications, and to the quality and type of ongoing PD (Siraj & Kingston, 2015). Qualifications and PD impact directly on pedagogy and practice within the classroom, and, specifically, on the learning opportunities and experiences offered to the children (Blau, 2000, cited in DfES publication 2002; de Kruif et al., 2000; Phillipsen et al., 1997; Sylva et al., 2004). PD on its own, however, does not guarantee greater practitioner effectiveness (Hyson et al., 2009 in OECD 2012). This is due to the inherent barriers within every ECEC setting, and to the quality of the PD facilitators, the content of the PD teaching, and the PD's delivery and structure.

PD's potential to shift educator practice and, more importantly, to enhance outcomes for children has become a particular focus of national and international research – which now sees PD as the most cost-effective way to leverage and maximise the capacities of the existing workforce. High quality, evidence-based PD (in areas of study which are relevant and meaningful, (e.g. child development and planning, formative assessment and reflective practice) increases the likelihood of educators enhancing the educational, socio-emotional and health development of children (Sylva et al., 2004; OCED, 2012).

## 1.2 Overview of the FEEL Study (2015-2017)

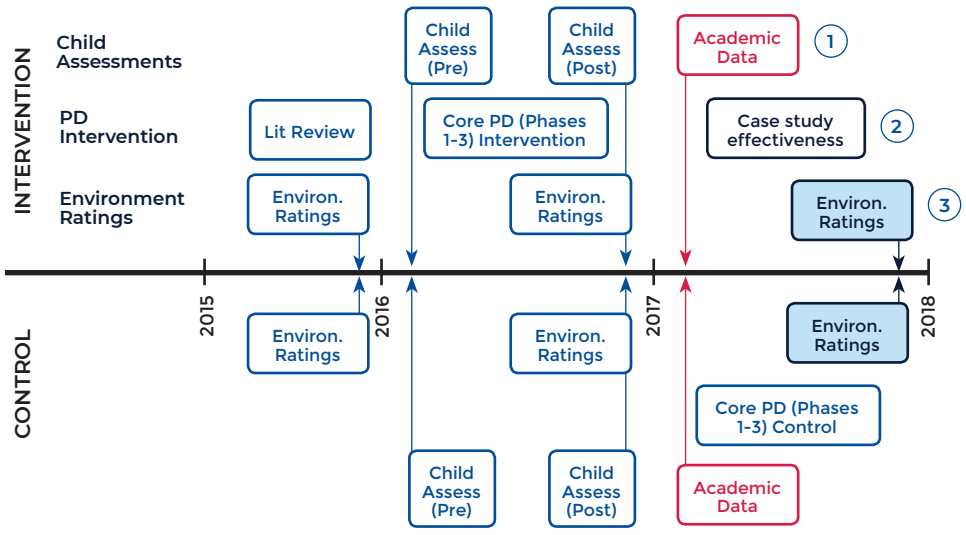
In line with this increasing focus on in-service professional learning, FEEL aimed to investigate how quality of practice could be improved by an evidence-based PD program for educators called Leadership for Learning (Siraj et al., 2018). This PD's content and design reflected current theory and research on effective PD for improving child outcomes (Siraj et al., 2017); and it drew upon previous research, where patterns of strengths and weaknesses in practice had been identified, and upon baseline curricular and interactional quality measures within the study; this ensured that the FEEL PD met the needs of educators. Further, the FEEL PD was responsive to the educators' needs, with the final phase incorporating their suggestions and any areas for further development which they had identified. Although the training focussed on effective practice for all children and drew from these findings, it also emphasised the pedagogies and practice which are known to support the learning and development of children of indigenous descent, children with additional needs, and those living in homes in areas of disadvantage.

FEEL involved 90 ECEC settings across NSW (i.e. preschools and long-day care services), each with an Early Childhood Teacher (ECT) working with children in their year before school entry. Half the centres participated in the Leadership for Learning PD program in the first year (2016). Those 'control' centres not participating in the PD in 2016 continued with routine practice, and then received the PD in the subsequent year (2017).

Figure 1 summarises the study design. The PD program's impact was assessed using both direct and indirect outcomes at the classroom and child level. Direct outcomes were at the room level, because the PD operated directly on the ECEC educators within rooms. These were captured by two objective, environmental observation measures of ECEC quality: (1) the Early Childhood Environment Rating Scale-Extension (ECERS-E; Sylva, Siraj-Blatchford & Taggart, 2010), which focuses on curriculum content, concept development and pedagogy; and (2) the Sustained, Shared Thinking and Emotional Well-being (SSTEW) scale (Siraj, Kingston & Melhuish, 2015), which focuses on interactional quality and social/emotional skills via relational and intentional pedagogy.

Indirect outcomes were captured at the child level, as the PD intervention itself did not operate directly on or with children. Child-level outcomes comprised two measures each of: language (i.e. verbal comprehension, expressive vocabulary); numeracy (i.e. early numeracy, early number concepts); and social-behavioural development (i.e. the Strengths and Difficulties Questionnaire, Children's Self-Regulation & Behaviour Questionnaire).

**Figure 1. The design of the FEEL cluster randomised controlled trial (RCT) and case study examining the efficacy of the Leadership for Learning Professional Development**



## 1.3 Context for the Case Studies of Effective Practice

The FEEL study's results showed that the Leadership for Learning PD was effective in improving ECEC quality (an average of one point on a 7-point quality scale) and a range of child outcomes (up to twice or 202% of normal expected development) among those whose educators had participated in the program (Siraj, et al., 2018). While these results are extremely positive, and exceed the positive effects found in many prior PD evaluations, it should be noted that these effects are at an aggregated, group level. This means, as shown in Figure 2, that there was variability in the extent to which there were quality and child-level changes.

It is important to explore how and why the classrooms with the highest levels of change experienced these improvements, as this helps both to optimise and formulise the PD program, and, more importantly, to understand those factors which yield classroom and child-level change in continued professional learning.

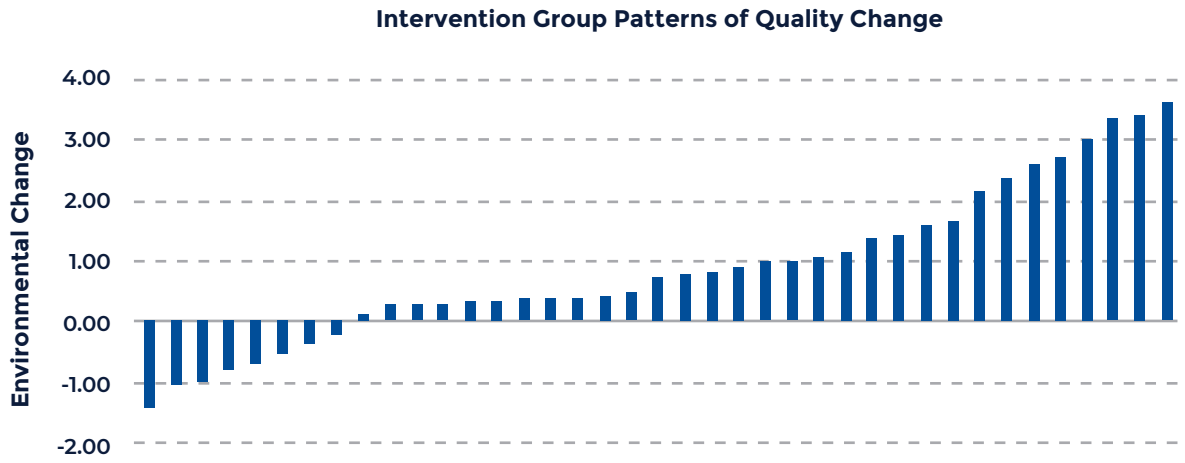
The case studies that follow seek to understand the factors contributing to successful change. Such a follow-up investigation is essential for understanding the precursors and contexts of positive changes in quality amongst existing ECEC staff, thereby suggesting potential mechanisms that all ECEC PD should target, support and seek to influence.

These kinds of case studies have been very powerful in the UK at changing staff practices (Siraj-Blatchford et al., 2002).

This follow-on investigation from FEEL adopted a multiple case study design to help determine the practices involved in those classrooms which had experienced high quality and whose children had made the most developmental progress. This study's primary objectives were to: (1) identify factors which support practice change and promote positive learning and development among young children; and (2) develop a comprehensive model of effective practice and practice change for the Australian ECEC context. Consideration was given to the fidelity and dosage of those practices in relation to the teaching and learning within the FEEL PD, especially in the following areas:

- adult-child verbal interactions
- differentiation and formative assessment
- parental partnership and support for the home learning environment
- behaviour for learning and adult support in talking through conflicts
- relational and intentional pedagogical strategies
- leadership for learning.

**Figure 2. Change in classroom quality ratings from pre-to post-test assessment**



# 2. Methods

## 2.1 Centre Characteristics and Selection

Six centres were selected for these case studies on the basis of their strong improvements in curricular and interactional quality, and improved child outcomes, during the FEEL study. They were chosen to capture different growth rates, including both centres which had started low in quality and showed substantial improvement and centres which had started high in quality and had continued to improve. Representation was also sought across geographic locations (i.e. metropolitan, regional) and ECEC service type (i.e. long-day care, preschool). This allowed investigation of patterns across the different structural and geographical characteristics of the original sample.

Additional selection criteria applied in the selection of case studies centres were:

a. no significant change in management (same manager and senior management team)
b. sufficient time to accommodate case study (e.g. no pending/recent NQS assessment)
c. improved quality and child outcomes, within the stratification factors noted above
d. a re-administration of ECERS-E to establish similar or better score in ECERS-E at the completion of the FEEL study (which has shown a significant correlation with child outcomes; i.e. has predictive validity).

Table 1 provides an overview of the characteristics, quality ratings and child-level change for each case study. All six settings attended all face-to-face PD sessions, although they were not selected on this basis.

## 2.2 Data Collection

Data collection was designed to identify the specific pedagogical practices associated with better child outcomes, and the factors which either supported or challenged practice change following involvement in the PD. Data collection involved one full-week classroom observation in each centre/preschool and included:

a. environmental quality ratings;
b. naturalistic observations;
c. document analysis; and
d. semi-structured interviews with directors, educators and parents.

Two FEEL researchers received intensive training over a one-week period from the lead researcher to conduct naturalistic and systematic observations, to engage in semi-structured interviews with educators, directors and parents, and to analyse documents. Observation schedules were developed in consultation with the two researchers to ensure ease of use and understanding. The lead researcher collected data and conducted observations across case study settings to ensure reliability and consistency in observations and qualitative data.

### 2.2.1 Environmental Ratings of Quality

Observational ratings about the quality of provision in centres were undertaken using the Early Childhood Environment Rating Scale – Extended (ECERS-E). This scale is well established and has been used in several large-scale prospective longitudinal studies and was used in conjunction with the Sustained Shared Thinking and Emotional Wellbeing (SSTEW) Scale in the FEEL study to assess changes in environmental quality in response to educator involvement the PD (for details of the SSTEW scale see Siraj et al., 2018). This was to ensure that all six selected centres had continued to maintain the pedagogical quality that they had exhibited at the completion of the FEEL study 12 months earlier.

## Table 1

Structural, educator characteristics, geographical, quality indicators and child outcome scores for the six participation centres

| | Type / Location Improvement | SEIFA | Centre size | ECERS-E Pre / Post / Follow | SSTEW Pre / Post | Child Outcome (increase) | No. of staff | Qualifications | Time at centre |
|---|---|---|---|---|---|---|---|---|---|
| Centre 1 | LDC / Metro | 7 | 51-60 | 2.25 / 5.83 / 6.15 | 2.08 / 5.90 | 20% | 3 | Degree / Diploma / Degree | 7yrs / 5yrs / 1yr |
| Centre 2 | LDC / Regional | 2 | 51-60 | 2.88 / 6.17 / 6.13 | 3.32 / 6.9 | 21% | 2 | Degree / Cert III | 8yrs / 6yrs |
| Centre 3 | Preschool / Metro | 1 | 41-50 | 2.71 / 5.29 / 6.35 | 5.40 / 6.55 | 48% | 3 | Diploma / Degree / Diploma | 14yrs / 4yrs / 12yrs |
| Centre 4 | Preschool / Regional | 1 | 41-50 | 3.29 / 5.42 / 5.28 | 4.85 / 5.92 | 27% | 3 | Degree / Degree / Diploma | 4yrs / 7yrs / 4yrs |
| Centre 5 | Preschool / Regional | 8 | 41-50 | 5.17 / 5.63 / 6.54 | 6.15 / 6.55 | 13% | 2 | Degree / Degree | 33yrs / 10yrs |
| Centre 6 | Preschool / Regional | 5 | 41-50 | 4.79 / 6.67 / 6.13 | 4.60 / 6.95 | 23% | 2 | Degree / Diploma | 13yrs / 10yrs |

ECERS-E (Sylva et al., 2010) measures the quality of the curricula, environment and pedagogy in ECEC settings. It comprises 15 items with four subscales (literacy; mathematics; science and environment; diversity). Each item is rated from 1 (inadequate practice) to 7 (excellent practice), and this rating is based on trained observers' on-balance judgements of the presence or absence of the scale's indicators of quality (e.g. educator practices). Completion of this scale involved half a day of observation per ECEC room containing children aged 4-5 years to obtain a sense of typical centre practices. Observations were of typical daily practice, with trained observers adopting a non-participatory role.

### 2.2.2 Centre Observations

The researchers conducted systematic and naturalistic observations across the five days and focussed on day-to-day function within the room. Systematic observations were designed to capture a range of scenarios, namely: staff-child interactions to determine the approach to communication, and the kinds of pedagogical interactions staff had with children; staff-staff interactions to determine their approach to pedagogical leadership; structuring of children's indoor and outdoor activities; room resources and displays; behavioural routines; arrival and departure; small group time; and curriculum experiences (i.e. planned science, literacy and numeracy experiences).

The researchers aimed to capture typical learning episodes, interactions and planning processes so that they could be analysed for pedagogy, organisational structure, approaches to extension and cognitive challenge, staff collaboration, approaches to leadership and connections with families. Appendix A includes example schedules, running record proformas and checklists used to support naturalistic and systematic observations. Examples of both planned and incidental experiences and coding are included.

### 2.2.3 Document Analysis

The research team also conducted documentary analyses to determine the room/centre's approach to pedagogy, planning and assessment – and included an analysis of:

1. Quality Improvement Plans (QIP)
2. planning documents (weekly, daily, and long-term plans)
3. parent communication (i.e daily journals; newsletters)
4. educator reports and recording, and
5. pedagogical documentation.

### 2.2.4 Semi-structured Interviews: Directors and Educators

The researchers interviewed both centre directors (n = 6) and educators who had participated in the FEEL PD (n = 15). The interviews were semi-structured and informal, and aimed both to clarify any questions which had emerged from the observations or document analysis, and to explore educator perceptions around factors that supported implementation of the PD.

The interviewers were seeking to identify how the FEEL PD had influenced practice in the rooms/centre. The centre director interview included information around group size, child-staff ratios, additional involvement in staff training, centre policies and curriculum, and approaches to support parental involvement. The educator interviews tapped into changes made following involvement in the PD, how they had supported staff to implement changes, how it had changed their relationships with colleagues, children and families, what structures had been put in place to support change, what challenges or barriers had been experienced, and changes in personal philosophy and pedagogy. Appendix C includes a protocol of the educator and director interview.

These interviews lasted between 45 minutes and 1 hour, and were audio recorded and then transcribed for analysis. The educators were also asked to complete an Educator Learning Activity Snapshot (see Appendix B), in which they outlined a typical day in terms of activities planned and children's experiences. The researchers also held informal conversations with other educators in the room who had not been involved in the face-to-face PD, to help determine any ways in which they had been impacted both professionally and in their approach to pedagogy and practice.

### 2.2.5 Semi-structured interviews: Parents

The team also conducted semi-structured interviews with a small sample of parents from each centre (n = 5 per centre). These aimed to identify both how the centre/preschool supported and engaged families and shared educational aims, and how the FEEL PD had influenced educators' interactions with parents. Parent interviews focussed on perceptions around opportunities for parental involvement, support and integration between the centre and the home learning environment and communication. A guideline to the parent interview is included in Appendix D. Again, interviews were recorded and transcribed for analysis.

## 2.3 Data Analysis

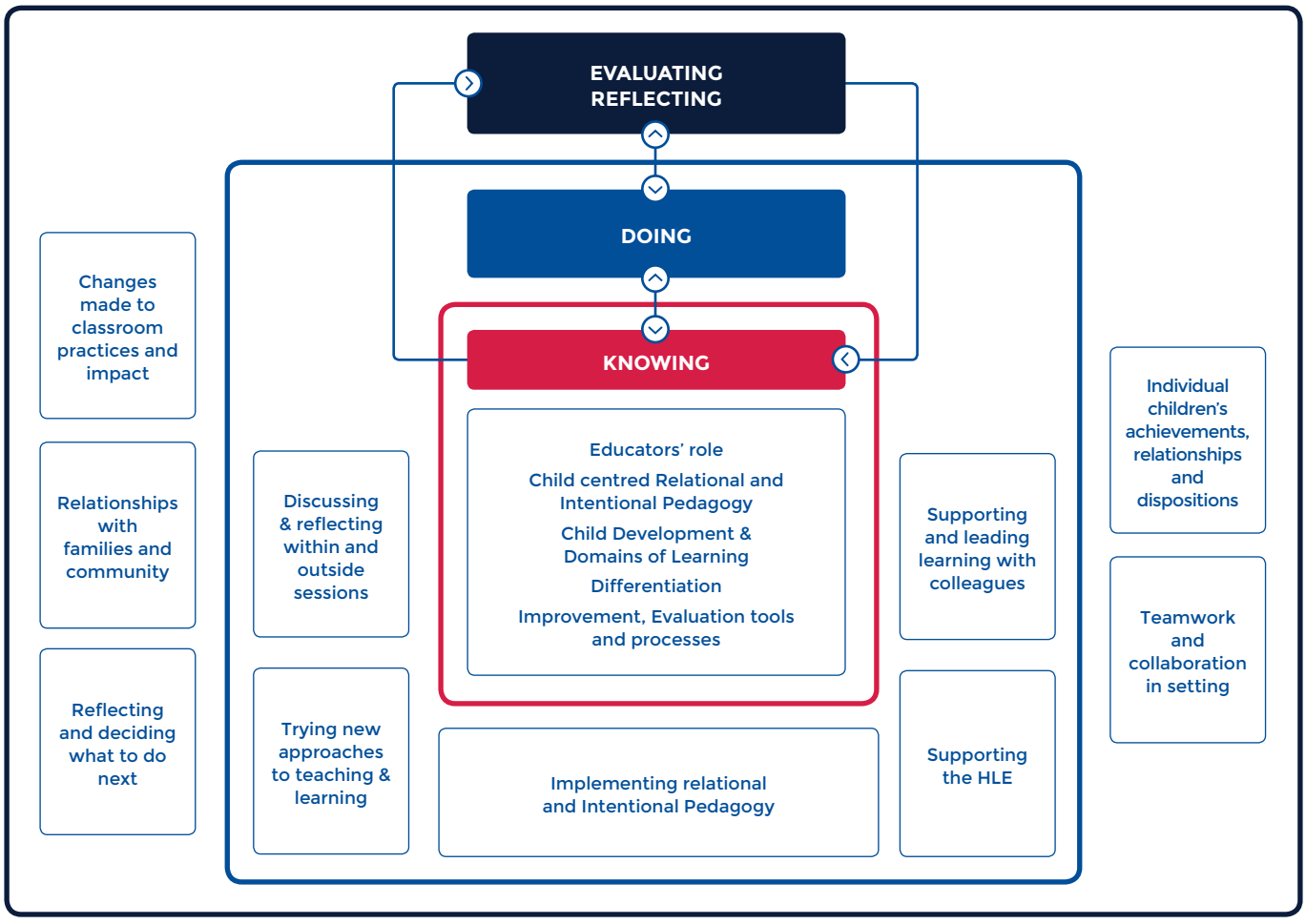
The research team took a systematic approach to analyse the qualitative data they had collected through the staff observations, activity snapshots, educator and director interviews, document analysis and parent interviews. They transcribed and 'cleaned' (i.e. anonymised) the qualitative data to aid the coding and data reduction. They then examined the data to provide an overview of pedagogical practices and structural features which characterised these higher performing settings and identified facilitators of practice change – with the goal of explaining why these centres experienced such significant growth in both quality practices and child outcomes following participation in the Leadership for Learning Professional Development.

This analysis was framed by the Leadership for Learning PD model (illustrated in Figure 3) and focussed on patterns of good practice across the settings: i.e. the educator's role, aspects of intentional and relational pedagogy, demonstrated understanding of child development, approach to differentiation and planning. There was a particular focus on what makes some classes and their centres more successful at achieving good outcomes (e.g. in numeracy, social and/or language development). In particular, analyses were conducted to help determine the processes (i.e. team work and collaboration, opportunities for reflective practice, support for the home learning context) which might explain patterns of improved child outcomes in the FEEL study. The range of data sources were selected to triangulate conclusions under each key overarching theme, as illustrated in Table 2.

The data set included:

- a documentary analysis of the 6 centres
- transcripts of interviews with 6 directors
- transcripts of interviews with 15 educators
- 23 parent interviews
- 132 hours of centre observations.

**Figure 3. Leadership for Learning Professional Development Model (Siraj et al., 2018)**



## Table 2

Summary of Key Overarching Themes and Sources

| Key Theme | Sources Used |
|---|---|
| Current pedagogy and practice | • Systematic and naturalistic observations<br>• Document analysis (daily, weekly, monthly plans, educator observations, QIP, centre-policies) |
| Approaches to leadership | • Centre observations<br>• Educator interview<br>• Centre director interview |
| Leader for Learning Champion: Practice change (i.e., shifts in pedagogy, philosophy, changes among colleagues) | • Educator Learning Activity Snapshot<br>• Educator interview<br>• Centre director interview |
| Perceived impact on children | • Educator interview<br>• Centre director interview<br>• Parent Interview/questionnaires<br>• Systematic and naturalistic observations |
| Supports and challenges for implementation | • Educator interview<br>• Centre director interview |
| Connections with families | • Systematic and naturalistic observations<br>• Document analysis (parent communication, newsletters etc.)<br>• Educator interview<br>• Centre director interview<br>• Parent interview |

The research team approached the analysis of all forms of data in two stages. First, the researchers familiarised themselves with the data and began to generate initial ideas for a coding scheme. Using a deductive approach based on existing literature (e.g. Kingston, 2017; Siraj et al., 2016), they grouped the measurement sources for each centre under key overarching themes which captured the range of participant responses, behaviours and recorded documentation. They also identified some illustrative quotes or examples for each emergent theme.

Second, they used an inductive process to generate a coding structure, with categories derived from the empirical data. Their coding process was thorough, comprehensive and inclusive, with all transcriptions and observations coded. This was an iterative process of coding and refining nodes – involves adding new nodes, taking some away and combining where relevant. For example, they identified initial coding nodes such as small groups, individual instruction, and whole-class – and then collapsed them under the overarching theme of group structure. To ensure reliability and validity of the data, they used a cross checking process which involved a subset of illustrative quotes and examples to ensure that each quote or example had been coded appropriately. They then formed a hierarchical framework for the overarching themes that they had identified initially. Participants' responses and transcribed observations were re-examined carefully to ensure that the agreed codes had been applied consistently across all data. This process of analysis involved switching focus between the nodes of the theoretical framework and the full responses to maintain the depth of participants' perspectives.

# 3. Results

A content analysis was conducted which drew on planning documents, naturalistic observations, educator and director interviews and transcribed systematic learning episodes seeking examples of:

- relational and intentional pedagogy
- planned versus incidental experiences
- teacher-led, child-initiated and teacher supported activities
- approaches to grouping and extending children
- engagement in sustained shared thinking
- curriculum integration and balance
- diversity and differentiation in planning and teaching
- staff collaboration and approaches to leadership
- connections with the home learning environment.

The team's analysis was designed to answer questions around the nature of high quality practice and the aspects of practice which nurture learning and developmental growth. They analysed the educator and director interviews to determine their perspectives on changes to practice and on the factors which had facilitated this change; and they analysed the parent interviews to establish connections between the settings and the home learning contexts, and on their perceptions and priorities around child development and learning. A summary of the key themes is presented below under each relevant section. These sections reflect the key content areas addressed within the FEEL PD, and link to areas of quality which have been identified in research literature as important in fostering child outcomes (see Siraj-Blatchford et al., 2003).

Each of the six settings' quality was then linked to the following key practices that the research team believed to be instrumental in influencing the overall quality:

- high levels of intentional and relational pedagogy
- the organisational structure of learning experiences
- resource allocation and classroom arrangement
- approaches to extension and engagement
- a broad range of curriculum content and integrated experiences
- use of assessment to inform planning
- an understanding of child development and the need for differentiation
- valuing of diversity and responsiveness to individual needs
- commitment to leadership and staff collaboration
- effective communication
- supportive management structure
- staff stability
- connections with families and the broader community.

All six settings were found to have good leadership, effective communication among staff and with families, a strong sense of collegiality and a shared and consistent way of working amongst the staff. All six case study settings achieved a balance between programmed teacher-initiated group work and child-initiated, teacher supported free choice learning. Most of the pedagogic interventions that we observed were very good to excellent. Planning reflected a broad range of curriculum content with a sound knowledge of child development and the need for differentiation. Intentional pedagogical practices prioritised children's problem-solving and engagement with daily examples of sustained shared thinking see across all six settings.

The following sections provide an overview of these key practices with illustrative quotations and pedagogical examples. The analysis focuses on patterns of excellent practice across the six settings and attempts to tease out the specific pedagogical and other practices that were associated with achieving better child outcomes as compared to those FEEL centres with good or more average practice. Illustrative observations and field notes focus on educator intentions and motivations, as well as pedagogical practices and interactions. Educator insights into their own practices are drawn upon to support observations and documentary analysis.

## 3.1 Approach to Pedagogy

The pedagogical decisions of educators across the six settings were found to be strong indicators of quality practice. These included planning which involved the children to extend learning and provoke interest, scaffolded learning through intentionality in teaching, and responsive interactions with children.

All six centres prioritised the extension and engagement of children, with educators adopting a range of strategies to achieve this. Reflective practice was the driver of pedagogical decisions, with educators evaluating the effectiveness of their pedagogy constantly. Educators advocated high expectations for all children and showed a clear commitment to the children's capacities to succeed (DEEWR, 2009). Educators' commitment to ongoing reflective practice, coupled with sustained cognitive engagement and extension, was key to achieving children's cognitive and social progress.

The following sub-sections unpack some illustrative examples of approaches to pedagogy which have been drawn from a triangulated analysis of interviews, observations and documentary evidence. These focus on: the construction of learning environments; relational pedagogy and sensitive responsiveness; reflective practice and planning; and extended learning experiences.

### 3.1.1 Balance within pedagogy

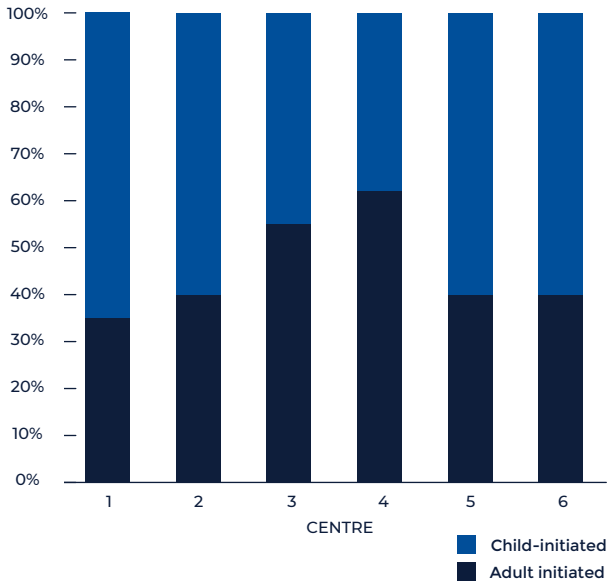
In all six centres, the team observed integrated teaching and learning approaches which interweaved child-directed play with adult-guided experiences and adult-led learning. Both pedagogical framing (which includes the background planning and discussions among staff (Siraj-Blatchford & Sylva, 2004)) and interactions were balanced between, (i) structured, staff-initiated, whole-group times, (ii) small group activities, and (iii) child-selected, free-play opportunities.

Following their involvement in the PD, all six settings had shifted towards supporting more child-initiated, adult-supported experiences. This was an important contributor to children's extended engagement and learning. For example:

> **"We really support and encourage children to be agents of their own learning now … getting involved and experiencing it, leading it, and I suppose the educators being there just to support and guide and offer suggestions and extend as well" (ECT, Centre 2).**

Figure 4 provides a snapshot for each centre of the proportion of adult and child-initiated learning experiences, with a slight preference towards child-initiated experiences. Centres 3 and 4 adopted a slightly more adult-lead approach to pedagogy: both were in areas of high disadvantage and believed that higher levels of teacher guidance and structure were beneficial for their children.

**Figure 4. Relative proportion of adult-initiated and child-initiated learning episodes**



The director from Centre 3, the centre that had experienced the most significant growth in child outcomes following the PD, defended this decision. Reflecting on the capacities and needs of the children at his centre, she said:

> **"Many of our children are from quite traumatic backgrounds and are looking for security and leadership. They come with very poor self-regulation and require lots of support, guidance and scaffolding" (Director, Centre 3).**

When the research team observed teacher-led approaches, they saw that the planning had been initiated mostly by an interest/need of a child or children, or by the educator sharing their knowledge to build on the children's prior understandings and extend the learning. Teacher-led experiences evolved into teacher-supported approaches, as educators allowed the children to explore, discover and facilitate their own learning – while engaging in elements of 'sustained shared thinking' to broaden their thinking. An example of this was a planned science experience in Centre 2:

> **"The activity was designed to engage the interest of three boys (aged 4.2, 4.6 and 5) whose attention was 'challenged' during larger-group experiences. The activity began as a teacher-led activity around classification of herbs from the garden, and then evolved into teacher-supported learning as the children were encouraged to explore the sensory materials of herbs and citrus fruit using a mortar and pestle. The children negotiated with one another and decided that they wanted to create different potions, and they explored concepts around flotation, colour, taste, dissolution.**

The educator extended the boys through open-ended questions – whilst encouraging them to ask their own questions and to describe their exploration. The educator made deliberate pedagogical decisions to support individual children throughout the experience, based on their knowledge of the boys' current capabilities. This level of support was withdrawn instinctively to allow the boys to develop confidence in their independent abilities" (Field notes, Centre 2).

This was typical of the inquiry-based approach to pedagogy adopted across the six centres. It drew on collaborative and scaffolded learning experiences and reflected a view of the young child as an active co-constructor in their learning – rather than as a passive recipient of knowledge and content (Gatt & Thewma, 2012).

This participatory view of the learning process highlights the need for flexible planning and learning experiences which accommodate children's interests – while affording them the opportunity to navigate their own learning journey. To this effect, all six settings achieved a balance between planned and incidental pedagogy.

The team's analysis showed that learning environments had been planned thoughtfully to facilitate incidental opportunities for learning. When spontaneous instances of learning had occurred, such as the discovery of a cicada in the playground (Centre 2), educators had scaffolded these learning opportunities, making additions to planning which included creating an interest area to explore cicadas (to which additions were made daily), inviting families to share similar discoveries, and exploring cycles of change in other animals/species.

### 3.1.2 Learning environments

The six learning environments reflected a high level of intentionality. Their inside and outside learning environments were engaging; they encouraged discovery, invited social connections among children, and embedded many areas of the curriculum – including numeracy, science, physical activity and motor skills, creative arts and literacy.

Many science, numeracy and literacy experiences were presented thoughtfully and purposefully on free-choice shelves to allow the children flexibility and choice of materials. Resources were available at the children's level and facilitated extended engagement. While most of the 90 FEEL centres had adopted small group areas of learning (e.g. an art centre, writing/literacy areas), the six case study centres had gone beyond the simple provision of resources and had embedded integrated 'themes' and curriculum experiences (e.g. a dramatic play area became a space station; a writing area involved developing plans and maps of space, and letter writing to astronauts etc.).

Educators in the six centres had also included more open-ended resources which supported children's creativity; this was scaffolded effectively, and extended, by the educators. The learning environments in these settings were evaluated daily by the educators – with fresh additions or improvements according to the children's level of engagement and interest. The spaces were fluid, flexible and accommodating to individual needs – while catering for children with different learning capacities. For example:

> **"Following the children's discussion of the different types of shops they had visited over the weekend, the educators at Centre 2 created a 'juice bar' within the dramatic play area. The children were involved in the initial planning process, brain-storming ideas for this play space.**

> **Over a week, many resources were added to the environment – creating a play space which was rich in literacy and numeracy, including: fruit labels which both the educator and the children had created; menu-boards and labels to discriminate by size; and real scales for weighing items.**

The area was designed thoughtfully to evoke interest in the children and to promote child-child interactions – including sustained engagement with a child who had additional learning needs. The educator used the provisions within the play space to support this engagement of learning, which was sustained through meaningful interactions by scaffolding the language learning" (Field Notes, Centre 2 – see Appendix E.1 for extended interaction).

Educators in the six high performing centres often drew from the natural environment as a catalyst for spontaneous learning, viewing the environment as the 'third educator' in the Reggio Emilia philosophy (Hewitt, 2001). They referred to their involvement in the PD as opening their eyes to the learning potential of their environments, and reflected on: "all those missed opportunities of the past" (ECT, Centre 5)'

This meant that they had become alert to learning opportunities, drawing on environmental supports to extend, engage and optimise their children's learning: For example:

> **"After a significant storm, the outside area at Centre 1 was littered with twigs and sticks. While the initial response of many children was to 'weaponise' these, the educators saw this as a learning opportunity and challenged the children to think about other possible uses.**
>
> **The children decided that they could use these for building and spent the next two days collecting all the sticks and researching different constructions. The end product was a tepee, which led to an exploration of different constructions around the world and approaches to engineering. The tepee then became a refuge for the children during quiet times and an outside reading nook" (Field Notes, Centre 1) (see Figure 5).**

**Figure 5. Tepee construction in Centre 1 outdoor learning environment**

### 3.1.3 Relational pedagogy and responsiveness to children

Effective educators engage young children in meaningful activities which promote their conceptual understanding of the world. To achieve this, however, an educator must develop positive adult-child relationships (Howes et al., 2008; Pianta et al., 2007). These positive relationships provide children with a secure and safe base for exploring the interpersonal and intellectual aspects of ECEC. The pedagogical underpinnings of high quality interactions are critical for quality improvement and were an integral component of the FEEL PD model of practice change.

The quality of adult-child relationships, in terms of sensitive responsiveness, was particularly striking across the six settings. On numerous occasions, the research team observed educators, whilst engaged in an experience with one child, dividing their attention to provide other children with support. This ranged from supporting children in conflict resolution, to engaging with two different experiences at one time: for example, supporting one child to make a list of magnetic items around the room, and at the same time scaffolding another child in a literacy experience to write a letter to his friend (Centre 5).

Respectful, reciprocal, relational pedagogy was observed throughout the week, across all six settings, with a high level of consistency demonstrated by every educator in the rooms. When educators were invited into children's play, they showed respect for the children's choices and were prepared to follow their lead – while, at the same time, extending the children's engagement through strategically integrated questions. This resulted in a deep level of engagement with interactions among small groups often extending to an hour.

The staff at each setting enjoyed being with the children, and engaged with them in a respectful, positive way. Many educators, when interviewed, saw this as a particular strength of their service and as necessary for practice change. This was not atypical of other FEEL centres, with most intervention settings scoring 'good to high' on items within the SSTEW scale that tap into building trust and confidence with children and fostering socio-emotional wellbeing (Siraj et al., 2018).

Educators across most FEEL intervention centres showed interest, respect and enjoyment with children. What was unique across the six high performing settings, however, was the consistency demonstrated by educators in the room and the recognition given to the importance of developing high quality relationships as a springboard for supporting children's thinking and learning and for cognitive extension.

### 3.1.4 Reflective practice and planning

The FEEL PD was designed to improve both the quality of educators' interactions and their explicit intentional teaching. This requires educators to conduct detailed observations of children's learning, plan instructional activities which are sequential, build upon children's existing skills – and then to reflect upon these (Epstein, 2007).

The baseline environmental assessments, conducted in the FEEL study, showed, however, that many settings (both control and intervention) engaged in limited planning with little to no differentiation of learning for children (Siraj et al., 2018). A number of tools, therefore, were provided to educators in the PD to support both reflective practice and planning (e.g. the RAPIE – Reflect and Assess, Plan, Implement and Evaluate Improvement Cycle). Educators' approaches to planning, and the changes that they had made in response to their involvement in the PD, were a defining feature of the six high performing centres.

Field observations showed that the educators had become highly reflective in their approach to teaching, evaluating constantly the effectiveness of their practice in terms of children's engagement and learning. This was evidenced by incidental professional discussions, documentation of children's learning, teaching diaries (introduced in Centres 1 and 6 following their involvement in FEEL), use of the RAPIE reflective practice and planning tool along with the ECERS-E and SSTEW scale, integration of feedback or input from parents, and scheduled planning meetings;

> **"…we've increased our critical reflection around our own planning and practice so often educators will comment to me after an experience …they'll evaluate how it went 'Oh, that didn't go so well', you know, 'but I know why it didn't go so well it was because the group size was a little bit too big and there were too many children talking over each other' … they're doing a lot more critical reflection upon how they approached the experience and how to improve it" (ECT, Centre 3).**

While each setting adopted a slightly different approach to planning, all planning decisions across the six centres were informed by: child interests, learning or curriculum goals, an understanding of children's developmental capacities (often supported by assessment), consideration of environmental supports, staff capacity, groupings of children, and reflections on previous offerings or experiences.

Centre 1, for example, operated on a seven-week curriculum cycle which focussed on child observations from free play and intentional teaching experiences, formalised and informal assessments ongoing reflective practice, coupled with familial consultation;

> **"Educators use observations to create goals which are shared and discussed among staff, then shared with families at the end of the seven-week cycle – presented as an 'Inspirational Story'. Weeks eight and nine allow the director to examine the observations, consider links to intentional teaching and engage in some mentoring, supporting educators to set goals and develop plans for the next seven-week cycle. The staff reflect on their practice formally during this cycle, and through informal conversations which take place daily.**

Critical reflection on personal views and on previous methods of practice has been integral in helping them to challenge and change their practice to align more with theory. Critical reflection – based on the Early Years Learning Framework, formal and informal assessment, current progress and practices of children – takes place in monthly room meetings. Reflective practice is ongoing and underpins all aspects of the service. Planning is flexible enough to accommodate new discoveries and child interests" (Centre 1, Field notes).

Children across all six settings were observed on a daily basis. The director from Centre 1 was a particularly strong advocate of children's learning and reflected constantly on 'better ways' to extend and engage children. She had recently proposed a new approach to documentation and planning which challenged mandated approaches within her organisation, and which drew on theoretical and practice examples addressed throughout the FEEL PD. Her approach moved away from a traditional target child observation, and from a planning and documentation system, and, instead, adopted a more holistic approach which drew on educator collaboration and joint observation and planning:

> **"Children don't learn in isolation. They learn in a social context and these journals are a solitary documentation of one child; but that's not how they learn, and that's not the learning that they get the most from either. What they get the most out of is those ten children in the block corner, compromising, building together. Our programming and planning should reflect this" (Director, Centre 1).**

Creating time for planning continued to present a challenge to several educators, although they all cited a renewed appreciation for the planning process following their involvement in the PD:

> **"You know, we're always time poor here at the preschool. There's often lots of things that go on, on a daily basis, lots of different ideas happening from the children, and it's a very busy day.**
>
> **It's difficult to get that time where you can just, you know, regather your thoughts, think about your planning, document what's actually happened and then move forward with your future planning. So time is a big thing, we do get some programming time here at preschool, but it's never quite enough; we always need more time for planning, definitely.**

A lot of planning does go into what we do; we've done more planning post the FEEL study, or more thoughtful planning perhaps, more looking at how we can extend this further, how we can draw literacy into it, draw maths into it, draw science into it, as opposed to just, you know, what we'll do next time. It's a little bit more thoughtful planning I think" (Educational Leader, Centre 2).

### 3.1.5 Extended learning experiences and continuum of learning

The content knowledge discussed during the FEEL PD included instructional techniques and clear progressions in learning over time, and these were then seen in the approach taken by several educators at the six settings. They aimed to encourage deep and extended learning experiences – learning where children are involved, motivated, make connections and develop significant understandings.

When asked about their main goals for children, all 15 educators interviewed mentioned curiosity, creativity and greater ownership of their own learning. One important aspect of co-constructed learning experiences – which move seamlessly between adult-initiated, child-initiated and adult-supported – is that they often lead to extended, ongoing investigations. A notable finding from the observations was the number of extended (and integrated) learning experiences involving the children, with many group experiences lasting more than one-hour.

Project-based experiences or 'journeys' were witnessed across most settings and contributed to children's increased knowledge and enthusiasm for learning – something which was also noted by the parents of children attending these settings. One example was seen in Centre 6, which was initiated by the educator out of concern for a new child who had recently started attending after moving from the Netherlands and was experiencing difficulty making connections with staff and children. The educator approached the parent to learn more about the child's interests and the types of activities he enjoyed at home:

> **"The learning journey began with a child's interest in dinosaurs, following a discussion with a parent; then came the purchasing of books to read, increased involvement of other children in the group, which lead to more in-depth discussions around who 'works' with dinosaurs.**
>
> **This led to an initial skype phone call with a palaeontologist, and then to an in-centre visit from the palaeontologist – which was followed by an excursion to a museum, and the construction of their own museum which included documents and photos, old things from grandparents, precious 'bugs in tiny boxes' and snake skins" (From Centre 6 observations and documentation).**

## 3.2 Organisational Structure

The decisions about the organisational structure of the room is a key consideration to planning and pedagogy. Three case study centres (Centres 1, 2 and Centre 5) were working within smaller sized rooms, so decisions had been made to balance between learning areas – ensuring that quiet areas are not close to busy areas of play.

Centres 1 and 2 had up to 30 children a day; as the group size increased, small groups were facilitated in the outdoor environment to ensure that noise levels were conducive to learning. Staffing is a key consideration and facilitator of this, with both settings including an additional staff member in the preschool room.

All the educators demonstrated a deep understanding of using grouping to support children's learning and engagement. Interviews showed that the introduction of small grouping (which included groups of 3 or 4 children with one educator) was one of the most significant structural changes they had made to their practice since the PD (see Appendix G);

> **"Our increasing small groupwork has had an impact on the progression of children's learning and that continuity of play and development … on project work as well as children's engagement. Learning experiences can now extend for up to an hour" (Educational Leader, Centre 2).**

Analyses revealed various grouping experiences in the classroom. There were specific periods each day for small group times, large group times, and for children to play independently in free play learning experiences. Groups were formed according to child interests, educator goals or group dynamics. The learning intentions for the planned group experiences were communicated to the children – with children afforded free movement in and out of groups. The level and depth of engagement of children in small group experiences was particularly notable – with many educators seeing this as one of the most notable changes among children following involvement in the PD.

Continuation of learning occurred with experiences extending between large group times and small group learning. For example, the ECT in Centre 2 planned a small group literacy activity which involved creating a group story based on "The Old Lady Who Swallowed a Fly", drawing on children's interest in the cicada as a substitute for the "fly". The educator then shared the story that the small group had created with the whole class during large group-time. There was a balance in small group times at Centre 2 between planned and spontaneous experiences: most experiences in the indoor environment were thoughtfully and deliberately planned, based on the child/children's interests and needs; and most spontaneous and incidental experiences occurred in the outdoor environment or dramatic play area.

## 3.3 Cognitive Challenge and Sustained Shared Thinking

Adult-led interactions which involve sustained shared thinking (SST) and extend children's thinking are being identified increasingly as key to enhancing children's outcomes (see Siraj-Blatchford et al., 2002; Melhuish, 2004; Ramey & Ramey, 2006). Observations across the six centres showed many instances of educators becoming directly involved in children's play – stimulating and extending children's interest through open-ended questioning and engagement in SST.

The way that educators involve children is critical to ECEC practice, as is the way they stimulate interactions with and between children (OECD, 2012). A diverse set of strategies were explored throughout the FEEL PD which were designed to support educators in creating cognitive challenge and extension – and were then seen by the educators in these case study centres as instrumental in supporting practice change. For example:

> **"The examples around sustained shared thinking, and all the examples you gave us around the use of open-ended questioning and pausing to allow children time to think, really changed the way we support children – to better understand what the children think and, you know, solving a problem, clarifying a concept, extend the narrative, just making them think a bit deeply and deeper too" (ECT, Centre 1).**

Educators at the six centres drew on a range of approaches to extend children's thinking and learning: through high-quality and responsive interactions, open-ended questioning, engaging children in planning for play, introducing more open-ended resources designed to invite exploration, and by engaging children in the scientific process:

"I think one thing we've done a lot last term, and will continue to do this term, is a lot of theory building so building theories upon things, making predictions as well, the children were doing a lot of predicting last term. And just explorations in how … how they're going to use the resources as well and I think you need … you really need to be there as an educator to offer, or voice the children's thinking, often they do things quietly so sometimes inner voicing 'Oh I can see that you just did this with the … the block', for instance and 'I notice that it moved' and … and then getting them to think about how it moved and whether it rolled or whether it was sliding" (ECT, Centre 3).

One distinct feature of the six centres was the involvement of children in their learning journeys. In four centres (Centres 2, 4, 5 and 6), children were encouraged to be involved in setting their own goals for learning. This encompassed such things as deciding on projects, mind mapping of things they wanted to know or learn, joint programming for the week or day (which occurred during the morning meeting). Children were encouraged to ask questions and the educators validated this by investigating all the questions they raised. Educators across all six centres were confident in their ability to support children's investigations and were not afraid to be led by the children, for example:

> **"I had a child a few weeks ago ask me if a snake can run out of poison and I was just like 'Do you know what? I don't even know', … and it's nice to be able to say to them 'I don't know'…and then discover together" (ECT, Centre 1).**

In their interactions with children, educators demonstrated a deeper understanding of children's capabilities and promoted high expectations of all children. This was demonstrated through their language, "the egg comes out of the cloaca" (Centre 4), their invitation for children to solve problems and to plan for their own learning.

The team observed the educators make many pedagogical decisions to extend learning and provide cognitive challenge to the children. In fact, very few opportunities for extension for learning appeared to be missed. This was facilitated most often through high levels of sustained shared thinking for extended periods of time in small groups.

These sustained episodes of SST were observed during both planned and spontaneous experiences. A substantial proportion of interactions were child-initiated and they provided a strong basis for learning right across the curriculum. The following example is of an incidental interaction between a child and the ECT from Centre 6. The interaction began with the educator exploring the child knowledge around robot construction;

**CHILD:** Do you know how to make real robots?

**EDUCATOR:** I would have to research how to do that. Do you know how to make real robots?

**CHILD:** Yes, my mum does. My mum told me.

**EDUCATOR:** What did she say?

**CHILD:** First you get some …and then you get an engine from someone's car that's rusty, and then you break it apart.

**EDUCATOR:** So, you need all the things from an old engine from a car.

**CHILD:** Yeah

**EDUCATOR:** Then you pull it apart?

**CHILD:** Then…I don't know what next. My mum doesn't know either.

**EDUCATOR:** Somehow you must put it back together. I wonder who would know about that?

**CHILD:** Scientists? My Grandpa.

**EDUCATOR:** Oh is you grandpa a scientist?

**CHILD:** Mmm…yeah but he's retired.

**EDUCATOR:** When do you see your grandpa?

**CHILD:** A few times.

**EDUCATOR:** Does he live far away? So how could you contact him?

**CHILD:** There's heaps of internets. Heaps of wifi so I can just call him.

**EDUCATOR:** So, you could call him and ask him what the next step is after you've got the engine, pulled it apart. What's the next step?

**CHILD:** Maybe, you can get a head shaded engine and you could like pull it, and if it's a rusty car you could pull it two times, and it comes off. You stick it on the body and then you put the arms on it and you put legs that are made of cardboard, and when they just go onto the body they just magically turn into robots. And the robot turns on.

**EDUCATOR:** So, a car engine, that's what makes a car go, so I think if you got a car engine and used that for the robot it would make the robot go. That sounds like it would work. But I would have to say that I've never made a robot, but I would really like one. What would you use a robot for?

**CHILD:** I would use a robot for my mummy because she doesn't really like cleaning up so that's why I need to but a robot.

**EDUCATOR:** That's what I want one for too! Exactly the same as your mum, because I don't like cleaning up either. So, if you do ever make one for your mum, can I…

**CHILD:** My sister never cleans up.

**EDUCATOR:** Sometimes sisters don't clean up. I've got a daughter that doesn't clean up. Do you clean up? …

(Centre 6, Field notes)

Through SST, educators encouraged the children to find their own solutions through purposeful and considered open-ended questioning. On occasion, educators would share content knowledge, but they did so to guide children to reach their own discoveries. A detailed account of a planned experience is included in Appendix E.2

## 3.4 Socio-Emotional Wellbeing and Self-Regulation

Children's self-regulatory development, and the foundational role that this plays in children's learning and engagement, was a key focus of the FEEL PD. Variability in children's self-regulation has been linked with school readiness (Blair & Razza, 2007; Morrison, Ponitz, & McClelland, 2010), early academic achievement (McClelland, Acock, & Morrison, 2006; Ponitz, McClelland, Matthews, & Morrison, 2009), and how children engage with peers, educators and the learning process (Fantuzzo et al., 2007; Raver, Garner, & Smith-Donald, 2007). Given the foundational nature of self-regulation and the outcomes associated with variabilities in skills, considerable focus within the PD was awarded to strategies and pedagogical practices designed to foster self-regulatory development.

The team's analysis of observational and interview data showed that all six centres prioritised support for children's self-regulation. Their approaches to encouraging self-regulation included involving children in the planning process (with all six settings doing this to different degrees); supporting children to make choices; playing games that required children to control their behaviour and inhibit responses (i.e. musical statues, eye spy); reading books about emotions; engaging children in learning activities that require children to pay attention, resist distraction, and remain engaged (i.e. memory games; questioning and problem-solving games – "doggy where's my bone" and the curiosity box).

Social interactions among children and between children and adults were encouraged across all six settings. Systematic observations showed all participating educators had specific knowledge of individual children's needs and communicated effectively about this with each other. A high degree of consistency was noted among educators; children at all six settings were aware of expectation and rules, and how this differed between the indoor and outdoor environments.

During the systematic observations, the team saw very few examples of conflict; and, when they did occur, they mostly centred on equipment sharing and turn taking. When this was observed, the educators empowered the children by supporting them to resolve the conflict. All six centres had extended on the focus of the PD and had adopted a problem-resolution approach with children to resolving conflicts. This is based on the Highscope Six Steps to Conflict Resolution which is designed to empower children with skills to seek help and resolve conflict with support through group and individual discussions.

When questioned about the low levels of conflict in her centre, an educator from Centre 6 believed that their fostering of children's self-regulatory skills, coupled with the changes they had made to incorporate a more flexible environment with a repertoire of choice for the children, had enabled an environment free of such conflict. Five of the six settings contained children with additional needs, so educators differentiated their pedagogical approach, offering different levels of support depending on the children's individual needs.

A notable finding from the analysis was the 'contextual lens' worn by educators, and how this influenced their teaching priorities. The concept of 'contextual literacy' (Southworth, 2004) was discussed throughout the PD, with educators encouraged to contextualise their learning to meet the demands of their ECEC context.

This was seen in Centre 3, which is situated in a government funded housing estate characterised by high unemployment, familial breakdown and a high proportion of refugee families. Many children demonstrated trauma-related behaviours, high rates of aggression, and poor emotional, behavioural and cognitive regulation. Research conducted in ECEC settings characterised by high levels of social and economic deprivation shows that these children enter ECEC with limited vocabulary and language skills, and with inadequate social-emotional development and self-regulation (Siraj & Kingston, 2014).

The program in Centre 3 had been restructured to prioritise relational pedagogy – with educators creating secure, responsive and predictable routines and interactions. Intentional teaching strategies focussed on the development of self-regulatory skills: for example, they had introducing a dining table to the room where children were required to come together for lunch – to resist the temptation to get up, wait their turn to be fed, engage in social conversation and adhere to the social conventions of joint meal times. Improved self-regulation translated to the children becoming more focussed and engaged, with educators able to conduct more extended small group activities and introduce open-ended questioning and extend children's learning – something they could not have achieved previously:

> **"...especially with the open-ended questioning, we were making them really think and we were giving them the time to think about the question and answer it. ... we really did see an increased hunger for learning, like when they left they were so ready, every one of them was ready for school... Whereas I couldn't say that for the year before when they left. And the feedback we received from the school was so positive. They asked us what we did differently with the children" (Director, Centre 3).**

The prioritisation of children's socio-emotional skills was seen to have impacted across the entire curricula, with this centre experiencing among the most significant increases in curriculum quality – as evidenced by changes in ECERS-E scores (2.71 at baseline, 5.29 at follow-u and a score of 6.35 at the time of the case study). Notably, this centre also experienced the largest growth in child outcomes (an increase of 48%).

## 3.5 Curriculum Focus and Integrated Practice

The team's analyses revealed variations between settings with respect to curriculum priorities, with their aims reflecting both educator and child interests. Educators were intentional in trying to create integrated experiences using the dramatic play area, outdoor spaces and block areas to integrate science, literacy and numeracy experiences. Many educators were observed embedding and weaving different areas of the curriculum into each experience and area of learning.

Centre 3, for example, responded to child interest, coupled with educator expertise, in developing an outdoor vegetable garden. They used this to create a range of science experiences, involved children in the planting and harvesting (which included discussions around water, sunlight and soil consistency), and engaged children in sensory experiences, prediction and documentation, cooking and eventually eating.

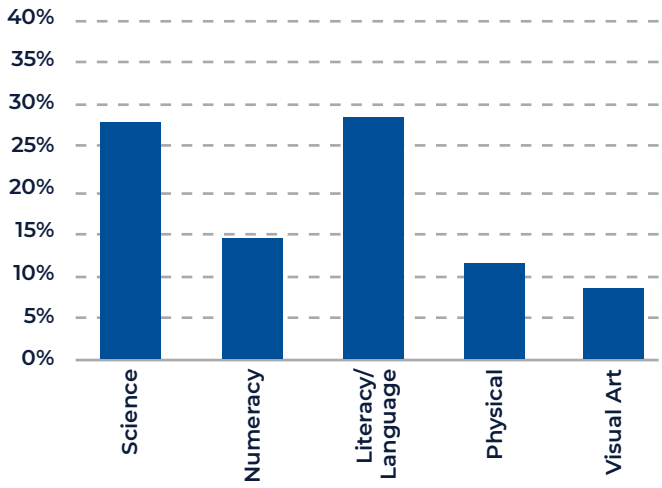
They used lunchtime to support social engagement and develop children's self-regulatory skills. Literacy experiences were integrated through books and stories, plant labelling and extended discussions. The children also used scientific language in their play and were encouraged to discuss their findings. These discoveries were then documented in the children's individual portfolios and displayed in the room as group projects. Numeracy was addressed through simple classification activities, weighing vegetables and counting.

With the exceptions of Centre 1, which prioritised arts-based creative experiences, and Centre 3, which had a strong socio-emotional and self-regulatory focus to their curriculum, the other four centres spent a significant amount of time in science-related and problem-solving experiences.

This is notable given the significance of emergent science for supporting children's learning across multiple school readiness domains, including language development, mathematics, arts and executive functioning skills (Conezio & French, 2002; Nayfeld et al., 2013).

Analyses of systematic observations across the six centres also revealed that this was more likely to occur within science related activities – as illustrated in Figure 6. This finding aligns with research which shows instructional support in the preschool classroom (i.e. concept development, use of open-ended questions and extended language interactions) to be higher during science instruction than in other domains (i.e. literacy or numeracy) (Fuccillo, 2011).

**Figure 6. Percentage of episodes of SST observed across the different curriculum areas**




Literacy learning was embedded within other areas of the curriculum, including science, numeracy, visual arts, construction and dramatic play areas. All six settings were print-rich environments, and the children were immersed in literacy in different areas of the environment, even outdoors. Planned literacy experiences involved: the children creating their own plant labels for the garden (Centres 3 and 6), children "reading" then acting out the story, Three Billy Goats Gruff (Centre 1), creating their own stories in small groups (Centres 2 and 5), regular dialogic reading activities (Centre 3 and 4), and a directional 'mapping' language experience in a larger group (Centre 6) where children had to listen and follow a number of directions to reach the 'treasure'.

Numeracy learning was embedded through both spontaneous and planned activities. Mathematical experiences were accessible to children on shelves (e.g. puzzles, games, blocks, scales, measuring cups, classification "sets") and numerical language used in small group and large group times. Block areas were used frequently by children and integrated with science, engineering and literacy. Times of transition were used to incorporate ordinal language (1st, 2nd, 3rd ...), while dramatic play areas incorporated mathematical concepts: ice-cream store with a cash register and different sized scoops (Centre 5). There were many examples of records displayed around the room in the form of graphs. The children's language in their predictions are also recorded reinforcing literacy skills.

## 3.6 Diversity and Differentiation in Planning and Teaching

The FEEL PD was designed to promote and develop educators' understanding of child development and developmentally appropriate practice for young children, and these approaches to differentiation and planning were seen as particular strengths of the six higher performing centres – and a key contributor to the improvements in child outcomes as measured in the FEEL study (Siraj et al., 2018). The learning environments of each centre were contextualized (Southworth, 2004) to the needs of each child – with both directors and educators demonstrating a good understanding of the children's particular needs, families and communities.

Staff at all six centres knew the children's backgrounds and interests, and sought to build on this knowledge through discussions with the children and their families. These discussions focussed on preferences, interests and dislikes, creating an atmosphere of shared responsibility for the welfare of the children in each setting. Diversity in children's abilities and interests, and differentiation in practices, was shown in the following:

- approaches to small grouping
- different levels of support offered to children in large group times
- differential support in resolving conflicts
- design of small group numeracy and literacy experiences
- selection of resources
- the types of questions posed to children
- monthly individual child goals.

Evidence of differentiation in planning was evident in the children's portfolios, which were unique to each child.

The qualitative analysis of educator observations appear to show an association between pedagogical differentiation and matching in terms of cognitive challenge. At small and large group times, educators differentiated their approach by varying the level of support depending on children's needs and abilities.

For example, during a 'directional mapping experience' observed in Centre 6, the educator used prior knowledge of the children's capabilities to inform the level of support given to each child, and to inform the complexity of the directions she provided. Differential support was also seen in the way educators scaffolded and extended children's dramatic play experiences (see Appendix E.1).

At the same time, the educator's high expectations of children to succeed both guided her pedagogy and also provided the cognitive challenge for each individual child (DEEWR, 2009). Children were supported to engage in the experience in their own way, and the educator provided enough scope and resources to do this effectively. In Centre 6 we observed differentiation, scaffolding and extension of children through the creation of 'child experts';

> **"A way of differentiating pedagogical approaches was to encourage children to seek support from each other at times of conflict or challenge. Educators acknowledged and built on children's strengths and capabilities by encouraging children in the group to seek out and recognise individual children as 'experts'.**
>
> **For example, when a child needed support to make a paper aeroplane, instead of children seeking out educators to provide the support, they are encouraged to find a child 'expert'. Another example of this was during an observed experience using clay, the educator suggested that a child 'expert' help child B to create a bowl shape with the clay and then create a handle for the 'cup' when she notice Child B was experiencing some challenge doing this herself" (Field notes, Centre 6).**

Centre 5 embedded projects into small group work where children were supported to work together towards a particular interest area. Educators supported children's planning and choice of materials, including a clay 'pool' and a large box construction of a city. The 'city' group, which included slightly older and more capable children, were extended through encouraging the children to create a plan of what would be included in the city (see Figures 7 and 8).

The educator in Centre 2 used specific strategies to engage children with attentional challenges in the group times; for example, using questioning techniques to re-engage and include children with attentional challenges. Educators at Centre 1 introduced the game "What's Missing" to support children's self-regulation; this was played many times across the week in response to child interest with the type and number of objects selected varying depending on the skill level of children participating. Further extensions were added, with more capable children making the game quite complex and challenging.

**Figure 7. Centre 5 city small group construction with planning.**

**Figure 8. Centre 5 city small group construction adult scaffolding and finished product.**

The six settings were embedded within very different demographic contexts – some in rural areas with very low SES, while others in areas with more affluent, well-educated families presenting different demands. In Centre 3, for example, the educators were very familiar with the challenges inherent in the broader community and the significant trauma many of the children had faced. This centre received support from government agencies and had access to a psychologist – who supported the educators two days a week. This support and knowledge enabled diversification of planning and teaching which led to deeper engagement and learning. At large group time, all educators supported the management of the group by sitting with children who needed support or by allowing individual children to exclude themselves if they needed time on their own with an educator.

The six settings were embedded within very different demographic contexts – some in rural areas with very low SES, while others in areas with more affluent, well-educated families presenting different demands. In Centre 3, for example, the educators were very familiar with the challenges inherent in the broader community and the significant trauma many of the children had faced. This centre received support from government agencies and had access to a psychologist – who supported the educators two days a week. This support and knowledge enabled diversification of planning and teaching which led to deeper engagement and learning. At large group time, all educators supported the management of the group by sitting with children who needed support or by allowing individual children to exclude themselves if they needed time on their own with an educator.

Assessment and planning are recognised as important aspects of practice in effective ECEC settings (Siraj-Blatchford et al., 2002), and were identified as fundamental to successful PD at the individual child, educator and setting levels. During the FEEL PD, aspects of assessment and planning at the educator and setting levels were discussed – with a strong focus on assessment as fundamental for effective practice.

At the setting level, planning for improvement and for children was discussed, and participants were encouraged to practice using the ECERS-E and SSTEW scales. In addition, individual assessment measures for children's language, self-regulation and other aspects of development were included as appropriate.

Although five settings (Centre 5 noted few differences in their approach) reported increased use of assessment to support practice, they were all challenged by the use of more formal approaches to assessment. Educators were effective in their use of observation, with the teacher at Centre 4 reflecting on how extensive and detailed her observations of children had become:

> **"there is more to observe and reflect upon as children engage at a deeper level due to more intentional pedagogy" (ECT, Centre 4).**

Several educators asked for more tailored assessments which would support them in their approach toward assessment for learning. Changes to assessment were perceived by all educators as an ongoing challenge – which is consistent with ratings on the ECERS-E and SSTEW, with many centres in the FEEL study scoring least well in domains of assessment and learning (see Siraj et al., 2018).

## 3.7 Approaches to Leadership

The leadership in these settings was seen as a particular strength, and as an essential and necessary component supporting practice change following their involvement in the PD. Their effective leadership ensured a strong organisational culture, staff satisfaction and commitment to quality practice. The directors served not only as managers but also as pedagogical leaders and advocates for children, families and staff.

Working conditions are an important structural indicator of quality practice; staff who describe their working conditions as 'pleasant' are more likely to engage in caring and stimulating interactions with the children in their care (Huntsman, 2008; Burchinal et al., 2002), so centre harmony and collegiality is an important facilitator of practice change.

The leadership and management structure supporting the centres was seen as a vital component of their successful operation. Two centres (Centres 1 and 3) were part of a larger not-for-profit organisation which is both proactive and supportive in its governance of the service. Directors at these two centres were considerate of the 'dynamic nature' of the broader organisation and had ensured that any changes to pedagogy and practice which came from involvement in the PD were built into existing practice and processes. They also advocated for changes to policy, where necessary (i.e. director at Centre 3 argued for the development of new behaviour management policies to reflect new understanding around children's self-regulation).

High expectations were communicated to all staff, regardless of experience or qualification. Five centres (Centres 1, 2, 3, 4 & 6) adopted a 'distributed model of leadership' which included all adults working with children (Stamopoulos, 2012). This shared sense of responsibility meant all staff members contributed toward common goals. The director in Centre 5 had ongoing health issues; so, although she continued to work two days a week, centre leadership drew on the two ECTs who participated in the PD. Lack of support from the director was seen as a potential barrier to practice change, with both educators feeling that they could have achieved more if they been afforded more time for reflection and planning – particularly with respect to the more challenging areas of practice change like assessment for learning and parent engagement.

Notably, this centre experienced the least growth in child outcomes (13% increase) compared to the other settings (e.g. Centre 6 experienced 23% growth in child outcomes). This reinforces the importance of effective leadership in supporting pedagogical growth within the ECEC context.

Only two of the six directors interviewed had participated in the face-to-face FEEL PD; yet all had a comprehensive awareness of its goals and content. The directors and educational leaders (all of whom had attended the FEEL PD) demonstrated a willingness to embrace evidence-based practices while creating an environment which was conducive to practice change. Mentorship models were common practice, with more experienced and qualified staff supporting less experienced educators. Pedagogical leaders were observed modelling effective practice and engaging in reflective discussions with staff. The educational leader in Centre 5, in partnership with the ECT, supported staff reflection through videoing educator practices and interactions with children.

Many qualities identified by Siraj-Blatchford and Manni (2006) in their study of Effective Leadership in Early Years Sector (ELEYS) were observed among the leadership teams, for example:

- collaborative models of leadership, where directors, educational leaders and ECTs worked closely together
- a clear vision and strong educational focus
- clear curriculum goals
- commitment to collaboration and collective voice
- collegial respect and strong relational pedagogy
- opportunities for consultation and reflection
- valuing parent and community partnerships.

Across the six participating centres, many opportunities were created for staff to meet and reflect: monthly meetings were organised with staff and focussed on programming, staff evaluations, approaches to pedagogy and reflective practice;

> **"In our staff meeting – we do room meetings for each room and then we get together as a whole team – we use these to reflect on our practice. For example, we will look at intentional teaching, are we being as intentional as we could be, what could we do more, what could we do better?**
>
> **… We set up some play experiences just in our staff meeting so the staff are constantly role modelling and playing and … and doing it themselves. What we've started introducing at our staff curriculum meetings (which is room based) … talking as a group what the interests are in each room and how we can each contribute and extend that" (Director, Centre 1).**

There were numerous instances of incidental conversations throughout the day reflecting on, for example, how well an activity had gone, how children could be extended further, the need for resources, ideas to be shared with parents, ideas for future planning, and so on.

A strong sense of collegiality and shared purpose resonated among the educators. The level of match in responses about pedagogical practices, views of children and families, and so on, was particularly striking among educators from the same setting. Within each setting, the educators worked together to create not only an environment conducive to learning for the children, but also an environment which facilitated strong relational pedagogy. Educators across all six settings commented on the quality of relationships that existed among staff prior to involvement of the FEEL study. They saw this as a particular strength, providing the trust and reciprocity needed to implement practice change.

Ongoing commitment to quality practice was evidenced, with all staff across the settings continuing to engage with professional development opportunities (i.e. in centre mentoring conducted by speech pathologist and occupational therapist, attendance at full-day offsite training days). Many centres had started to become involved in other projects, stimulated by their involvement in the FEEL study, and were showing interest in a variety of international curricula models, including Reggio Emilia (Italy) and High Scope (America) – with one director just returning from a one-month international study tour.

Pedagogical leadership was demonstrated through the prioritisation of joint planning opportunities, mentoring and reflection time. This was seen to be particularly significant in ensuring high quality intentional and relational practice, collaboration and job satisfaction;

> **"The staff have started documenting in their personal diary … changes that they've made and why … things that they would like to be extended upon if they're not here for the next day …**
>
> **After the curriculum cycle finishes, it goes for seven weeks, we then do mentor meetings which is what I'm doing with them this week. They are a highly collaborative team and they're not afraid – I go into each room with provocations and say 'How about you try this' … and they make decisions together" (Director, Centre 1).**

Such opportunities for planning and reflection are particularly notable given the number of participants in the FEEL study who cited a lack of time for planning and reflection as the biggest barrier to ensuring quality practice (see Siraj et al., 2018).

Several changes had been made at centre organisation level in response to 'lessons learnt' during the PD. Two directors (Centres 2 and 6) had implemented higher staff-child ratios to enhance the learning environment – which was seen to be conducive to prolonged engagement in small groups. The director at Centre 6 had supported the facilitation of the PD, adding it to the centre's Quality Improvement Plan and encouraging all staff (regardless of their level of involvement) to contribute equally. As a staff team, they had decided to draw on the ECERS-E and SSTEW as practice frameworks, continuing to use them to guide practice improvement across the different domains and areas of learning. The directors at Centres 1, 3 and 4 changed their approach to programming and documentation (see below). The director of Centre 2 also made the decision at the beginning of 2017 to move one PD participant into the younger 2-3 year old room to help spread the pedagogy and practice throughout the centre: this change, while presenting initial challenges to the educator, had resulted in significant improvements to pedagogy and practice across the entire setting.

## 3.8 Support for Parents and the Home Learning Environment

All six centres were characterised by a strong sense of community. Their educators were active in promoting familial engagement, seeing connections with the Home Learning Environment (HLE) as important for children's growth and wellbeing.

The importance of working in partnership with parents and supporting the home learning environment is well evidenced and documented (Siraj-Blatchford et al., 2002; Sylva et al., 2004), with findings pointing to the early HLE as more important for intellectual and social development than parental occupation, education or income. Consideration was also given in the PD to those aspects of the home learning environment known to support learning, and to how centres can augment and facilitate these.

The six centres promoted connections with families through a variety of means: monthly newsletters, special moments – including daily highlights or conversation snapshots, reflections on play "what we learnt through play this month", sharing of monthly programming aims, communication boards, articles of interest on children's learning outcomes, and invitations to social events (i.e. Mother's Day, Father's Day). All six centres encouraged family members to stay for extended periods of time in the room.

During observations at Centre 5, a parent was invited to share a cultural family event where she, and her child, dressed in traditional cultural dress and shared experiences with the children.

Following involvement in the FEEL PD, Centre 3 had identified the need to support children's self-regulation as a means of reducing challenging behaviours both in the centre and at home. They had introduced a social skills program, and had incorporated books and stories which focussed on emotional and social self-regulation. They sent home regular activity sheets so that parents could be aware of focus areas, and could "follow through" with their child at home. This created a bridge across contexts and was valued by parents;

> **"Yeah, he sort of … he got in … he was … because he is very boisterous sometimes so after so many weeks I end up going crook on him and I'll say 'No, that's enough now, you're getting too old'. And then he'll say 'You tipped my bucket, you hurt my feelings'. Like, yeah. Yeah, so he … he actually bought it home and we use the words at home. I will … I will say that is brilliant that one" (Mother, Centre 3).**

The PD also explored and extended discussions around building and supporting parental partnerships. Familial input was encouraged across all six settings. This occurred at different levels, and a variety of situations were used for this purpose: for example, daily transition times; when children commenced at the centre/preschool; informal discussions; at parent-teacher evenings; providing opportunities for parents to volunteer in the program or service; and creating opportunities for parents to contribute to decision-making through a family collaboration page (which invited parents to contribute ideas to the planning cycle) (see Appendix F, Table F.1 for examples).

Staff engaged parents in their child's learning journey through formal reporting, formal and informal discussions, journals, child portfolios and daily documentation. Approximately three-quarters of the parents interviewed reported that they had been asked about their childrearing perspectives and developmental goals for their child.

A number of synergies were created between the centre-home learning contexts. Children and families were encouraged to share experiences from home which were then integrated into planning and activities within the room. One family from Centre 5 created their own science experiment at home, drawing on the procedural knowledge acquired in the centre – and then bringing their experiment into the centre to share for news. The educators then added the experiment to their science learning area, extended the experience through the inclusion of scientific words (see Figure 9). Another parent (who was a scientist) saw this and then shared how the preschool staff had been teaching scientific methodology to the children on Twitter:

> **"Well it was an experiment to see how plants get their water, how plants drink because they don't have mouths, that was the thing. So how can they drink and I was trying to explain to them that we water the garden and, you know, they have the … they have special cells that suck up the water but not let it go back down. And I said I could show him by using different coloured water. So, then we brought it in here and he showed it to the class" (Grandparent, Centre 5).**

**Figure 9. Example of extension of learning between the preschool and HLE.**

There were variations across centres with respect to the availability of families to attend excursions and family's capacity to contribute to the centre. A number of the working families interviewed commented on the lack of available time, but felt that their connection with the centre and their child's learning had been enhanced through the introduction of Storypark – which was being used for online programming and communication across four centres (Centres 1, 2, 4 and 6).

As several FEEL centres worked with children from disadvantaged backgrounds, the PD was also designed to support educators in understanding the effects of poverty, and in the power of supporting the early HLE through the provision of activities, visit and events. Families from more socially disadvantaged areas tend to avoid more formal participation such as committee membership, but welcome involvement in informal gatherings instigated through the centre – such as helping with art activities or cooking classes conducted by the centre cook (Centre 3).

Five centres had established strong connections with community allied health services, and had included speech therapists and occupational therapist as part of their assessment regime. Centres 2 and 4 had organised in-centre professional development to support educator practice, while Centres 1and 4 promoted parent-workshops delivered through the community-health centre. Educators at Centre 6 participated in community events, and the preschool fostered strong community connections documented in a "Community Connections Book" that families and children could access at all times. The ECT at this centre has a particular interest and passion in the Aboriginal culture, so she had made strong connections with an Aboriginal elder who visited the preschool to share dreamtime stories and bush tucker with the children. This was displayed in the "Community Connections Book" – with feedback from parents.

Families were asked what they valued most about their child's preschool experience, and what role ECEC played in their child's development. Parental responses focussed largely on the social and emotional benefits of preschool, prioritising such things as opportunities to develop strong relationships and friendships, fostering social skills, resolving conflicts, developing behavioural and emotional regulation, self-confidence and assertiveness:

> **"They've been very very good at tying in the emotional sort of things that we've … we've been trying to work on, so emotional expression and … and being able to communicate his emotions and … and deal with the sometimes strong emotions that he struggles with. So the preschool's been fantastic with that and really sort of tying in a lot of the stuff that we've been trying to work on at home with that" (Centre 5, Father).**

Over half the parents interviewed discussed the cognitive benefits of preschool, citing such things as children's increased interest in science and scientific understanding, problem-solving ability, their "ability to take risks with learning", curiosity, engagement, motivation and language interactions:

> **"… some of the answers those kids come up with, they … they are encouraged to be questioning, to follow their interests, to-enquire about things, to-analyse and think" (Centre 1, Mother).**

Parents demonstrated a deeper understanding of educators' approaches to programming and pedagogy, and valued the way that educators accounted for their child's interest and developmental capacities. Parents with long-term involvement at the setting also commented on the notable changes that they had witnessed among educators in practices and curriculum content:

> **"The program has changed a lot. They do more science and maths. The knowledge that she comes home with and the confidence to say 'Hey Mum did you know', you know, 'that there's a planet called Pluto'. And I go 'Oh yeah there is, how did you know that?' and just much more knowledgeable than (my older daughter) was.**
>
> **She is so much more advanced to go to school and it is because of (the teacher). She was (older daughter's) teacher but she's got so many more fantastic ideas now and it shows – the kids are happy.**
>
> **My daughter comes home with something different every day and … or every week I should say. But the confidence to come home and tell us about it or even, you know, think that she's wonderful to tell her … and her older sister something new, I will say 'Oh did you learn that? Ooh I didn't know that' and 'ooh I didn't know that' and then encouraged her to keep going.**
>
> **It's just much more in-depth, there's not just a subject that they have to learn it's … it comes from the kids and it … and it's just … there's something always added to it" (Centre 2, Mother).**

All six centres used the FEEL study as an opportunity to educate parents about children's development and the importance of home-centre connections. Four centres believed that their involvement with the university through FEEL had elevated their status among the families, with many parents having a new or deeper understanding of ECEC's significant role in the developmental pathways of young children.

Centre 4 had a number of children with self-regulation challenges, and participation in the PD had provided them with the skills to have sensitive discussions with families: this had led to the development of *Parent Plans* designed to support children's behaviour in the home context.

These incorporate ideas around different activities that parents can do to encourage increased attention, and around children's ability to regulate emotions or control outbursts.

Several educators believed that the focus on child development within the PD had ensured they were:

> **"more confident to talk to parents about … how their child's going in the different areas of development" (ECT, Centre 4).**

The active and supportive connections established with families was seen as a particular strength of all six settings, and as a contributing factor to growth in child outcomes as evidenced by the quantitative findings in the FEEL study (see Siraj et al., 2018).

## 3.9 Cascading of Knowledge and Practice: Impact on Non-Participating Educators

The FEEL PD was structured around a cascading model of delivery which asked participants to share with their colleagues the information and practices they had examined through the face-to-face sessions. Educators were encouraged to see themselves as Leaders for Learning Champions, and as playing an integral role in the professional development of their non-attending colleagues.

Improvements in overall classroom quality, rather than merely changes in attendees' practices, were enhanced when (i) more than one educator from each centre participated, with three of the highest performing centres sending three educators, and (ii) a model of leadership was followed which underscored the active role of participants in driving practice change.

Observations conducted across the six centres noted enhanced pedagogy and practice not only among attendees but also among other educators in the room: this was seen as integral to overall quality improvements and enhanced child outcomes. Analysis of interviews conducted with educators and directors showed that participants prioritised the sharing of information within the room, and, in the case of Centres 2 and 3, across the entire ECEC context.

This was seen as a particular strength among the six high performing settings and as a key contributor to both room level quality improvements and child outcomes improvements. Informal discussions conducted with other staff in the room revealed adoption of high quality practices and a deeper understanding of children's learning as a direct result of their colleagues participating in the PD:

> **"As a teacher I have learned to look at everything with wonder again. They might go back to the same things again, but what I have found is that each time is different. I stop myself and I'm always thinking I'm not giving them the answer. I am now supporting the children to find the answers. Now I'm asking them. Then you build on their answer. I don't think that I ever did that until (named educator 1) and (named educator 2) started to do it. We are brought up to think we have all this knowledge and our job is to impart it. But that's not being a teacher and I finally realised that. It makes you more responsive to what kids are doing. It has changed me completely" (ECT, Centre 6).**

The centres had adopted a range of approaches to support practice change amongst colleagues: for example, presentations at staff meetings, formalised PD using the online Moodle supports, informal daily discussions, modelling and videoing of teaching practices, sharing hand-outs, mentoring staff and integrated approaches;

> **"We shared the online support material with the educators in meetings – we only focussed on one topic, or one learning area each time, so one was dedicated just to numeracy, one was dedicated just to literacy. We shared the information through the handouts which we were given because they were fabulous … we also created some of our own little display handouts, an example of that is 'Are we using open-ended questioning?' and it gave some examples of some "WHY" questions and different things you could be asking 'I wonder' as well as ideas for practice.**

> **We had different displays we put up around the classrooms to prompt all educators just in their interactions to show possibilities. We also shared video clips, the video clips which we watched during PD we brought back here to preschool and we watched a few of those as well on the way the educators were responding to different situations and how they were interacting and in those video clips you could see, you know, the organisation of the classroom and the resources and as well as the interactions and the relationships that were happening, so we … we took all of that on board here at the preschool" (Educational Leader, Centre 2).**

Several educators reflected on the benefit of having time to reflect between the face-to-face PD sessions, as well as opportunities for discussion and feedback among participating centres, identifying the importance of extending those same affordances to their colleagues;

> **"I think one thing that was really important coming back from the FEEL study was making sure my colleague and I acknowledged all attempts that staff were making to change their practice … it's important to acknowledge the effort that educators are putting in as well, 'I could see the maths that was happening, have you thought about what we're going to do next time and how you're going to extend on that?'" (Diploma, Centre 2).**

Observations and follow-up interviews revealed many examples of 'non-participating' staff engaging in high quality practices addressed throughout the PD – including extended interactions with children, engagement in SST, increased use of questioning to extend children's thinking, increased support for children's self-regulation, supporting scientific discoveries, structured small-group activities and intentional planning and reflective practice.

## 3.10 Perceived Practice Change in Response to the Professional Development

In this study, the educators were asked to reflect on their own personal journey since their attendance at the FEEL PD. Many cited a renewed sense of purpose, increased motivation, confidence and effectiveness in their teaching. This enthusiasm for learning and teaching was seen to be 'infectious', stimulating a similar ethos among other educators in the room:

> **"they returned to the centre each time so excited by what they had learnt and what they were going to do with the children it made us want to jump on board too" (Certificate III, Centre 5).**

The educators also reflected on their increased awareness around the importance of planning, intentionality in their planning and pedagogy, use of resources, the way they set-up the learning environment and supported children's engagement. When asked what she saw as the most significant shifts in practice among the educators in her centre, one director reflected on the missed opportunities of the past and how her educators were now,

> **"much more aware of how much they could be teaching children all the time – teachable moments are happening all the time" (Director, Centre 3).**

An overview of the most prominent themes discussed by educators and directors is outlined in Appendix F.

Most educators believed that the most significant shifts in their pedagogical approach, following involvement in the PD, involved optimising opportunities for extension, engaging children in extended dialogue, engaging in SST, using open-ended questioning and problem-solving.

They talked about being more intentional, critically reflective and creating more opportunities to enhance children's engagement. Their changes in pedagogy and practice were also seen to have impacted on the way children played and how they learnt in the setting. Previous learning activities were revisited using new pedagogical strategies explored through the PD. For example, educators at Centre 5 built on an activity they called "The Mystery Fruit" which had been introduced initially to encourage children to eat a variety of fruits in response to parental concerns around children's eating practices:

> **"Previously we just described then tried the fruit, after participating in the FEEL study there was that whole idea about inciting curiosity and a sense of discovery in children, engaging them in the learning process.**

> **So then we started predicting what the fruit would look like inside, how many seeds it might have, what colour the flesh might be, how might it grow, and it's just taken off and the other children have the … you know, they bring in their own mystery fruits and we've taken another step forward now we sometimes … if it is a really easily known fruit or vegetable we'll put it in the feel box and they'll feel it and they're using another sense or sometimes we cut it and we smell it without seeing it" (ECT, Centre 5).**

A key factor in the PD was the time afforded to educators to 'try out' and reflect between sessions. Dunst (2015) suggests that time for reflection on what worked and what needed improvement within the classroom is key to effective PD. The FEEL PD was designed with the expectation that the educators would try new approaches between sessions in their own settings. Each PD session included the discussion and agreement of activities and practice to be implemented between sessions.

Shifts in pedagogy, which were grounded in a strong evidence-base of practice, resulted in meaningful changes in children's engagement, learning and behaviour. These were strong motivating factors ensuring educators ongoing participation and engagement, and contributing to increased confidence and belief in themselves as professionals. This was seen to be important in effecting the sustained and embedded changes which were observed within each setting.

## 3.11 Perceived Impact on Children

Although most children who had been at the centre or preschool during the PD had transitioned to school by the time of this study, it was still interesting to ascertain whether the educators believed that the changes that they had made to their practices had shaped the learning and engagement of both the children who they supported at the time of the PD and their current cohort.

Every director and educator interviewed believed that they had witnessed a significant shift in the way children explored their environment. They considered them to be more curious, to have greater ownership over their learning, more independent, to be making more choices and to be taking more risks.

Children's expressive vocabulary (the ability to ask questions, pose hypotheses and engage in extended conversations) was noted both in classroom observations and in interviews with educators and parents.

> **"A young boy, 'Jack' who was playing in the block corner was asked by an educator what he was building, 'I'm just stabilising these materials' he explained" (Field notes, Centre 4).**

Educators' increased expectations, use of scientific terminology and open-ended questioning was seen to have impacted their confidence, interest and creativity. Children's 'extended' vocabulary had been noticed by many parents, particularly those who with children who had attended the centre/preschool before the educators' involvement in FEEL.

> **"His language is just astounding. And some of the answers those kids come up with, they ... they are encouraged to be questioning, to follow their interests, to-enquire about things, to-analyse and think" (Father, Centre 1).**

The children across all six centres were very involved in the learning process – the planning, selection of resources and organisation. The increased use of open-ended questioning by all participating educators had resulted in many examples of active problem-solving, SST and scientific discovery:

> **"Some children found a hole in the ground and so we investigated what it might've been; and then we saw a cicada shell hanging just beside the hole on a rope; and then we could hear a buzzing and flapping sound and looked down and there was a live cicada.**
>
> **So those sort of opportunities I think the children learn to notice things now and question them and show us or each other, more than what they would've done in the past prior to the FEEL study.**
>
> **They're actually out in the garden and they're ... they're noticing changes, they're looking for changes, they're looking for discoveries, they want to share those discoveries with ... with each other" (ECT, Centre 2).**

Some educators (n = 8) described children as being more flexible in their thinking and 'open to new ideas'. The ECT and Educational Leader at Centre 5 commented on their children's increased creativity, problem solving capabilities and ability to take their play in unexpected directions. Children's ability to regulate their attention, emotions and behaviours was a particular focus across all six centres, with educators supporting their children through intentional pedagogy and small group activities:

> **"they've improved in their self-regulation as well, self-regulation was something we identified, I think we identified every year as something that's a high need with this age group … we look at different opportunities to practice developing self-regulation with children … those opportunities for children to, you know, develop some delayed gratification and attention and … children are now playing in smaller groups a lot more and there's more focus in what they're doing, and I think that comes back to the resources that we just put out in places for children to discover as well" (Educational Leader, Centre 2).**

Children's self-regulation was seen to underpin children's learning and engagement, with many educators prioritising this in their planning and teaching. Several were now supporting children to persevere with activities – through, for example, sitting alongside children, scaffolding, modelling, by "not jumping in and solving problems for them instantly", engaging in conversations and extending children's interest through questioning. Not only was this seen to support engagement, it was also seen to benefit children's social interactions and integrated play experiences.

When observing a group of boys engaging in the block area over a period of 50 minutes, the ECT in Centre 1 reflected:

> **"I think their emotional development has allowed them to be engaged for a longer period of time because they are creating these small groups and working together on something rather than a lot of individual play happening…**
>
> **A lot of those boys, particularly in the block area, would just build their own thing and there will be four different creations in there. The last few months they've come together and you hear them they discuss what they're going to build and – … and how they're going… 'No we're not going to do it that way we're going to do it this way' and like those conversations weren't happening before" (ECT, Centre 1).**

## 3.12 Facilitators of Practice Change

The translation of content and knowledge acquired through PD to centre practice is an important factor in determining PD success. One aim of these case studies was to develop a deeper understanding of the factors which had supported implementation and practice change among those settings that had experienced the greatest improvements in quality and child outcomes.

Educators and directors were asked to reflect on any changes they had made as a result of their involvement in FEEL – and on the structural or process qualities which had supported this change. The key structural facilitators identified by the participants included:

- whole-staff commitment to the PD
- low staff-child ratios – with three centres working at ratios of 1:8
- allocation of additional time for planning and reflection
- supportive management, which included such things as advocating for additional time for training with the management committee
- financial support for resource allocation and environmental changes.

One main obstacle impeding practice change is the 'people affect' or staff resistance to change. Siraj-Blatchford and Manni (2006) argue that change is best viewed as a process rather than as an outcome, and it is the management of this process that predicts success.

Process or relational supports identified by educators across the six highest performing centres included:

- the existence of positive and respectful staff relationships prior to involvement in the study
- strong emphasis on effective leadership
- shared vision (fostered through effective pedagogical leadership)
- a commitment to staff collaboration
- effective staff communications
- an openness and readiness for change high expectations
- enthusiasm and motivation of staff
- a value for fostering quality family-centre partnerships and community connections.

The fact that many participating staff had been at their settings for several years was considered a particular strength – as they were able to draw on a history of strong and trusting collegial relationships that provided a springboard for change.

While not unique to these six centres, all the educators interviewed believed that the structure and content of the PD was being particularly important to their success: they mentioned, for example, the multiple sessions, the time to reflect and implement change between sessions, the drawing on evidence-based practices.

> **"It was so exciting to see the impact the changes had on children's behaviour and engagement; it was making a real difference, it made me excited for the next session and what we would learn next" (ECT, Centre 6).**

They also valued the PD's illustrative practice examples, which were shared frequently with fellow staff members, the online resources to revisit and reflect on, and multiple staff from the same centre:

> **"having more than one staff member, because for us I know when I was talking to some of the other supervisors that did attend the FEEL, that they were the only person in their team that attended the FEEL, they struggled and hardly implemented anything" (Director, Centre 3).**

Table G.1 in Appendix G provides an overview of the main themes which emerged from the content analysis of interviews cited by all six high performing settings as instrumental to practice change.

# 4. Discussion of the Case Studies of Effective Practice

## 4.1 Discussion

The FEEL Case Studies involved evaluating the impact of an evidence-based PD program on early childhood educators' pedagogy and practice. By focusing on settings which had experienced the most significant growth in both a) quality practice and b) child development, the case studies sought to understand the factors contributing to this success. Findings from this study not only underscore the effectiveness of the *Leadership for Learning* PD in promoting *sustained* growth and improvement, they also highlight structural and relational factors that support practice change and promote positive learning and development among young children.

The FEEL study responded to the multiplicity of challenges in previous PD intervention research by adopting a long-term view of practice change. It built educator capacity by moving beyond a focus on activities to a more rigorous evidence-base which emphasised the key approaches to pedagogy and practice which are known to be important for child engagement and learning research rich paradigm. Significant attention was awarded to the complex nature of child development which allowed for an increased focus on intentional teaching and differentiation of the curriculum. The inclusion of multiple frameworks to guide practice change, as well as flexible approaches and ongoing reflection fostered sustained growth and ongoing improvements.

The quality of each case-study setting was linked to a number of key practices which had been seen to be instrumental in influencing the overall quality of the room:

- high levels of intentional and relational pedagogy
- the organisational structure of learning experiences
- resource allocation and classroom arrangement
- approaches to extension and engagement
- engagement in sustained shared thinking
- a broad range of curriculum content and integrated experiences
- use of assessment to inform planning
- an understanding of child development and the need for differentiation
- valuing diversity and responsiveness to individual needs
- commitment to quality leadership and staff collaboration
- effective communication
- supportive management structure
- staff stability
- connections with families and the broader community.

While each aspect of quality practice worked to support children in different ways, all were considered necessary to achieve the high quality environment necessary for fostering child growth and development.

All six centres prioritised child extension and cognitive challenge; they saw this as a significant shift in their approach to pedagogy following their involvement in the PD – and as pivotal in supporting children's growth and development. The qualitative analysis of classroom observations shows a clear association between curriculum differentiation and matching in terms of cognitive challenge and 'sustained shared thinking'. Indeed, the evidence suggests that the more a setting achieves in each of these dimensions of good pedagogic practice, the more cognitively effective it becomes.

The ability of educators to contextualise their pedagogy and practices to the unique needs of their children attests both to their growth and confidence as pedagogues, following their involvement in the PD, and also to their deeper understanding of the fluidity and complexity of the ECEC context.

Findings from Centres 3 and 4, who were both located in areas of high disadvantage, were particularly encouraging – and attest to the potential for high quality practice to 'close the developmental gap'. More importantly, the qualitative analysis which examined current practices and perceived changes to practice highlights the need for differential pedagogical models (i.e. teacher-led/ teacher-initiated v child-initiated) in line with child and familial needs.

Overwhelmingly, educators reported experiencing a positive shift in their personal pedagogy (e.g. higher expectations, increased awareness of the children's capacity to learn), a more reflective practice, and a deeper understanding of child development and the evidence base that underpins effective practice.

The cascading model of delivery was an important feature of the PD, whereby participants were asked to adopt a leadership role with responsibility for leading change in their teams. The high performing settings embraced this learning model of influence, and were intentional and purposeful in strategies for ensuring their peers' engagement in the PD journey, in sharing their passion and excitement for change, motivating and supporting mentors, and being advocates for children – which, together, resulted in enhanced practice among all educators in the room.

Given the significant influence of the HLE on children's learning and development, another aim of the PD was to ensure improvements which would extend beyond the ECEC setting to the early home learning environment. Both parents and educators in the six high performing centres commented that the PD had enhanced communications and connections with families. Educators noticed that families showed greater understanding of their children's learning and an increased awareness of the educator's role in their child's life. Parents commented on their children being highly engaged and knowledgeable, with some parents reflecting on notable changes in the learning environment.

Leaders within these centres prioritised the importance of high quality and responsive community connections; they shared learning experiences with families and invited them to take part in their Leadership for Learning journey – with one centre even using the FEEL study as their Christmas concert 'theme' (with children emerging from life-sized curiosity boxes).

Findings from these case studies underscore the instrumental role of centre-based leadership in supporting practice change and fostering high quality pedagogy and practice. For many years, researchers have acknowledged that "effective leadership" is integral to the organisational climate of every ECEC context (Brownlee, Nailon, & Tickle, 2010; Ebbeck & Waniganayake, 2003; Kagan & Hallmark, 2001; Nicholson et al., 2018; Rodd, 2006; Siraj-Blatchford & Manni, 2006). The current findings build on this and highlight the active role that leadership plays in supporting practice change and, more importantly, in creating environments which foster children's development.

The directors in these centres saw themselves as more than 'directors' or administrators, they were pedagogical leaders and advocates for children, staff and families. They created structures which supported practice change: employing additional staff, supporting mentoring models, developing new models of planning, and prioritising time for planning and collaboration. They fostered a climate of high expectations while acknowledging variations in qualifications and experience, they showed respect for their staff, and demonstrated value for the new knowledge brought into the centre as a result of staff involvement in the PD – irrespective of whether or not they were involved in the face-to-face PD sessions.

A strong sense of collaboration and effective communication characterised all six centres. Their leadership adopted many personas and involved not only the director but also the PD participants – it depended on strong collegial relationships, mutual respect, motivation, shared decision-making, a common purpose and empowerment of others. Consistent with previous research, these findings paint a picture of leadership which extends beyond the individual or role to encompass several staff within the centre.

Of course, the director's role as formal leader continues to be important for building a learning community, managing internal structures and creating a positive culture. While a model of shared leadership is important at a macro level, effectiveness at the individual 'director' level, or micro level, is necessary for both practice change and sustainability. The role of the director in fostering quality practice was magnified by the one centre that revealed lower levels of involvement and commitment by its director which was perceived to have hindered educators' ability to enact as many changes to practice as they had hoped. While the two educators in this centre demonstrated high quality practice and had taken it upon themselves to become community and pedagogical leaders, this was impacting negatively on staff wellbeing and sustainability, with one educator questioning her ongoing role within the centre.

The road to achieving an ECEC context which is both high quality and highly supportive of child growth and development is multi-determined and multi-layered. The six settings in this study revealed important process, structural and outcome 'qualities' which are essential components of practice change. Effective practice demands the engagement of high quality and knowledgeable practitioners with a commitment and openness to reflective practice, a deep understanding of child development and approaches to differentiation, an engagement with pedagogical practices which embeds cognitive challenge, extends and engages children, and a broad curriculum knowledge that prioritises integrated experiences and optimises on structural and environmental supports.

It depends on effective leadership that prioritises collaboration, communication and a shared vision, and that exudes high expectations with a goal of ongoing reflection and practice improvement. These elements do not work in isolation; they come together in an integrated way resulting in ECEC centres of "effective practice".

PD is an essential component of a high quality ECEC system and should be routinely available for all practitioners. The benefits of any kind of staff quality improvement effort, however, is dependent on key structural factors: qualified staff, staff stability, effective leadership, consultative and responsive models of management, structural models that support staff collaboration and prioritise opportunities for planning and support for the home learning context.

Our study has shown that centres can improve when educators are provided with a framework to support practice change, strong foundational knowledge in child development as well as effective models of pedagogy and practice. These findings provide a comprehensive model of effective practice for the Australian ECEC context and possibly beyond and are useful both for policy planning and for strengthening workforce and practice development.

# 5. References


Blair, C., & Razza, R. P. (2007). Relating effortful control, executive function, and false belief understanding to emerging math and literacy ability in kindergarten. *Child Development*, 78(2), 647-663. DOI: 10.1111/j.1467-8624.2007.01019.x

Blau, D. M. (2000). The production of Quality in Child-Care Centers: Another look. *Applied Developmental Science*, 4(3), 136-148.

Brownlee, J.M., Nailon, D.L., & Tickle, E.L. (2010). Constructing leadership in child care: epistemological beliefs and transformational leadership. *Australasian Journal of Early Childhood*, 35(3), 95-104. Retrieved from https://eprints.qut.edu.au/view/types/article/2010.html

Burchinal, M.R., Cryer, D., Clifford, R.M., & Howes, C. (2002). Caregiver training and classroom quality in child care centers. *Applied Developmental Science*, 6(1), 2-11. doi: 10.1207/S1532480XADS0601_01

Clifford, R., Reszka, S., & Rossbach, H. (2010). *Reliability and validity of the early childhood environment rating scale.* Unpublished manuscript, Chapel Hill: FPG Child Development

Conezio, K., & French, L. (2002). Science in the Preschool Classroom Capitalizing on Children's Fascination with the Everyday World to Foster Language and Literacy Development. *Young Children*, 57, 12-18

Cooke, S., & Lawton, K. (2008). *For Love or Money: Pay, progression and professionalization in the 'early years' workforce.* Institute for Public Policy Research [online]. Retrieved from http://www.ippr.org/assets/media/images/media/files/publication/2011/05/for_love_or_money_1633.pdf

De Kruif, R.E., McWilliam, R.A., Maher Ridley, S., & Wakely, M.B. (2000). Classification of teachers' interaction behaviors in early childhood classrooms. *Early Childhood Research Quarterly*, 15(2), 247–268. doi: 10.1016/S0885-2006(00)00051-X

Department of Education, Employment and Workplace Relations (DEEWR). (2009). *Belonging, being and becoming: The Early Years Learning Framework for Australia.* Canberra: Australian Government. Retrieved from http://www.slq.qld.gov.au/ data/assets/pdf_file/0008/250298/early-years-learning-framework.pdf

Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Towards better conceptualizations and measures. *Educational Researcher*, 38, 181-199. doi:10.3102/0013189X08331140

Duncan, G., Dowsett, C., Classens, A., Magnuson, K., Huston, A., Klebanov, P., Pagani, L., Feinstein, L., Engel, Brooks-Gunn, J., Sexton, H., Duckworth, K., & Japel, C. (2007). School Readiness and Later Achievement. *Developmental Psychology*, 43, 1428-1446. doi: 10.1037/0012-1649.43.6.1428

Dunst, C. J. (2015). Improving the design and implementation of in-service professional development in early childhood intervention. *Infants & Young Children*, 28, 210-219. doi:10.1097/IYC.0000000000000042

Ebbeck, M., & Waniganayake, M. (2003). *Early Childhood Professionals: Leading today and tomorrow.* Eastgardens, N.S.W.: MacLennan + Petty.

Epstein, A. (2007). *The Intentional Teacher: Choosing the Best Strategies for Young Children's Learning*. Washington, DC: National Association for the Education of Young Children.

Fantuzzo, J., Bulotsky-Shearer, R., McDermott, P., McWayne, C., Frye, D., & Perlman, S. (2007). Investigation of Dimensions of Social-Emotional Classroom Behavior and School Readiness for Low-Income Urban Preschool Children. *School Psychology Review*, 36(1), 44-62. Retrieved from https://repository.upenn.edu/gse_pubs/124

Fuccillo, J. M. (2011). *Higher-level instructional interaction in head start classrooms: Variation across teacher-directed activities and associations with school readiness outcomes.* Submitted to the Faculty of the University of Miami in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Gatt, S., & Thewma, G. (2012). Inquiry-based Learning in Early years through Story-telling. *Journal of Emergent Science*, 4, 19-24. Retrieved from https://www.um.edu.mt/library/oar//handle/123456789/18699

Heckman, J. J. (2008). Schools, skills, and synapses. *Economic Inquiry*, 46, 289–324. doi:10.1111/j.1465-7295.2008.00163.x

Hewitt, V. (2001). Examining the Reggio Emilia Approach to Early Childhood Education. *Early Childhood Education Journal*, 29(2), 95-10. doi: 1082-3301/01/1200-0095$19.50/0

Howes, C., Burchinal, M., Pianta, R.C., Bryant, D., Early, D., Clifford, R., & Barbarin, O. (2008). Ready to Learn? Children's pre-academic achievement in prekindergarten. *Early Childhood Research Quarterly*, 23(3), 27-50. doi: 10.1016/j.ecresq.2008.08.001.

Huntsman, L. (2008). *Determinants of quality in childcare: A review of the research evidence.* Centre for Parenting and Research, NSW Department of Community Services. Retrieved from http://www.community.nsw.gov.au/ data/assets/pdf_file/0020/321617/research_qualit ychildcare.pdf

Hyson, M., Biggar Tomlinson, H., & Morris, C. A. S. (2009). Quality Improvement in Early Childhood Teacher Education: Faculty Perspectives and Recommendations for the Future. *Early Childhood Research & Practice*, 11(1), 1-3. doi:10.1016/S0885-2006(96)90025-3

Kagan, S. L., & Hallmark, L. G. (2001). Cultivating leadership in early care and education. *Child Care Information Exchange*, 140, 7–10. doi: 10.1.1.456.1120

Kingston, D. (2017). *A mixed methods study: Evaluating the impact of a bespoke professional development based on an analysis of existing quality in one local authority* (Unpublished doctoral thesis). London: University College London. Retrieved from http://discovery.ucl.ac.uk/1551541/

Kyriakides, L., Creemers, B.P.M., & Antoniou, P. (2009). Teacher behaviour and student outcomes: Suggestions for research on teacher training and professional development. *Teaching and Teacher Education*, 25, 12–23. doi:10.1016/j.tate.2008.06.001

LSAC The Australian Government Department of Social Services (2013) Growing up in Australia: the longitudinal study of Australian children. 2012 – 13 Annual Report. Melbourne: Australia.

McClelland, M. M., Acock, A. C., & Morrison, F. J. (2006). The impact of kindergarten learning-related skills on academic trajectories at the end of elementary school. *Early Childhood Research Quarterly*, 21(4), 471-490. doi: 10.1016/j.ecresq.2006.09.003

Melhuish, E. C. (2004). *A literature review of the impact of early years provision on young children, with emphasis given to children from disadvantaged backgrounds.* London: National Audit Commission.

Melhuish, E. (2014). *The impact of early childhood education and care on improved wellbeing. "If you could do one thing..." Nine local actions to reduce health inequalities* (pp. 33-43). London, United Kingdom: British Academy.

Melhuish, E., Ereky-Stevens, K., Petrogiannis, K., Ariescu, A., Penderi, E., Rentzou, K., Tawell, A., Slot, P., Broekhuizen, M., & Leseman, P. (2015). *A review of research on the effects of Early Childhood Education and Care (ECEC) upon child development. CARE project. Curriculum quality analysis and impact review of European Early Childhood Education and Care (ECEC).* (Technical report FP7-SSH-2013-2). European Commission. Retrieved from http://ecec-care.org/fileadmin/careproject/Publications/reports/new_version_CARE_WP4_D4_1_Revi ew_on_the_effects_of_ECEC.pdf

Morrison, F. J., Ponitz, C. C., & McClelland, M. M. (2010). Self-regulation and academic achievement in the transition to school. In S. D. Calkins & M. A. Bell (Eds.), *Child development at the intersection of emotion and cognition* (pp. 203-224). Washington, DC, US: American Psychological Association.

Nayfeld, I., Fuccillo, J., & Greenfield, D. B. (2013). Executive functions in early learning: Extending the relationship between executive functions and school readiness to science. *Learning and Individual Differences*, 26, 81-88. doi: 10.1016/j.lindif.2013.04.011

Nicholson, J., Kuhl, K., Maniates, H., Lin, B., & Bonetti, S. (2018). A review of the literature on leadership in early childhood: examining epistemological foundations and considerations of social justice. *Early Child Development and Care*, 1-32. doi:10.1080/03004430.2018.1455036.

OECD (Organisation for Economic Co-operation and Development). (2012). *Starting Strong III: A quality toolbox for early childhood education and care.* Retrieved from http://www.oecd.org/edu/school/startingstrongiiiaqualitytoolboxforearlychildhoodeduca tionandcare.htm

Phillipsen, L.C., Burchinal, M.R., Howes, C. & Cryer, D. (1997). The prediction of process quality from structural features of child care. *Early Childhood Research Quarterly*, 12(3), 281-303. doi: 10.1016/S0885-2006(97)90004-1

Pianta, R.C. (Ed.). (2012). Handbook of early childhood education. London: Guildford Press. Pianta, R. C., Belsky, J., Houts, R., Morrison, F., & the National Institute of Child Health and Human Development Early Child Care Research Network. (2007). Opportunities to learn in America's elementary classrooms. *Science*, 315(5820), 1795–1796. doi:10.1126/science.1139719

Ponitz, C.C., McClelland, M.M., Matthews, J.S., & Morrison, F.J. (2009). A Structured Observation of Behavioral Self-Regulation and Its Contribution to Kindergarten Outcomes. *Developmental Psychology*, 45(3), 605-619. doi: 10.1037/a0015365

Ramey, S. L., & Ramey, C.T. (2006). Early educational interventions: Principles of effective and sustained benefits from targeted early education programs. In S.B. Neuman & D.K. Dickinson (Eds.), *Handbook of early literacy research* (2nd ed., pp. 445-459). New York: Guilford Press.

Raver, C. C., Garner, P. W., & Smith-Donald, R. (2007). The roles of emotion regulation and emotion knowledge for children's academic readiness: Are the links causal? In R. C. Pianta, M. J. Cox, & K. L. Snow (Eds.), *Kindergarten transition and early school success* (pp. 121–148). Baltimore: Brookes.

Rodd, J. (2006). *Leadership in early childhood* (3rd ed.). Crows Nest: Allen & Unwin.

Sheridan, S.M., Pope Edwards, C., Marvin, C.A., & Knoche, L.L. (2009). Professional Development in Early Childhood Programs: Process Issues and Research Needs. *Early Education Development*, 20(3), 377–401. doi: 10.1080/10409280802582795

Siraj-Blatchford, I., & Manni, L. (2006). *Effective leadership in the early years sector (ELEYS) study.* University of London: Institute of Education.

Siraj, I., & Kingston, D. (2014). *An independent stocktake of the Foundation Phase in Wales: Final Report*. Cardiff: Welsh Assembly Government. Retrieved from http://dera.ioe.ac.uk/20340/1/140519-independent-stocktake-of-the-foundation-phase-in-wales-en.pdf

Siraj, I., & Kingston, D. (2015). *An independent review of the Scottish Early Learning and Childcare (ELC) workforce and Out of School Care (OSC) workforce.* Edinburgh: The Scottish Government. Retrieved from http://www.gov.scot/Publications/2015/06/5902/downloads

Siraj, I., Kingston, D., & Melhuish, E. (2015). Assessing quality in early childhood education and care. Sustained Shared Thinking and Emotional Wellbeing (SSTEW) Scale for 2 – 5 year olds provision. London: IOE Press.

Siraj, I., Kingston, D., Neilsen-Hewett, C., Howard, S. J., Melhuish, E., de Rosnay, M., Duursma, E., & Luu, B. (2017). *A review of the current international evidence considering quality in early childhood education and care programs – in delivery, pedagogy and child outcomes.* Sydney: NSW Department of Education, External Affairs and Regulation. Retrieved from https://education.nsw.gov.au/media/ecec/pdf-documents/FEEL-Study-Literature-Review-Final.pdf

Siraj, I., & Mayo, A. (2014). *Social Class and Educational Inequality: The Impact of Parents and Schools.* Cambridge: Cambridge University Press.

Siraj, I., Melhuish, E., Howard, S. J., Neilsen-Hewett, C., Kingston, D., de Rosnay, M., Duursma, E., Feng, X., & Luu, B. (2018). *Fostering Effective Early Learning (FEEL) study. Final Report.* Sydney: NSW Department of Education, External Affairs and Regulation.

Siraj-Blatchford, I., & Sylva, K. (2004). Researching pedagogy in English pre-schools. *British Educational Research Journal*, 30(5), 713-730. doi: 10.1080/0141192042000234665

Siraj-Blatchford, I., Sylva, K., Muttock, S., Gilden, R., & Bell, D. (2002). *Researching Effective Pedagogy in the Early Years* (Research Report RR356). London: Department for Education and Skills. Retrieved from http://dera.ioe.ac.uk/4650/1/RR356.pdf

Siraj-Blatchford, I., Sylva, K., Taggart, B., Sammons, P., & Melhuish, E. (2003). *Technical paper 10 – case studies of practice in the foundation stage.* London: Institute of Education.

Siraj, I., Kingston, D., Neilsen-Hewett, C., Howard, S., Melhuish, E., de Rosnay, M., Duursma, E., & Luu, B. (2016). Fostering Effective Early Learning (FEEL). A review of the current international evidence considering quality early childhood education program delivery, pedagogy and practice. Report for the NSW Department of Education. https://education.nsw.gov.au/media/ecec/pdf-documents/FEEL-Study-Literature-Review-Final.pdf

Siraj, I., Melhuish, E., Howard, S., Neilsen-Hewett, C., Kingston, D., de Rosnay, M., Duursma, E., Feng, X., & Luu, B. (2018). Fostering Effective Early Learning (FEEL) Study. Final Report. Report for the NSW Department of Education.

Southworth, G. (2004). *Primary School Leadership in Context: Leading Small, Medium and Large Sized Schools.* London: RoutledgeFalmer.

Stamopoulos, E. (2012). Reframing Early Childhood Leadership. *Australasian Journal of Early Childhood*, 37(2), 42-48. Retrieved from https://search.informit.com.au/fullText;dn=641634607481127;res=IELHSS

Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I., & Taggart, B. (2004). *The effective provision of pre-school education (EPPE) project: Findings from pre-school to end of key stage* 1. Nottingham: Department for Education and Skills.

Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I. & Taggart, B. (2011). Pre-school quality and educational outcomes at age 11: Low quality has little benefit. *Journal of Early Childhood Research*, 9, 109-124. doi: 10.1177/1476718X10387900

Sylva, K., Melhuish, E., Sammons, P., Siraj, I. & Taggart, B. with Smees, R., Toth, K., Welcomme, W. (2014). *Students' Educational and Developmental Outcomes at age 16. Effective Pre-school, Primary and Secondary Education EPPSE 3-16 project.* (Accessed on 12/03/2016) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/351496/RR354 Students educational_and_developmental_outcomes_at_age_16.pdf

Sylva, K., Siraj-Blatchford, I., & Taggart, B. (2010). *Assessing Quality in the Early Years Early Childhood Environment Rating Scales Extension* (ECERS-E): Four Curricular Subscales. Stoke on Trent: Trentham Books.

Timperley, H. (2008). *Teacher professional learning and development*. In The Educational Practices Series – 18. Ed. Jere Brophy. International Academy of Education & International Bureau of Education: Brussels.

Timperley, H., Wilson, A., Barrar, H. and Fung, I. (2007). *Teacher Professional Learning and Development. Best evidence synthesis iteration* (BES). New Zealand Ministry of Education

# 6. List of Tables

# 7. List of Figures

# 8. Glossary of Terms

| | |
|---|---|
| **DoE** | Department of Education, New South Wales |
| **ECEC** | Early Childhood Education and Care |
| **ECERS-E** | Early Childhood Environmental Rating Scale – Extension |
| **ECT** | Early Childhood Teacher |
| **ERS** | Environmental Rating Scales |
| **EYLF** | Early Years Learning Framework |
| **FEEL** | Fostering Effective Early Learning (study) |
| **HLE** | Home Learning Environment (early) |
| **LDC** | Long Day Care |
| **NQS** | National Quality Standard (Australia) |
| **NSW** | New South Wales (Australia) |
| **OECD** | Organisation of Economic Cooperation and Development |
| **RAPIE** | Reflect and Assess, Plan, Implement and Evaluate Improvement Cycle |
| **RCT** | Randomised Controlled Trial |
| **SEIFA** | Socio-Economic Indexes for Area (Australia) |
| **SES** | Socio-Economic Status |
| **SST** | Sustained Shared Thinking |
| **SSTEW** | Sustained Shared Thinking and Emotional Wellbeing (scale) |
| **UOW** | University of Wollongong |

# 9. Appendices

## Appendix A.1

### Exemplar Schedule to Guide Observations among Educators and Children

| | Hardly ever | Never | Sometimes | Often | All the time |
|---|---|---|---|---|---|
| Respond to children | | | | | |
| Discuss things with children | | | | | |
| Ask children open-ended questions | | | | | |
| Record children's achievements | | | | | |
| Observe children | | | | | |
| Demonstrate good values to children | | | | | |
| Demonstrate appropriate language use | | | | | |
| Criticise children | | | | | |
| Encourage children | | | | | |
| Collaborate with children | | | | | |
| Encourage collaboration with each other | | | | | |
| Play alongside children | | | | | |
| Teach children | | | | | |
| Acknowledge children's statements | | | | | |
| Affirm and praise children | | | | | |
| Answer children's questions | | | | | |
| Ask children questions | | | | | |
| Shout at children | | | | | |
| Have high expectations of children | | | | | |
| Assess children | | | | | |
| Reprimand children | | | | | |
| Explain to children | | | | | |
| Listen to children | | | | | |
| Correct children | | | | | |
| Have conversations with children | | | | | |

# Appendix A.2

## Educator Systematic Observation Schedule

| Example 1. A pre-planned learning activity or interaction |
|---|
| Time of day: |
| Number of children involved (please give range of ages) |
| Number of adults involved: |
| Area of learning: |
| Account of the activity or interaction: |
| Was it planned? How? |
| Was it assessed? How? |
| How often do such activities/interactions occur in the setting daily? |

| Example 2. A spontaneous learning activity or interaction |
|---|
| Time of day: |
| Number of children involved (please give range of ages) |
| Number of adults involved: |
| Area of learning: |
| Account of the activity or interaction: |
| Was it assessed? How? |
| How often do such activities/interactions occur in the setting daily? |

# Appendix A.3

## Educator Systematic Observation Schedule: A spontaneous learning activity or interaction

**CODES:**

Child-Initiated (CI)
Shared-Sustained-Thinking (SST)
Open-ended Questioning (OQ)
Adult modelling Learning (AML)
Differentiation (D)
Responsiveness to Children (R)
Adult supports child-child Interaction (AS)
Discovery Learning (DL)
Scaffolding Learning (SL)
Intentional Teaching (IT)
AUDIO: Observation 1 & 2: 10/10/17.

| | |
|---|---|
| **Time of day** | Approx. 9:10am 30 minute duration |
| **Number of children involved (please give range of ages)** | 5 children: 4-5 years |
| **Number of adults involved** | 1 educator (EC teacher) |
| **Area of learning** | See images 1-4. science/maths area<br>Audio file: Observation 1: 10/10/17 WAR |
| **Account of the activity or interaction** | **(CI)** A small group of children (all boys) selected the scales and materials from shelf. The materials included a selection of small rocks, pumice, coral, and shells, magnifying glasses, mirrors, and scales. They proceeded to place items in each side of scales. Educator joined experience and followed the lead of the children, scaffolding learning using open-ended questioning. **(SST, OQ)**. One child said to educator, " I know what 2 plus 2 is. It's four." Educator asked if he could represent that with the materials. She said, "Can you show me in groups what that looks like." He did. He then said, " I know what 4 plus 4 is. It's 8." Educator encouraged him to represent the sum with materials, which he did with rocks. She listened attentively to children, responding warmly to individual children. **(D, R)**. One child picked up a shell and said, "I can hear the sea." **(CI)**. She then picked up a shell, help it to her ear **(AML)**, listened and encouraged children to explore the different shell asking questions like, "I wonder what this shell would sound like?" **(SST)** "Will I try the coral to see if I can hear anything?" One child then asked educator for clarification that an object was coral as another child had questioned it. Educator responded by asking, "What do you think?"<br>"Will we feel it?" " Does it look like coral to you? What do you think?"<br>Educator allowed children to take the experience in lots of different directions, differentiating learning and being very responsive to individual children. **(R, D).** She also supported a child with language difficulties to communicate and interact with children in the group, also supporting all individual children to interact with each other. **(D, AS)**<br>Educator at all times allowed children to lead activity direction. One child asked educator if a shell would fit on her finger. She obliged and trialled it with the child. This then led to further discovery learning. **(DL)**Educator immersed herself in children's play, taking a shared participation role but at the same time scaffolded learning at every opportunity. **(SL)** |

| | |
|---|---|
| **Account of the activity or interaction (continued)** | **(CI)** A small group of children (all boys) selected the scales and materials from shelf. The materials included a selection of small rocks, pumice, coral, and shells, magnifying glasses, mirrors, and scales. They proceeded to place items in each side of scales. Educator joined experience and followed the lead of the children, scaffolding learning using open-ended questioning. **(SST, OQ)**. One child said to educator, " I know what 2 plus 2 is. It's four." Educator asked if he could represent that with the materials. She said, "Can you show me in groups what that looks like." He did. He then said, " I know what 4 plus 4 is. It's 8." Educator encouraged him to represent the sum with materials, which he did with rocks. She listened attentively to children, responding warmly to individual children. **(D, R)**. One child picked up a shell and said, "I can hear the sea." **(CI)**. She then picked up a shell, help it to her ear **(AML)**, listened and encouraged children to explore the different shell asking questions like, "I wonder what this shell would sound like?" **(SST)** "Will I try the coral to see if I can hear anything?" One child then asked educator for clarification that an object was coral as another child had questioned it. Educator responded by asking, "What do you think?"<br><br>"Will we feel it?" " Does it look like coral to you? What do you think?"<br><br>Educator allowed children to take the experience in lots of different directions, differentiating learning and being very responsive to individual children. **(R, D)**. She also supported a child with language difficulties to communicate and interact with children in the group, also supporting all individual children to interact with each other. **(D, AS)**<br><br>Educator at all times allowed children to lead activity direction. One child asked educator if a shell would fit on her finger. She obliged and trialled it with the child. This then led to further discovery learning. **(DL)** Educator immersed herself in children's play, taking a shared participation role but at the same time scaffolded learning at every opportunity. **(SL)**<br><br>Educator also discussed the different sizes and volumes of the shells. "I wonder what the different in sounds are?" She encouraged discovery and investigation as the children explored the different sounds of the different shells. **(DL)**.<br><br>One child showed educator that another child had a white mark on his face. She responded immediately and offered the child a mirror to see. **(R)**. They decided that it was chalk. One child then asked educator to feel a rock. She asked him how he would like her to feel it. "Will I use one finger?" He then demonstrated how he wanted her to feel it. She again was very responsive to children and allowed the individual children to lead the experience, engaging in lots of conversations with individual children, asking open-ended questions. **(OQ,R)** The educator exhibited very responsive relational pedagogy, and was always sitting at eye level, and at times was lower than the children's eye level.<br><br>One child picked up a rock and tried to draw on the lino floor. Another child said, "it only works on concrete".<br><br>Another child said, "I have concrete at my home." Educator suggested that it might be difficult to visit as they had to stay at preschool. "I wonder if we have concrete at preschool? Should we go outside to see?" Educator took clipboards and children took rocks. They got to the door and one child announced that the ramp was made of concrete. The children proceeded to make marks on the concrete and compare to making marks on the paper. **(DL)**. One child suggested that they see how fast the rocks roll down the ramp.<br><br>The children proceeded to experiment with their rocks, rolling them down the ramp. The children experimented with drawing with the rocks and shells on the concrete ramp. Then they experimented with how far the rocks and shells could roll down the ramp. Another educator came to remind about 5 minute warning to pack away before morning tea. Educator then encouraged children to look at the grass and consider changes in growth over the holidays. She used the language less and more to describe the grass changes. "Does anybody notice anything different with our grass today?" **(OQ)**<br><br>She encouraged children to describe changes and again used language "less" and "more". Two children then decided to experiment with how far their rocks could go in the air.<br><br>Educator used any possibility to enhance the children's play. She assessed risk with the children, allowing them to determine rules. One child noticed a ball in the tree and educator allowed child to climb and shake the tree to allow the ball to fall. Two children then started kicking the ball ad she used "high" and "low" to describe height of ball, again using every opportunity to enhance learning. Educator then encouraged children to estimate time to packaway after the 5 minute warning, using opportunity for maths learning and to embed numeracy in play and transitions. Children were then encouraged to think about how much time has elapsed and estimate. |

| | |
|---|---|
| **Was it planned? How?** | No. Spontaneous and educator followed the lead of children but at the same time responded to individual children's ideas and plans. |
| **Was it assessed? How?** | There was the initial assessment of the child's number skills by encouraging him to represent his learning. |
| **How often do such activities/interactions occur in the setting daily?** | I observe this educator engaged in this type of scaffolded spontaneous play most of the time. She is extremely responsive to individual children within small groups. |
| **Additional points of interest** | Numeracy was embedded throughout this experience and throughout play, constantly. Every opportunity is taken to extend and enhance the children's learning, and rarely is an opportunity missed by this educator to scaffold, support and enhance learning. |

# Appendix A.4

## Educator Systematic Observation Schedule: A planned learning activity or interaction

**CODES:**

Children's choice (CC)
Child-led (CL)
Responsiveness to children (R)
Numeracy Opportunity (NO) Negotiation (N)
Cooperative problem solving (CP)
Reminding (RE)
Sustained Shared Thinking (SST)
Problem Solving (PS)
Conflict Resolution (CR)
Open ended questioning (OQ)
Home Learning Environment (HLE)
Family Connections (FC)
Educator Shared Knowledge (ESK)
Intentional Teaching (IT)
Literacy opportunity (LO)
Differentiation (D)
Child-Child Interactions (CCI)
Inclusive Practice (IP)

| | |
|---|---|
| **Time of day** | 10:00am 20 minutes |
| **Number of children involved (please give range of ages)** | 2-6 |
| **Number of adults involved** | 1 (A) |
| **Area of learning** | Dramatic Play: Pretend Shop: Juice Bar |
| **Account of the activity or interaction** | Educator (A) initiated the area with a child (G) with additional language needs (speech difficulty). She supported the child to buy something from the shop using the visual cues on the wall and displayed in the area **(R)(D)**. It was interesting to observe the acceptance of the child "shopkeeper" as she was quite patient as she displayed an understanding of the child's speech difficulties. (A) supported both children to think about, communicate and use real language that they may use in a shop **(LO) (SST)**. After awhile, (A) encouraged the children to change roles so that the child with speech needs was then the "shopkeeper".<br>(A) facilitated communication and modelled language related to the role. She also drew children's attention to the different sizes (small, medium, large) of items on the 'menu board' on the wall **(NO)**. (A) became involved in the pretend play while allowing children to lead activity. She modelled language related to size (e.g. large) **(NO)** and also drew attention to children making the "large sized juice". She embedded numeracy (size discrimination and addition) into experience. (A) supported child-child interactions throughout the experience **(CCI)**. (A) modelled language related to the role **(LO)**, and always stayed at eye-level of the children. (A) supported (G) to use her language related to the role of the "shopkeeper", and she also supported her to discriminate between size. |

| | |
|---|---|
| **Was it planned? How?** | The area was planned, however the experience was spontaneous. |
| **Was it assessed? How?** | |
| **How often do such activities/interactions occur in the setting daily?** | Quite often: most of the day. Routine is extremely flexible and led by children. |
| **Additional points of interest** | The area was planned very thoughtfully with items presented on the wall and words representing the items displayed ('menu wall'). Children were encouraged to use these visual cues to support their language (asking "shopkeeper" for different items) to include in their juices. The children demonstrated inclusive behaviours of acceptance of differences, while educator modelled these inclusive practices **(IP)**. |

# Appendix A.5

## Running Record of Pedagogical Interactions (5 per day)

Things to consider:

1. Type of activity (TYP)
2. Role of educator (i.e., monitoring, extending, adult initiated, child initiated) (EDU)
3. Type of Interactions (cognitive/social) (C/S)
4. Behaviour management (i.e., promotes self-regulation, child problem-solving)
5. Social grouping (GRP)
6. Cognitive challenge (complexity, novel, extending) (C)
7. Is there differentiation? (D)

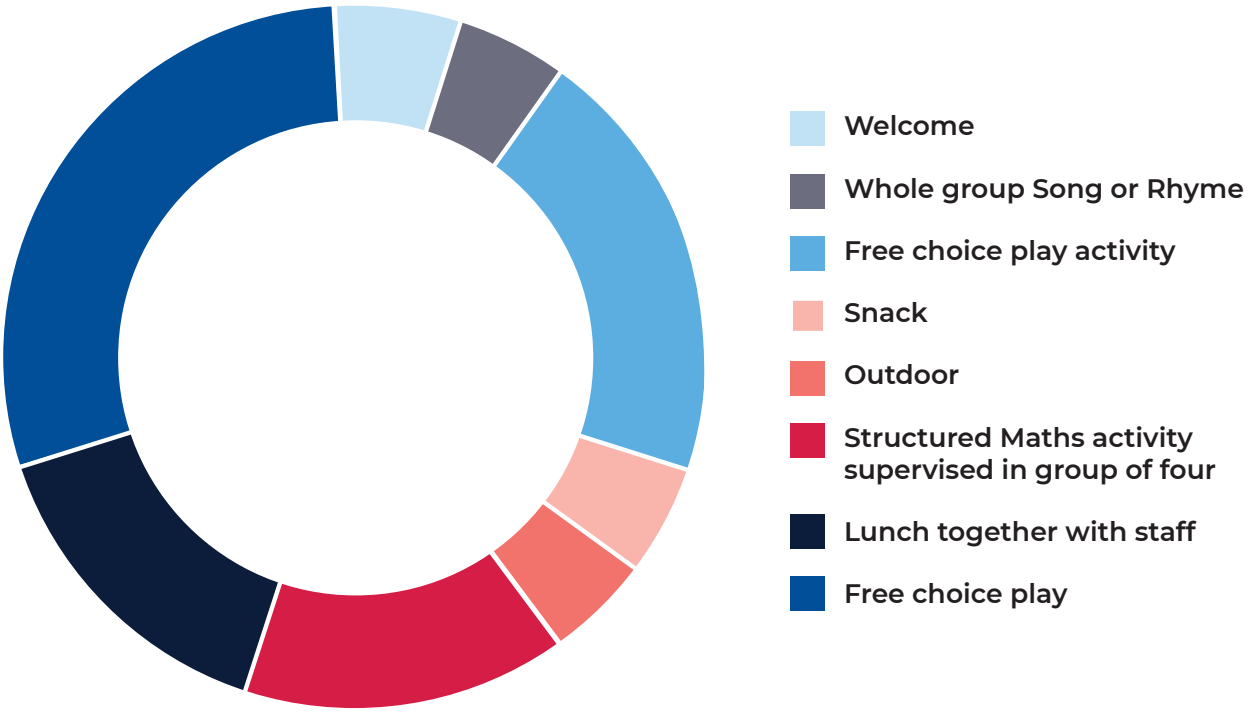
| Description | TYPE | EDU | C/S | GRP | C | D |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

# Appendix B.1

## Educator Learning Activity Snapshot

In a Circle/Pie Chart (example provided) please give a rough indication of the structure of a typical day's experience for a child. Settings will have different activities that break up the day so you will need to provide your own labels.

### A Typical Day




Please hand draw this on a separate piece of paper as an example to show a typical day

# Appendix C.1

## Case Studies of Effective Practice Teacher's Questionnaire

All answers are treated in the strictest confidence and no names of children, staff or centres are ever used in the research.

**The following set of questions are about you and your room**

1. Please state your title(s)/role(s) at your centre
2. What is your highest qualification?
3. What (if any) professional development (other than FEEL) have you attended in the last 18 months? (How much of this training has been on-site?)
4. What are your main responsibilities in the setting?
5. How long have you been in this role/position?
6. How long have you been working with the 3-5 group?
7. How would you describe the background characteristics of the children in your room?

**This set of questions is about the curriculum/pedagogy as well as changes you have made following your involvement in the FEEL Leadership for Learning PD**

8. Has involvement in the FEEL PD influenced:
    a) What you teach the children? If so, how?
    b) Your approach to teaching? If so, how?
    c) Your approach to planning? If so, how?
    d) The kinds of resources you use? If so, how?
    e) How you assess children? If so, how?
    f) Organisation of your room? If so, how?
9. Now I want you to think about just one of these and provide me with some background as to how this change came about?
10. What do you see as the main facilitators to this change (i.e., collegial support, time to plan)?
11. The focus of the FEEL study was about practice change at a room level. How did you support practice change amongst your colleagues (particularly those who did not attend the PD)?
12. What were some of the most significant changes you noted amongst your colleagues with respect to practice change?

**The next series of questions are to do with the children in your setting, how they learn and any changes you noted following your involvement in the FEEL PD:**

13. What do you see as the most significant changes amongst the children?

## Appendix C.1 (continued)

14. Has involvement in the PD influenced:
    - the way children play and how they learn in your setting? the pace, timing or variety of activities you offer?
    - the way you monitor continuity and progression in children's learning?
    - how you encourage children to persevere with activities that they find difficult?
15. Can you tell me a little bit about the strategies you use to engage the children in more extended dialogue?
16. How do you and the other educators in your room extend children's thinking?
17. Can you tell me a little bit about your approach to supporting children in talking through conflicts? (has that changed in anyway – since participation in FEEL)
18. Are the children in your room involved in setting their own learning goals? If so, how is this achieved?
19. How do you record children's progress? Has this changed?
20. What do you think is the correct balance between teacher led and child led activities to optimise learning? How is this achieved in your setting? And has this changed?

**The final series of questions are about your connections with families and how you influence the Home Learning Environment**

21. How do you involve parents in their children's development? Has this changed?
22. Has involvement in the FEEL PD influenced parental engagement and expectations?
23. What (if any) feedback did you receive from families during your involvement in the PD?

**Finally ...**

24. What do you think are the main constraints/barriers to practice change?
25. What could we have improved in the FEEL PD?

# Appendix C.2

## Case Studies of Effective Practice Director's Interview Schedule

All answers are treated in the strictest confidence and no names of children, staff or centres are ever used in the research.

**The first series of questions are about you and your centre/preschool:**

1. Please state your title(s)/role(s) at your centre
2. What is your highest qualification?
3. What are your main responsibilities in the setting?
4. How long have you been in this role/position?
5. What is the ratio of adults to children 3-5 in your setting?
6. How would you describe the background characteristics of the children in your setting?
7. Did you attend the FEEL PD?
8. What (if any) professional development (other than FEEL) have you attended in the last 18 months? (How much of this training has been on-site?)
9. What could we have improved the FEEL PD?

**The following questions are about the curriculum/pedagogy**

10. Has your centre/preschool's involvement in the FEEL PD influenced your:
    a) Curriculum? If so, how?
    b) Style of teaching? If so, how?
    c) Planning? If so, how?
    d) Resources? If so, how?
    e) Assessment? If so, how?
11. Has involvement in the PD influenced the way children play and how they learn in your setting?
12. How do you involve parents in their children's development? Has this changed?
13. Has involvement in the FEEL PD influenced parental engagement and expectations?
14. Has the FEEL PD influenced the pace, timing or variety of activities you offer?
15. Has the FEEL PD influenced the time children spend in free play?
16. Has the FEEL PD influenced the way you monitor continuity and progression in children's learning?

    *PROMPTS: What did you do and how has this changed? With examples.*
17. If you could prioritise 3 things you hope the children learn from your setting (e.g. in terms of domains of knowledge, attitudes/dispositions, skills) what would these be?

## Appendix C.2 (continued)

18. What kinds of resources help children to learn and why? (e.g. outdoor area, worksheets, construction materials, sand etc.)
19. What do you think are the main constraints/barriers to practice change?
20. How does your setting encourage children to persevere with activities that they find difficult?
21. What strategies are used in your setting to engage the children in more extended dialogue?
22. How does your setting extend children's thinking?
23. Are the children involved in setting their own learning goals? If so, how is this achieved?
24. How does your setting record the children's progress?
25. What do you think is the correct balance between teacher led and child led activities to optimise learning? How is this achieved in your setting?

# Appendix D.1

## Case Studies of Effective Practice Parent Questionnaire

All answers are treated in the strictest confidence and no names of children, staff or centres are ever used in the research..

1. Please state your title(s)/role(s) at your centre
2. Was there any expectation of you in relation to your role as a parent? (e.g., visits to the centre, parent interview, orientation)
3. How does the centre/preschool communicate with you and how often? (i.e., parent information evenings, daily diary, key person's system)
4. How is your child's progress and development reported to you?
5. What kinds of involvement does the centre encourage:
    a. As a helper/volunteer, centre visits, fundraising
    b. To attend workshops or parent training
    c. Other forms of parent education
6. What kind of involvement do you have in your child's learning at home? How much of this is supported by the centre/preschool?
7. What opportunities do you have to get involved in the decision making process in the centre:
    a. Management committee/policy development
    b. Curriculum and assessment
8. What do you think your child gets out of attending this centre/preschool?

# Appendix E.1

## Dramatic Play Experience: The Juice Bar

The sociodramatic play of the home corner provides a particularly useful context for extended interactions and integrated curriculum experiences and we identified several incidents of staff getting directly involved in children's play and stimulating their engagement by open questioning and use of open-ended resources. The below experience began with the educator engaged in play with a small group of children she modelled language related to the role of shopkeeper, and discriminated between size using the sized containers displayed on the wall. She then supported a child with additional language needs to use her language to engage in the play by first supporting her as the customer and then supporting her as the shopkeeper. Slowly, she reduced her support to allow for more child-child interactions, while scaffolding her communication to support these interactions.

**EDUCATOR:** (approached juice bar to support a child): What are you selling? (to child 'shopkeeper'). I can see you've got a menu-board over there (pointing to menu board on wall). What would you like? (to a child waiting to order)

**CHILD 1:** mmm... strawberry

**EDUCATOR:** How much is that?

**CHILD 2**: (shopkeeper): 20 dollars

**EDUCATOR to CHILD 1:** How is it? Is it delicious?

**EDUCATOR**: I have to decide on what I want. Can I have a large size juice with banana, strawberries and grapes, please.

**CHILD 3:** What is this for? (pointing to open/close sign)

**EDUCATOR:** So, if you have it this way the shop is open and if you have it this way it is closed. We better have it this way because...is the shop opened or closed at the moment?

**CHILD 3:** opened.

**EDUCATOR:** I can see E (Child 2) working in the juice bar.
She's mixing all the fruits together to make my large sized juice.
(Child then delivered juice).

**EDUCATOR:** Look a large sized juice. I just realised I don't have any money to pay for it.

**CHILD 3:** That's okay.

**EDUCATOR:** Is that okay? Do I have to pay you money for this?

**CHILD 3:** No

**EDUCATOR:** NO? Is it free today? Oh, thank you so much. That is so generous.
(Educator then supported child with additional needs who approached to order from juice bar. Child listed things from menu. (Child 4)).

**EDUCATOR:** Let me go through them so I remember. You would like some cheese and crackers, some milk, and some salmon on bread and some grapes.

## Appendix E.1 (continued)

| | |
|---|---|
| **EDUCATOR to CHILD SHOPKEEPER:** | Can you make these things that G has ordered. |
| **CHILD 3:** | What has she ordered? |
| **EDUCATOR:** | Well she ordered some cheese and crackers, what was the next thing G (Child 4)? |
| **CHILD 4:** | milk |
| **EDUCATOR**: | some milk and |
| **CHILD 4**: | grapes |
| **EDUCATOR:** | Have we got any grapes? Yes, we do. It's our last bunch. |
| **CHILD 3:** | There you go. That will be 1 dollar please. |
| **CHILD 4:** | Here you are. (Child 3 then allowed child 4 to take the role of shopkeeper by suggesting that she have a turn. This was without adult intervention). |
| **CHILD 3:** | Pretend I am a customer. Hello. |
| **EDUCATOR**: | Hello. Welcome to our store. … |
| **CHILD 3:** | a juice |
| **EDUCATOR:** | so red apples, strawberries and grapes. So what size would you like? |
| **CHILD 3:** | So maybe just big ….<br>(Educator went to menu board on wall to point to the sizes and prices.<br>So I have small for 2 dollars, medium for 4 dollars and large for 6 dollars.) |
| **EDUCATOR**: | Thank you. Bye. Hello. G (child 4) we have another customer. |
| **CHILD 4:** | Oh no. |
| **EDUCATOR:** | Oh no. Isn't that a great thing. We are making lots of money today. It's a busy day at the shop. Hello. Welcome to our juice shop. Can I help you? Would you like to buy a drink? Let me show you what we have. (Educator then pointed to the labelled fruit and went through names by pointing to labelled images displayed.) |
| **CHILD 6:** | Raspberries. |
| **EDUCATOR**: | Let us see how much. (went to menu board). Would you like a small sized juice, a medium sized juice or a large sized juice. |
| **CHILD 6:** | large one. |
| **EDUCATOR:** | Large is very popular today. Just berries? G the customer has ordered a large size. Do you remember how much the large size was? |
| **CHILD 4:** | no |
| **EDUCATOR:** | 6 dollars (pointing to sign). Can you go and tell the customer how much it will cost for the large size. |
| **CHILD 4:** | 6 dollars. (she then helped child count her money.) |
| **EDUCATOR:** | Would you like some ice in your juice? |
| **CHILD 6:** | okay. |

## Appendix E.1 (continued)

**EDUCATOR:** Thank you. Enjoy. Come back soon. Here's another customer G. Ask them what they would like. Would you like to know what we're selling. G you need to tell B what we are selling.

**CHILD 4:** We are selling some juice.

**EDUCATOR**: Do you need some more information? What type of juice we are selling? G (child 4) shall we show B (child 7) the menu board? (Child 4 went to menu board to show her different sizes. Educator supported).

**EDUCATOR:** This is the small size. G do you want to point to the small size again.

**CHILD 4**: small

**EDUCATOR:** medium one

**CHILD 4:** medium

**EDUCATOR:** Can you point to the large one G. The largest. The large bottle. That's medium. Which one is the large one? (Child 4 pointed).

**CHILD 4:** What would you like? ...
(Educator then stood back and allowed child 4 to lead experience by supporting her when needed, promoting child-child interactions).

# Appendix E.2

## Planned Experience and Sustained Shared Thinking – Science: Making a 'paper plane launcher'

This was an extension from an investigation of how 'air moves things' which occurred over many weeks. The educator introduced the 'wonder box' (an activity that was introduced to educators during the Leadership for Learning PD) and facilitated a discussion about what could be in the wonder box, using picture cards for clues to evoke questions about what could be inside the box. The experience proceeded for over an hour.

**EDUCATOR:** If we are going to play this game, we are not opening the lid until the very end. So I'm not going to put my hand on the box, I'm just going to say can you please not open the lid. I'm going to hold up some symbols for some clues as to what might be in here. This one is for (J). You may not have seen these cards before. [educator held up a size comparison card]

**CHILD 1:** I think the small one.

**EDUCATOR:** So you think there is something small in there. Okay (W) your turn.

**CHILD 2:** It's not heavy.

**EDUCATOR:** (W) doesn't think it's heavy. What's the weight of it?

**CHILD 2:** It's light.

**CHILD 3:** I think it's a little bit heavy. E

**EDUCATOR:** A little bit heavy.

**CHILD 3**: Probably a 9.

**EDUCATOR:** Probably 9? 9 grams or 9 kilograms? Okay, some people think it's heavy. It's hard to say how heavy something is. So, what about in comparison to a balloon? Is it lighter or heavier than a balloon?

**CHILD 2:** Heavier. Way heavier.

**EDUCATOR:** So what about in comparison to my computer?

**CHILD 2:** A bit lighter.

**EDUCATOR:** So what do you think (W)? Which one's the heaviest? [child felt the weight of laptop and box to compare] So, which one's the heaviest?

**CHILD 3:** mmm. Pointed to the laptop computer.

**EDUCATOR:** I think that one too. I think most people are thinking the computer is the heaviest. [held up another card]. This is the last card.

**CHILD 4:** Is it fragile?

**EDUCATOR**: No, it's not fragile. It's not going to break.

**CHILD 4:** What does it taste like?

**EDUCATOR:** Let me tell you that you can't eat this.

**CHILD 5:** Is it a chicken?

## Appendix E.2 (continued)

**EDUCATOR**: I would be worried if there was a chicken in here and you dropped it like that, so, no it's not a chicken.

**EDUCATOR:** So we are going to have one guess of what it could be in here.

**CHILD 1:** Is it a frog?

**EDUCATOR:** Is it a frog? No, it's not a frog and I wouldn't drop a frog like that either.

**CHILD 1:** Is it a rock?

**EDUCATOR**: No, but there's things as hard as a rock in there.

**CHILD 5:** Money.

**EDUCATOR:** No. Can we just have a listen. Does it sound like money? (W) would you like to have a guess?

**CHILD 2:** Is it a slug?

**EDUCATOR:** Okay so let's find out [chose a child to lift the lid]

**EDUCATOR:** So we have hammers that we have identified. Let's put those in the middle because we are going to use them. What's this one?

**CHILD 2:** A hole maker.

**EDUCATOR:** A hole maker. A hole puncher. What have you got there (J)?

**CHILD 3:** Paper clips.

**EDUCATOR:** Let's put those in. We are going to get them out in a minute but I want to show you something on the computer. What have you got there (H)?

**CHILD 5:** Nails and rubber bands.

**CHILD 3:** Oh, we are going to make something!

**EDUCATOR:** I'm wondering what you think we could make with all these things?

**CHILD 1:** I thought you brought a piece of wood for us.

**EDUCATOR**: That is very good remembering! When I arrived this morning, I arrived at the same time as (J), and had one bag in this hand and I had a box, and a piece of wood, and a big block of ice, and luckily (J) and his dad arrived at the same time, and what did your dad say?

**CHILD 1:** We can help her. And I carried the wood.

**EDUCATOR:** So I've been doing a little bit of research, and I am going to show you something on the computer. [children gathered around the computer outside]. I've made a slideshow about the instructions. I've tried to do it so that there is only one word on each page with the picture. So what do you think this is?

**CHILD 4:** paper aeroplane

**EDUCATOR:** Well done (C). Does anyone know about paper aeroplanes?

**CHILDREN:** Me!!

**EDUCATOR:** What have we been learning about paper aeroplanes?

**CHILD 6:** How to build them.

## Appendix E.2 (continued)

**EDUCATOR:** Yes, how to build them.

**CHILD 4:** How they fly and how to make them by yourself. How to fly them over the flag.

**EDUCATOR:** Oh, that's right. We were learning how to fly them over the flag on the inside.

**CHILD 6:** Helicopters.

**EDUCATOR:** Yes, what did we learn about helicopters?

**CHILD 6:** How they spin. How to make them.

**EDUCATOR:** And, where did you fly the helicopters?

**CHILD 6:** Up the ladder.

**EDUCATOR:** Yes, that's right. You climbed up the ladder.

**EDUCATOR:** So, this is what I've found on the internet. I've never ever seen one before. So we started with the paper aeroplanes, and we learned about recycling paper and not wasting paper, and we have our paper plane hanger so that they all get collected. Then we looked at rockets with the balloons, and paper helicopters. We have now found something else. [looking at computer].

This is something else. I'll read the words.

**CHILD:** I know. It's a paper plane launcher!

**EDUCATOR:** How did you know? (J) can you tell everyone what a launcher is?

**CHILD 1:** It launches it into the sky.

**EDUCATOR:** Yes that's right. It launches it up into the sky. It makes it fly. I have to tell you this. I have never made one before. I've never seen one before.

**CHILD 1:** I've made one before.

**EDUCATOR:** So will you be able to teach us how to do it?

**CHILD 1:** I haven't done it for a long time.

**EDUCATOR:** Okay, so we might need the instructions. Do you know what (R) just told me? He's got a paper plane book at home.

**CHILD 1:** So have I! I've got a paper plane book with papers ad you have to make them .

**CHILD 6:** Is it the same as mine?

**EDUCATOR:** Is it the same as (R) s?

**CHILD 1:** I think so.

**EDUCATOR:** I would love to see it.

**CHILD 1:** You can make a fire one. It's very easy.

**EDUCATOR:** Do you have a fire one in your's?

**CHILD 6:** I think so. I've got a red rocket one in mine.

**EDUCATOR:** Have you got a red rocket one in your's?

**CHILD 1:** Yes.

**EDUCATOR:** It sounds like the same book.

## Appendix E.2 (continued)

**CHILD 1:** Is it blue on the outside?

**EDUCATOR:** (R) is it blue on the outside?

**CHILD 6:** No.

**EDUCATOR:** Ah. You might have to bring them in and we'll compare it.

**CHILD 4:** [looking at computer] So you have to get a piece of wood on the table and put the screws in and put the balloon over the top between them.

**EDUCATOR:** So that sounds like really good instructions. First we have to get a piece of wood, and then what would be the next step?

**CHILD 4:** Then the elastic bands.

**EDUCATOR:** Hammer the nails in? I'll read these words to you. It says, "What you will need." So what do you need.

**CHILDREN:** Hole puncher. Sticky tape.

**EDUCATOR:** Oh sticky tape. I didn't put that in the box. What else do we need.

**CHILD 4:** Paper clips. One paper clip. Paper.

**EDUCATOR:** This part is a little bit complicated. We might have to come back and have another look at that. One thing I'm worried about. What if we did the hole punch very close to the nose of the plane. What would happen then?

**CHILD 1:** The hole would snap the front off it.

**EDUCATOR:** I think so too. The hole might snap the front off.

**EDUCATOR:** (J) it's your turn to press the arrow. [on the computer]. "How it works." So how is the paper plane connected to the rubber band? Do you want to go back and have another look at that again? Oh, I see. The paper clip is the hook. Now, you pull it back and then what do you think you would do?

**CHILD 2:** You would let it go and it would launch it.

**EDUCATOR:** It would launch. Now, it's (R) s turn to press it. Now, this says, "Suggestions." What does that mean? [waited for response]. So you could just have it on a table like this. But, this is the suggestion. So, we can have the computer here to look at but what do we need to do first?

**CHILD 1:** Get the wood. [educator retrieved the wood from staff room]

**EDUCATOR:** (J) which hammer do you think would work best?

**CHILD 1:** I'm going to use this one. Do you need the saw to cut it in half? Where's the saw?

**EDUCATOR:** How will we know where to put the nails? Do you mind getting a pencil and we will put marks where we think the nails should go. So, could you put the marks where you think. How many nails do we need? [children agreed 2, and then they proceeded to hammer in the nails]. Now I put to hammers in because I wasn't sure. How are we going to make sure that everyone gets a turn of having a hammer?

**CHILD 1:** One could aim that way and one could aim this way.

## Appendix E.2 (continued)

**EDUCATOR:** We could do that. We could have one aiming this direction and one aiming that direction. [pointing to opposite ends of plank of wood]. How is it going (J). Do you want to test out this hammer to see if it would work any better?

Do you think that one's better? It's a bit heavier and it's forcing the nail in. Let's have a look at this

[looking at box vibrating]. Isn't this amazing. No one is touch it and yet the vibration is...

**CHILD 2:** shaking it.

**EDUCATOR:** So, the vibration is shaking the box. You can hear it through the table. Do you want to measure with the nail to see if it's gone down any further? I think we might only need 5 more taps. Let's see. 1,2,3,4,5 [children counted child tapped nail in]. Now where's the dot to line it up with. This is called perpendicular.

**CHILD 2:** It's not right. It's not exactly.

**EDUCATOR:** It's not exactly. I was a bit worried about that too. In the picture it was exactly opposite. Can you draw it where it is exactly? That's exactly parallel to here.

[children proceeded to take turns at hammering and children checked the depth of the nails by using another nail to measure the depth]

**EDUCATOR:** Which one's gone in the most?

**CHILD 3&4:** That one.

[child proceeded to hammer again]

**EDUCATOR:** Alright we'll measure now. Right, now we are up to the next part. I'll put the hammers away. So I wasn't sure which size rubber bands would work the best. What do you think? You can try them. Did the instructions say two elastic bands or one elastic bands?

**CHILD 2:** One.

[the children proceeded to make a plane and place a hole in it].

**EDUCATOR:** You know what I think we should do. I think we should get the saw and cut the wood in half so we have got two launchers. So how are we going to cut the wood so both sides are equal? So we are going to do a little bit of work to make two. (J) could you estimate where you think the middle is so that both sides will be equal. When I'm doing my work with woodwork I do estimate where I think the measurement would be. [educator asked each child to place a mark on the wood to estimate the middle] [she then asked a child to get a measuring tool (string)]

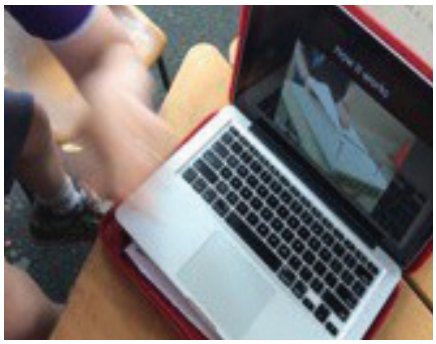
(Q) could hold the end of the string, please. The first thing I do with the measuring tool is that I make the string the exact same length as the wood. So, I'll hold one end and can you cut it the same length as the wood. So, how am I going to find out where the middle of the string is? Have a look at the string.

**CHILD 2:** We bend it in half [children helped each other fold string over to find the middle. They then compared the estimations of measurements that the children previously made].

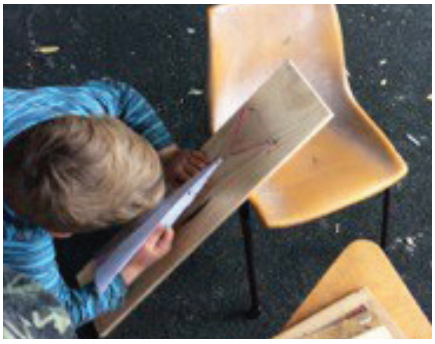
**EDUCATOR:** We were trying to estimate where the middle is so that the pieces were equal on both sides and you (J) were the closest. That was great estimating!

The children proceeded to experiment with the launcher and one child discovered that if he held his launcher on an angle, that it would travel higher.

## Appendix E.2 (continued)





# Appendix F.1

## Table F.1: Top Themes Identified by Parents with respect to Priorities for Learning and Connections with HLE

| Theme | Type | Examples |
|---|---|---|
| Family Involvement | Committee membership | I didn't realise how much input I could have – but I am so thankful that I'm part of it and if anything, it's made me motivated to get involved with primary school next year (Centre 4, Mother) |
| | Family events | They have father's night which I think is great because sometimes the dads miss out on a lot of these social events so they do that and, you know, this year Grace's grandfather and dad went along and it's a really good time for them to see what they do in the classroom and have that special time together. (Centre 2, Mother) |
| | Classroom visits | So we've got parents who come in and cook pizza with the children once a term or we have a parent or a grandparent who will come in and cook pancakes or a parent who was a vet would come in and bandage kids up and stuff (Centre 6, Educator) |
| | Parental feedback | We get an email saying that a policy is currently under review, it's in the foyer, fee free to, you know, have a look and make any comments. My foster children are aboriginal so I helped with the policy on cultural diversity (Centre 2, Foster Carer) |
| | Sharing of expertise/ resources | We're always bringing things in so we were bringing in pine cones, we were bringing in mystery fruit, we were bringing in leaves, different leaves they'd gotten from the trees in the backyard (Centre 5, Grandmother) |
| Family Communication | Formal sharing of information (e.g., newsletter, notice boards, orientation) | The newsletter's very interesting, the newsletter's always about the things that they're doing in the classroom and there's a term report in addition to that. The term report is more specific to the classroom. So, the newsletter is … you know, this is the fundraiser and – this is what we're doing in the playground and it's general, it's for all parents of the Centre (Centre 1, Mother) |
| | Informal discussion | Verbal, heaps of verbal communication about what's she's done, who she's played with (Centre 2, Mother) |
| | Storypark/Daily journal | It's much more convenient. I don't always have time at the preschool to stop and read a day book whereas I can sit at home with [name of child] at the dinner table, when her sister gets home, when we're sitting at sport for her sister and we can go through it and she's worked out her friends, it's much more interactive for her and I … than having to make that time when you're picking your kids up at 4 o'clock this was … that's what worked for me. It opens conversations for grandparents too (Centre 6, Mother) |

## Appendix F.1 (continued)

| Theme | Type | Examples |
|---|---|---|
| Family Communication | Child development communication (e.g., child portfolios, progress reports) | We get reports on how [the child's] going, what they've observed, are there any issues or concerns around it, which is also nice to know and whether they've addressed those yet or what the next ... what the ... what the plan is for the next quarter or what they're looking to address in terms of the curriculum (Centre 1, Mother) |
| | Goal setting/sharing | So she will actually when they're going to start something new she actually personally talks to the parents and then she will give you the notes like either then or that afternoon. So therefore you get the whole information (Centre 3, Mother) |
| What parents valued | Social engagement (interaction, strong relationships, friendships) | It was amazing like to start off kids in that community with the help that them ladies provide them and the education that they're given at that early age, – it's setting them up long term. And ... yeah, and I just seen the ... the effect it had on (my son) alone and for them to offer that education to a less ... less advantaged children you know what I mean? ... and if they've learnt what (my son) learnt, they're going to go to Kindy knowing confidence and just like he, he's confident and that's from that preschool you know what I mean? And I ... yeah, and I do realise that the parents do have involvement in it, but them ladies, the ... yeah, whatever program's happening it's definitely gives a great opportunity" (Centre 3, Mother) |
| | Self-regulation | And while we're still working on the emotional sort of side of things, he is ... he is significantly better than he was, he's sort of, you know, less physical, you know, can sort of bring him back down, bring himself back down from the edge with a bit of help (Centre 5, Father) |
| | Scientific understanding | So yeah, (my daughter) will come home and talk to me about the planets and things that, you know, I wouldn't expect her to understand until primary school. And science... you know the water and putting different ingredients into the water and it's almost like a science experiment, you know, 'What ... what do you think is going to happen?' rather than the teacher just telling her 'Oh this is what's going to happen'. I think all the kids have a chance now to express their ideas rather than, you know, teacher jumping in and saying 'Oh this is what's gonna happen.' |
| | Curiosity | My child I know probably quizzes me a lot more about things and, you know, assertiveness |

## Appendix F.1 (continued)

| Theme | Type | Examples |
|---|---|---|
| What parents valued | Confidence and assertiveness | The self-confidence and emotional growth that he's shown in the last sort of two years has been absolutely just astounding. You know, even the difference between the end of last year and ... and the end of this year is ... is just extraordinary (Centre 4, Father) |
| | Conflict Resolution | They support children with solving fights and conflicts. Its extended to the home environment. He talks about how I make him feel when I'm angry (laughs) (Centre 4, Mother) |
| | Nurturing | It's going to be hard, I think of him going to school after being in such a loving and caring environment, you know it's such a lovely soft intro to the world. I wish school was more like this. They know him and they structure the environment for him which is gorgeous. He's got so much out of it and learnt so much (Centre 6, Mother) |
| | Problem-solving | It just astounding. And some of the answers those kids come up with, they ... they are encouraged to be questioning, to follow their interests, to-enquire about things, to-analyse and think (Centre 5, Grandmother) |
| | Language development | My child I know probably quizzes me a lot more about things and, you know ...He just won't stop talking, and in the car he's never quiet, it used to be quiet, it's never quite, just asking questions all the time and at home." (Father, Centre 3) |

# Appendix G.1

## Table G.1: Top Themes Identified by Educators with respect to Perceived Changes to Practice

| Theme | No. of centres | Examples |
|---|---|---|
| Critical reflection | 6 | We reflect on our own educational theories and practice and our organisation so we're sort of looking more about our settings and ... the way the children are playing and how we can extend that (Educational Leader, Centre 4) |
| Approach to pedagogy | 6 | My approach to teaching is significantly changed. Sustained shared thinking, it's like you're on an equal level with the children and it's ... you're no longer the teacher and I have that, so that's very significant. It's the process now rather than the end result and I think that's a huge change. Now it's not about teaching to an end result it's about the process of them learning and wanting to find out and loving ... having a passion for learning is what ... that's ... it's like I've made a big sidestep I think (Educational Leader/ECT, Centre 6) |
| Planning | 5 | And I find that writing it down and sort of thinking about, you know, each project how can ... how can maths go in this project and how ... which books can we read in this and all that sort of ... it's ... it's just made it easier when it actually comes to teaching it (ECT, Centre 4) |
| Continuum of learning | 5 | And in the past my cycles of planning would be observe, reflect, plan where to go here, make a plan again. Now it's a whole term, the cycle just keeps going and ... and changes and evolves and it's just ... and new children join that cycle so some children might start a cycle ... I might start with one child but by the end of the term for the eight Mondays, all these other children their cycles may be on different learning outcomes but they've kind of joined in it, it's like a collapse sort of a thing (ECT, Centre 6) |
| Child-lead experiences | 5 | Definitely getting the children to be agents of their own learning I suppose and getting involved and experiencing it, leading it, and I suppose the educators being there just to support and guide and offer suggestions and things as well (Educational Leader, Centre 2) |
| Pausing | 6 | ... the play sessions flow easier and the children are so knowledgeable, that's what really struck me ... you're teaching them but then they teach you as well – ... I always used to interrupt or encourage, but now I try to settle myself and let the children speak and let them have their say and that's really<br>... that's different as well because then you ... you're getting more knowledge, you're getting more information from them to write down ... (Certificate III, Centre 2) |

## Appendix G.1 (continued)

| Theme | No. of centres | Examples |
|---|---|---|
| Engagement of children | 6 | So definitely I think observing, waiting and listening and engaging those children in sustained shared thinking a lot more so getting them involved in the thinking around, you know, if it was a conflict or a problem, you know, how we could solve that problem, identifying everyone's feelings and giving the children the time to work it out for themselves and come up with some ideas with that support of I suppose recapping how this child's feeling to the other child so that they're ... they're really hearing the emotion behind what ... what might be happening (Cert III, Centre 3). |
| Significance of self-regulation | 6 | the idea of how important self-regulation is and the learning of that skill, that's probably something that's been more of an ... a grounded foundation for us now (ECT, Centre 5) |
| Scientific investigation | 6 | One child bought in from home his mum had made jelly at the end of last term and she'd made rainbow jelly so the children were quite amazed with the fact that the jelly colours weren't mixing so this term we've decided that we'll try and experiment with how we can create the same sort of jelly without it mixing. Things like that that we wouldn't previously have done, we probably would've just eaten the jelly, the children would've said 'Oh wow look at that', whereas now they're actually looking at how different colours and ... and materials and things interact or don't interact" (ECT, Centre 2) |
| Integrated curriculum experiences | 5 | what would've just been ... say the writing table, she would've had it purely for writing but now she's embedding all the other areas as well so she'll have, you know, maybe a ... a storybook there and she'll have a multicultural perspective within it and she'll do something that adds the maths to it (Director, Centre 4) |
| Sustained Shared Thinking | 6 | the sustained shared thinking that was really good supporting what the children think and, you know, solving a problem, clarifying a concept, extend the narrative, just making them think a bit deeply and deepen ... (ECT, Centre 1) |
| Use of questioning | 6 | So we kind of looked at the questioning that we were using and yes we were using open-ended questioning but some of our questioning was a little bit too ... it was too heavy, we were using too much ... too many questions and not giving those children time to process, think, respond, have their own thoughts and ideas (Diploma, Centre 3) |
| Curriculum diet | 5 | the "curriculum diet" of the centre has changed, and all educators now explicitly seek opportunities for numeracy, literacy and science (ECT, Centre 2) |

## Appendix G.1 (continued)

| Theme | No. of centres | Examples |
|---|---|---|
| Dramatic play | 4 | more emphasis on carefully planned learning stations that are aesthetically pleasing and inviting. More thought with the home corner has led to a resurgence in dramatic play on a far more complex level (Diploma, Centre 4) |
| Personal/professional growth | 6 | We grew in confidence because we could see it in action it was working with the children (ECT, Centre 4)<br>The FEEL PD gave me confidence in what I do. That would be the biggest thing. To be treated like a professional again was very empowering, like just so empowering (ECT, Centre 5) |
| Use of resources | 4 | I use resources in a different way crossing over and bringing concepts together. In the past a sorting activity was mathematics and finished there. Now I might sort materials, count the piles and write some numerals to go with that as well as discuss the material. Extending use of resources not thinking it only has one purpose. (ECT, Centre 4)<br>We don't use as many … I think we have become the biggest resource in the room (ECT, Centre 1) |
| Focus on the process on learning | 6 | Before the FEEL study, I was teaching science, now I am teaching scientific language rather than you have to teach the reason why a boat floats on water, it is the focus on the process now. It's changed everything. I made this observation of a child with blocks. He made this thing where he was balancing on it. My main thing was that I wanted to extend the concept. The challenge then became for children to balance different things on their body. We started looking at different ways of balancing. They made their own book about balance. I asked them if I could take photos of different ways of balance. They made a book. Then they looked at weight and balance. Looked at a scale. What can happen when the plank is not balanced? Then I brought in the spirit levels. They used it in their construction. How could we make the plank perfectly balance? They learned how to use spirit levels. Then we were looking at gravity (ECT ,Centre 3) |
| Approach to grouping | | our small groups in the past were 10 children, our small groups now are one to three to four children. We've changed our idea of small groups, we don't have large … we used to … so from the FEEL study we used to have two groups of, per day, of the whole 20 children (ECT, Centre 6) |
| More intentional | | …educators' awareness of what they needed in that space and they needed time and they needed more space and they needed different resources … we observing what the children are interested and plan from there … we are always talking with each other and reflecting (ECT, Centre 1) |

## Appendix G.1 (continued)

| Theme | No. of centres | Examples |
|---|---|---|
| Classroom environment | 6 | ... the biggest change in that ... in the room in terms of how the children were playing, how the room was set up, how we were involved as educators was like I said, the block area and then the extension on their play in that area has just been phenomenal like they just ... it's gone from them just building just block towers to building complete like cities and asking for cars and people and different things to add to their creation and being able to leave that area set up for them to come back into it later rather than it being an area that has to get packed away (ECT, Centre 1) |

# Appendix H.1

## Table H.1: Key Facilitators of Practice Change Following Involvement in the Leadership for Learning PD

| Theme | Examples |
|---|---|
| Number of staff attending | I think definitely the support my other colleague who came along to the FEEL study, I think it was so important for the two of us to do this journey together. I think when you're trying to bring about change on your own it's really difficult, I think it's really important to have that ... at least that second person who can agree with you and see the benefit in the long run and ... or maybe not all ... or even always agree with you but challenge you with different ideas and different ways of thinking (ECT, Centre 2) |
| Staff reflection | I think the fact that we can reflect really well with each other, talk about what we are doing well or not and not take it on board personally (Director, Centre 3) |
| Structure of the PD | Having multiple sessions and time to reflect between sessions was really important. It gave us opportunity to try our practices and more importantly see the impact these new practices were having on children's development (ECT, Centre 6) |
| Evidence-based PD content | We knew what you were sharing with us was supported by evidence – and had practical implications for our teaching – that was really validating and you understood what things look like in our teaching context (ECT, Centre 5) |
| Supportive management | I think the non-teaching factor is important as it reduces the huge stress placed upon directors who have to juggle days on the floor with children and all the other duties they must manage. It's the difference between coping versus excelling.<br>Effecting change versus wanting to make changes (Director, Centre 1) |
| Strong centre leadership | Having that innovation and ... and having the, you know, energising the staff and keeping them motivated and keeping them inspired and keeping them focussed on what they're doing and why they're doing it. That's probably the main thing and just to ... to really reinforce it and be ... and be that strong leader to make it happen (Director, Centre 4) |
| Collective vision | Everyone shared the same ideas, we were on the same page – and not just the educators in the preschool room, it was the whole centre. We all wanted to improve our practice so we could improve the outcomes for the children we work with (ECY, Centre 3) |
| Readiness for change | Having everyone engaged and inspired was really important. They saw the need to change and were ready to change (Director, Centre 4) |
| Time | With the last year my colleague and I would bring back and have these little FEEL study staff meetings which were just for discussing FEEL study things because if we planned it within a ... a staff meeting, it often got pushed to the very end of the meeting and then we were kind of rushed to go through it, so My colleague and I decided that wasn't appropriate, that wasn't suitable, we needed our own FEEL study staff meeting so we would bring back, every couple of weeks after we'd been down to the Uni, we'd bring back whatever the topic was that we explored, whether it was self-regulation or literacy (ECT, Centre 2) |
| Changes in children | Then we saw that what we were doing was making a real difference with the children. We grew in confidence because we could see it in action it was working with the children (Diploma, Centre 6) |

# **Case Studies of Effective Practice:** Evidence from the Fostering Effective Early Learning (FEEL) Study



NSW GOVERNMENT