

The Effective Provision of Pre-school Education (EPPE) Project

Studying the effects of pre-school



***Kathy Sylva, Edward Melhuish,
Pam Sammons, Iram Siraj-Blatchford
and Brenda Taggart***

This presentation will explore:



- ❖ A ‘effectiveness’ study
- ❖ Key findings and the importance of the home
- ❖ How we measured ‘quality’
- ❖ How we investigated ‘pedagogy’

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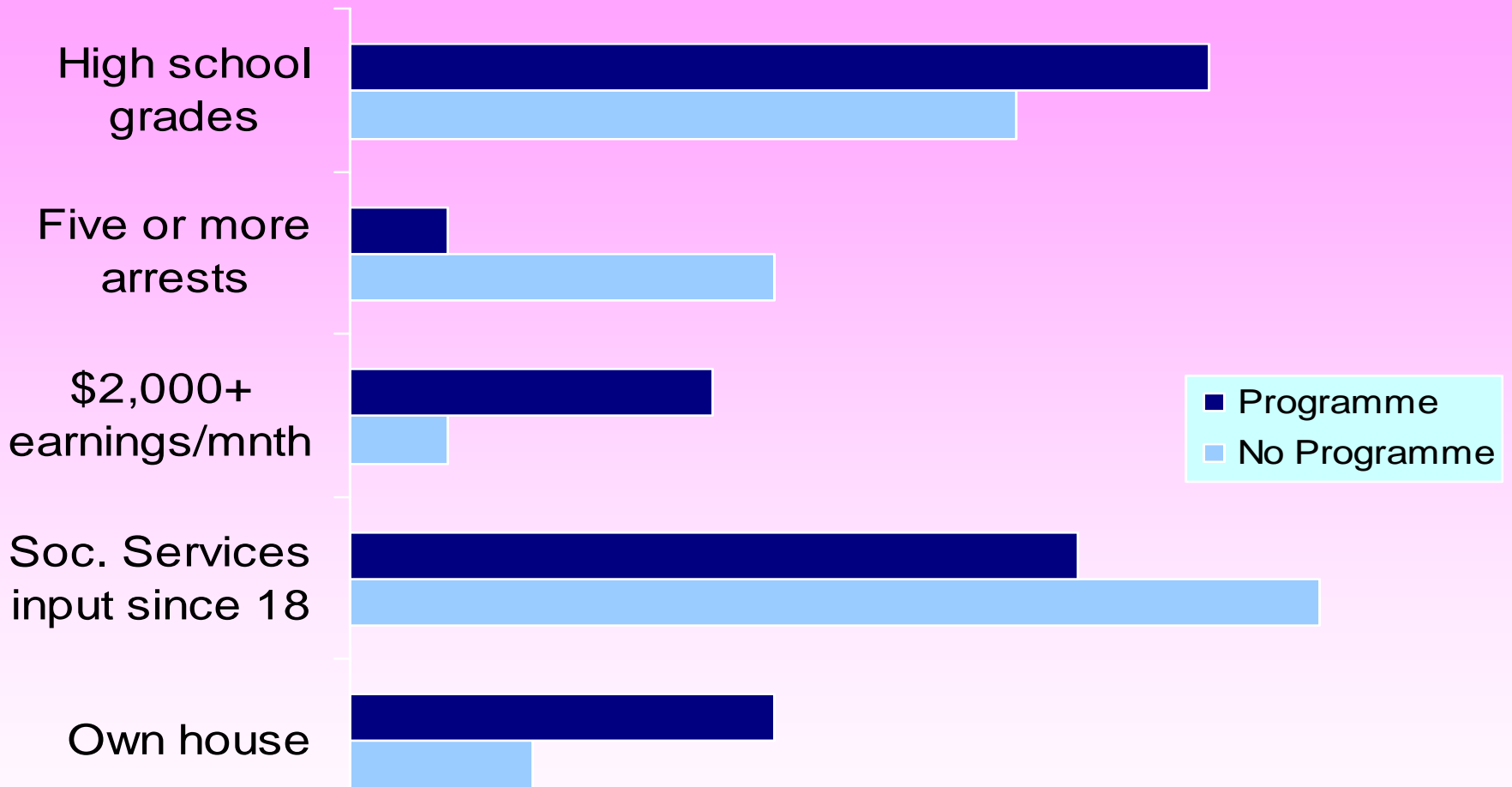
- ❖ A ‘effectiveness’ study
- ❖ Key findings and the importance of the home
- ❖ How we measured ‘quality’
- ❖ How we investigated ‘pedagogy’

The EPPE design



- ❖ The design is the first example of ‘educational effectiveness’ or ‘value added’ research applied to pre-schooling.
- ❖ Pre-school in UK is not statutory. Focus in EPPE on children aged 3 – 5 years old.

High/Scope Perry Pre-school Study Outcomes at Age 27



(from Schweinhart & Weikart, 1993)

Aims of research on educational effectiveness

- ❖ To compare the progress of children from a wide range of social and cultural backgrounds who have differing pre-school experiences.
- ❖ To separate out the effects of pre-school experience from the effects of primary schooling.
- ❖ To establish whether some pre-school centres are more effective than others in promoting children's development.
- ❖ To discover the characteristics of pre-school education in those centres found to be most effective.
- ❖ To investigate the differences in the progress of groups of children, e.g. children from disadvantaged backgrounds.

The Study – 6 regions, 141 centres, 3,000 children

Pre-school Provision
(3+yrs)

25 nursery classes

590 children

34 playgroups

610 children

31 private day nurseries

520 children

20 nursery schools

520 children

24 local authority day care nurseries

430 children

7 integrated centres

190 children

home

310 children

Reception
(5yrs)

Year 1
(6yrs)

Year 2
(7yrs)

Baseline Assessment N= 3,000+

Exit Assessments N= 1500

Age 6 Assessments N = 3,000+

Age 7 Assessments N= 3,000+

Child Assessments at entry to the study (age 3.0 years to 4 years 3 months)

- ❖ **Cognitive development** – 2 subscales of the British Ability Scales II: non-verbal reasoning, block building.
- ❖ **Language** – 2 sub-tests from the: BAS: naming vocabulary and verbal comprehension.
- ❖ **Social and behavioural development** – Adaptive Social Behaviour Inventory measures cooperation/ conformity, peer sociability, anti-social or 'upset' behaviour, independence/concentration.



Child Assessments at entry to school (age 4+ to 5 years)

- ❖ **Cognition** – 2 sub-scales of the British Ability Scales: non-verbal reasoning, pattern construction.
- ❖ **Language** – 2 sub-tests from above: BAS naming vocabulary and verbal comprehension.
- ❖ **Numeracy** – BAS early number skills
- ❖ **Literacy skills** – letter recognition adaptation of Clay and phonological awareness Bryant and Bradley.
- ❖ **Social/behavioural development** – Adaptive Social Behaviour Inventory: measures cooperation/conformity, peer sociability, independence, anti-social and 'upset' behaviour.

Outcome measure at age 6 plus



- ❖ **standardised reading assessments (NFER)**
- ❖ **standardised numeracy (NFER)**
- ❖ **profile of social and behavioural development (Goodman)**

Outcome measure at age 7 plus

Academic

- ❖ National Assessments

Social & behavioural

- ❖ Attendance record
- ❖ Teachers' record of problems in behaviour/emotions/learning
- ❖ Child's attitudes to school (self-report) and self-esteem (self-report)
- ❖ Special needs assessment



Sources of data

- ❖ **Child assessments over time**
- ❖ **Family background information**
- ❖ **Interviews with staff**
- ❖ **‘Quality’ rating scales**
- ❖ **Case studies of effective centres**



Measuring Centre Effects

- ❖ **Multilevel models were used to establish the extent to which the pre-school centre attended influenced children's progress. This type of analyses allows controls to be made for background factors, such as child, parent and family circumstances.**
- ❖ **EPPE also controlled in the statistical models for home learning environment factors.**

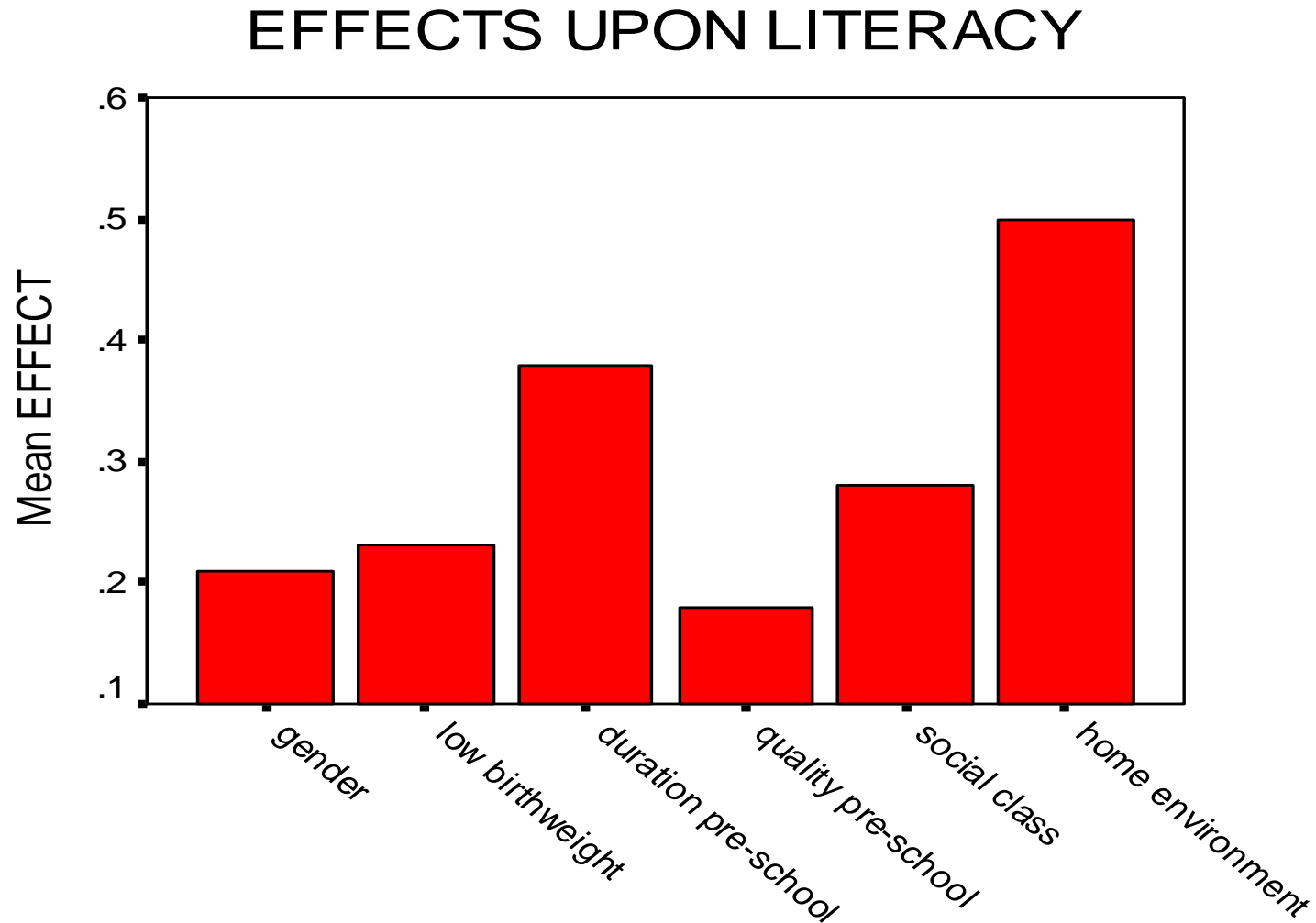
The Home Learning Environment

- ❖ frequency reading to child
- ❖ frequency of library visits
- ❖ frequency child paints/draws at home
- ❖ frequency parent teaches letters/numbers
- ❖ frequency parent teaches the alphabet
- ❖ frequency parent teaches songs, nursery rhymes, etc.

Key Findings over the Pre-School period: Home learning environment

- ❖ **The quality of the learning environment of the home (where parents are actively engaged in activities with children) promoted intellectual and social development in all children.**
- ❖ **Although parent's social class and levels of education were related to child outcomes the quality of the home learning environment was more important. The home learning environment is only moderately associated with social class.**
- ❖ **What parents do is more important than who they are.**

Effect Size – Home learning environment



Parenting

- ❖ **Parenting matters – probably more than any other aspect of a child's environment.**
- ❖ **Parenting is more than the demographics of the parents—
it includes what parents do with children
it includes the quality of interpersonal relationships**
- ❖ **Effects are apparent upon intellectual development
and socio-emotional development e.g. attachment, behaviour
problems.**
- ❖ **EPPE studied aspects of the Home Learning Environment (HLE) to
create a Home Learning Index (HLI).**

Parenting Programmes – Home Visiting

Home visiting has been provided to families with young children since 1880s. Thousands of programmes are in existence.

Until recently, little systematic evaluation has taken place. Home visitors work with parents in various ways. There are 3 common beliefs -

1. Families are best helped at home
2. Helping parents to help children is more effective than directly helping children
3. Children helped most the earlier the start.

Apart from these 3 beliefs, programmes vary greatly e.g. visitor may be professional or volunteer.

Well-structured programmes with paraprofessional or professional home visitors are most often feature as showing positive benefits.

Less-structured home-visiting programmes least likely to show benefit in evaluation studies.

Parenting Programmes – Structured versus non-structured

Australia (Queensland) -Positive Parenting Program (Triple P) – Matt Sanders

- well-structured programme repeatedly subject to rigorous evaluation with positive results. http://www.pfsc.uq.edu.au/02_ppp/ppp.html

USA- Family Partnership – James Olds

- A long-term evaluation considering a well-structured home-visiting programme involving nurse-qualified visitors. The very careful evaluation has found hard evidence of limited positive impact. <http://www.nccfc.org/nurseFamilyPartnership.cfm>

A number of evaluations of less- structured programmes have failed to find evidence of positive benefits. e.g. Hawaii Healthy Start Program.

Parenting Programmes – Early Head Start (0-3 years old)

3 types of intervention

- 1. Centre- based**
- 2. Home visits**
- 3. Centre + home visits**

Results – modest benefits for child + parents

Moderately rather than severely deprived families showed most effect.

Parenting Programmes – Supporting Parents On Kids Education (SPOKE)

**Example from UK – Professor Kathy Sylva (University of Oxford),
Dr. Stephen Scott (Institute of Psychiatry, Kings College London).**

**Prevention of antisocial behaviour and academic failure through
a parenting programme delivered in primary schools.**

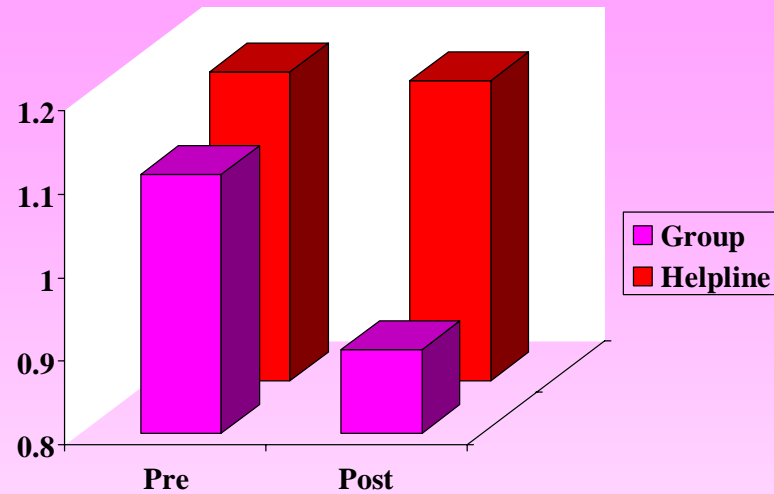
**Term 1 12 weeks Personal Development Programme –
Incredible Years**

Term 2 10 weeks Reading readiness programme

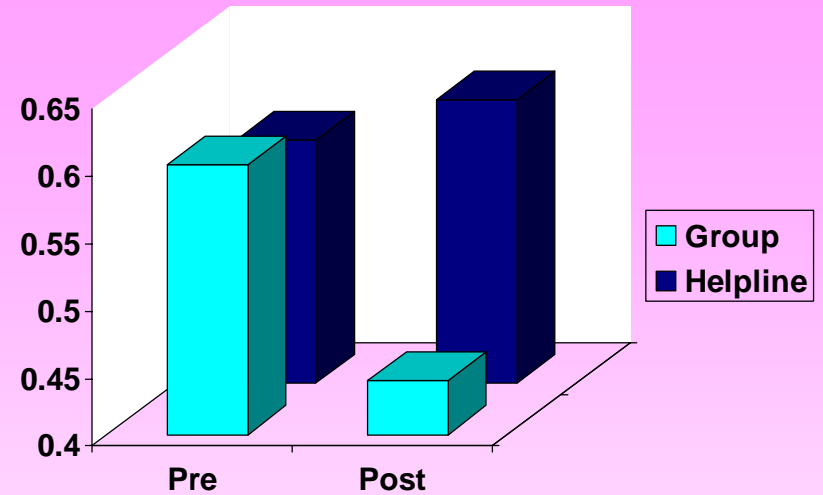
Term 3 6 wks Combination program -problem-solving

Therapists attend weekly videoed supervision

Spokes

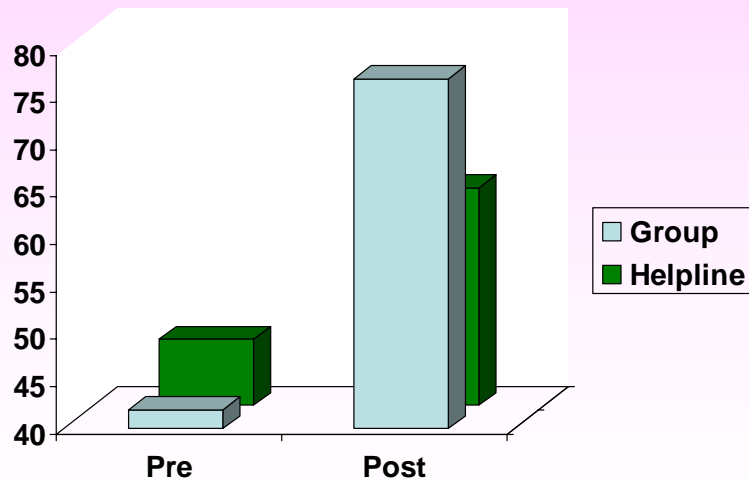


Anti-social behaviour



Hyperactivity

Reading



Key Findings over the Pre-School period: Attendance

- ❖ **Pre-school compared to none enhances children's development.**
- ❖ **The duration of attendance is important with an earlier start (between 2 and 3) being related to better intellectual development and improved independence, concentration and sociability.**
- ❖ **Full time attendance led to no better gains for children than part-time provision.**
- ❖ **Disadvantaged children (and those 'at risk' of SEN) in particular can benefit significantly from good quality pre-school experiences, especially if they attend centres that cater for a mixture of children from different social backgrounds.**

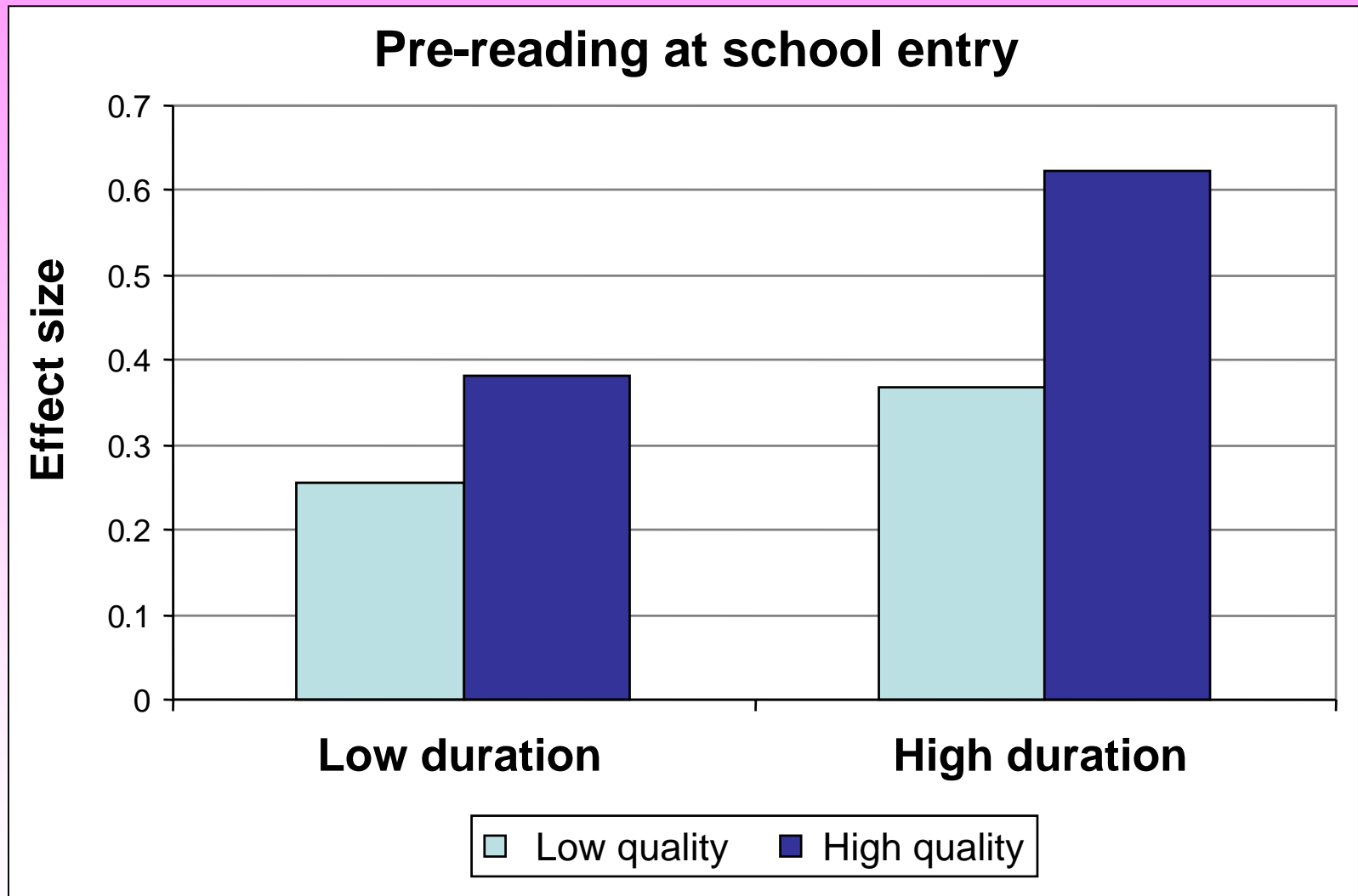
Key Findings over the Pre-School period: Type

- ❖ There are significant differences between individual pre-school settings in their impact on children. Some settings are more effective than other in promoting positive child outcomes.**
- ❖ Children tend to make better intellectual progress in fully integrated centres (that fully combined education and care) and nursery schools.**
- ❖ Children tend to make better social progress in fully integrated centres (that fully combined education and care), nursery classes and playgroups.**

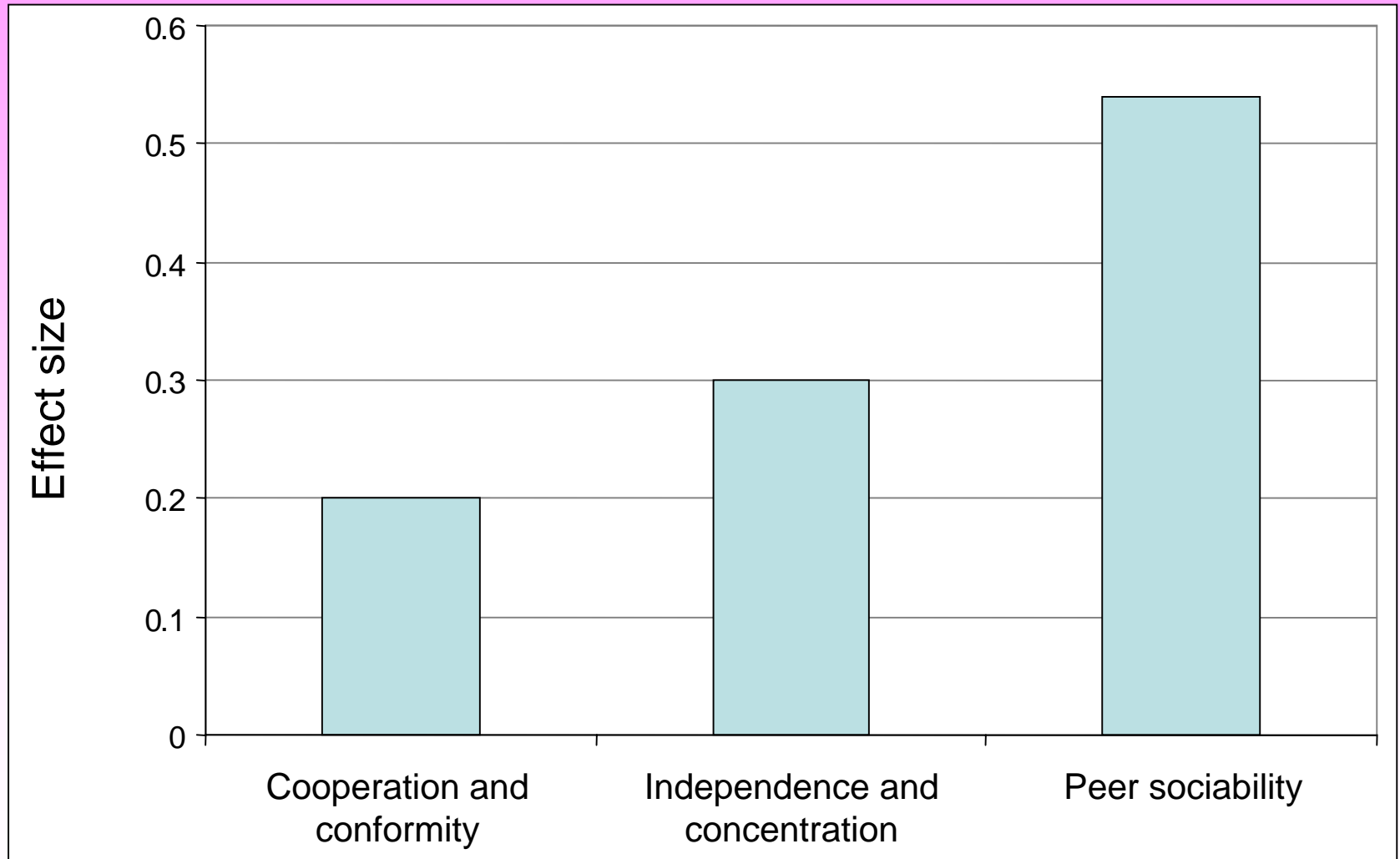
The Impact of EPPE: Quality

- ❖ The quality of pre-school centres is directly related to better intellectual/cognitive and social/behavioural development in children.**
- ❖ Good quality can be found across all types of early years settings. However quality was higher overall in integrated settings, nursery schools and nursery classes.**
- ❖ Settings which have staff with higher qualifications, especially with good proportion of trained teachers on the staff, show higher quality and their children make more progress.**

Impact of quality and duration

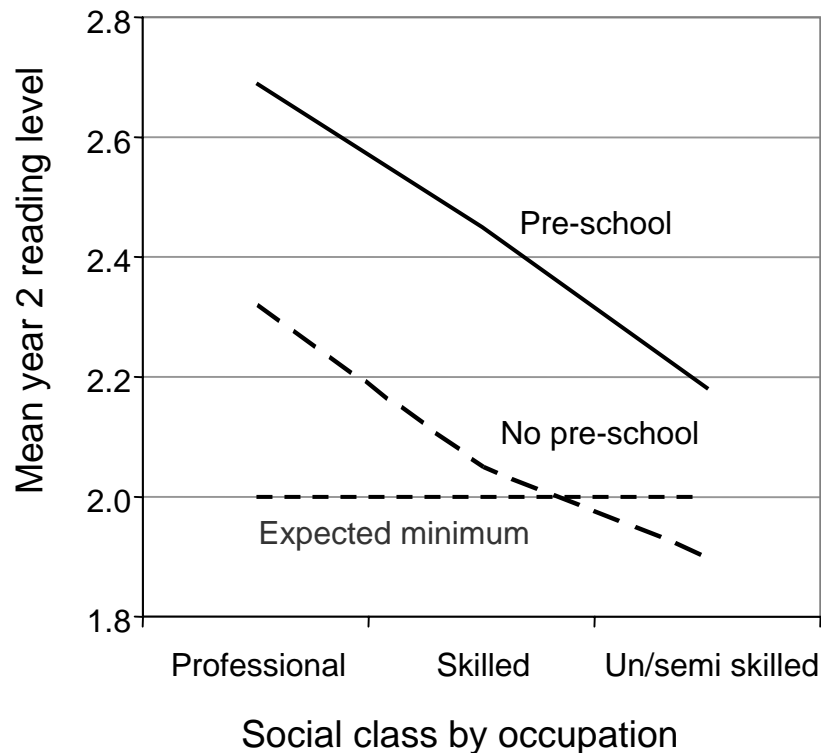


Effect of pre-school (v. no preschool) on social-behavioural outcomes at school entry

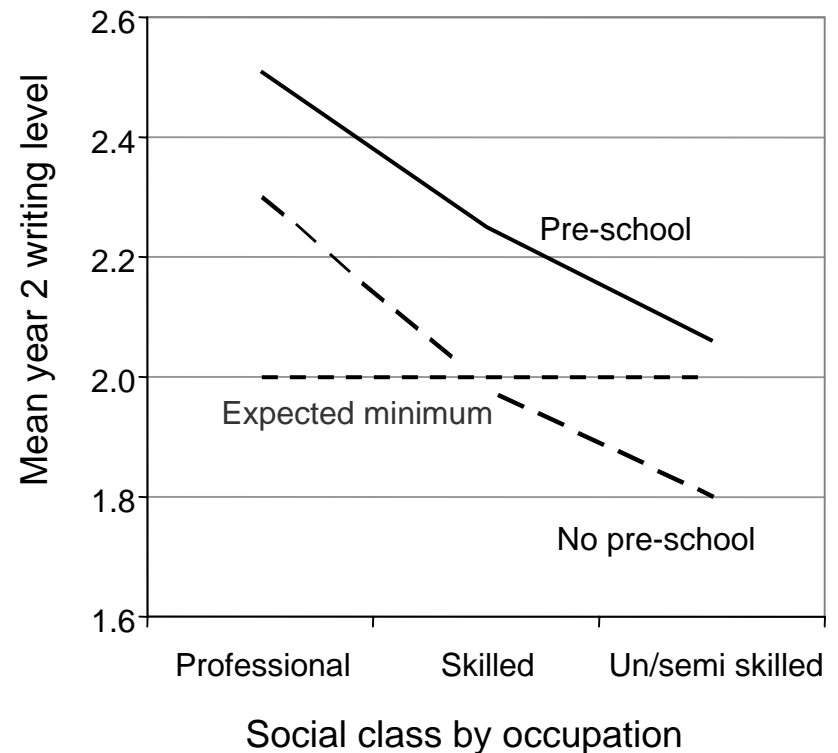


The contribution of social class and pre-school to literacy attainment (age 7)

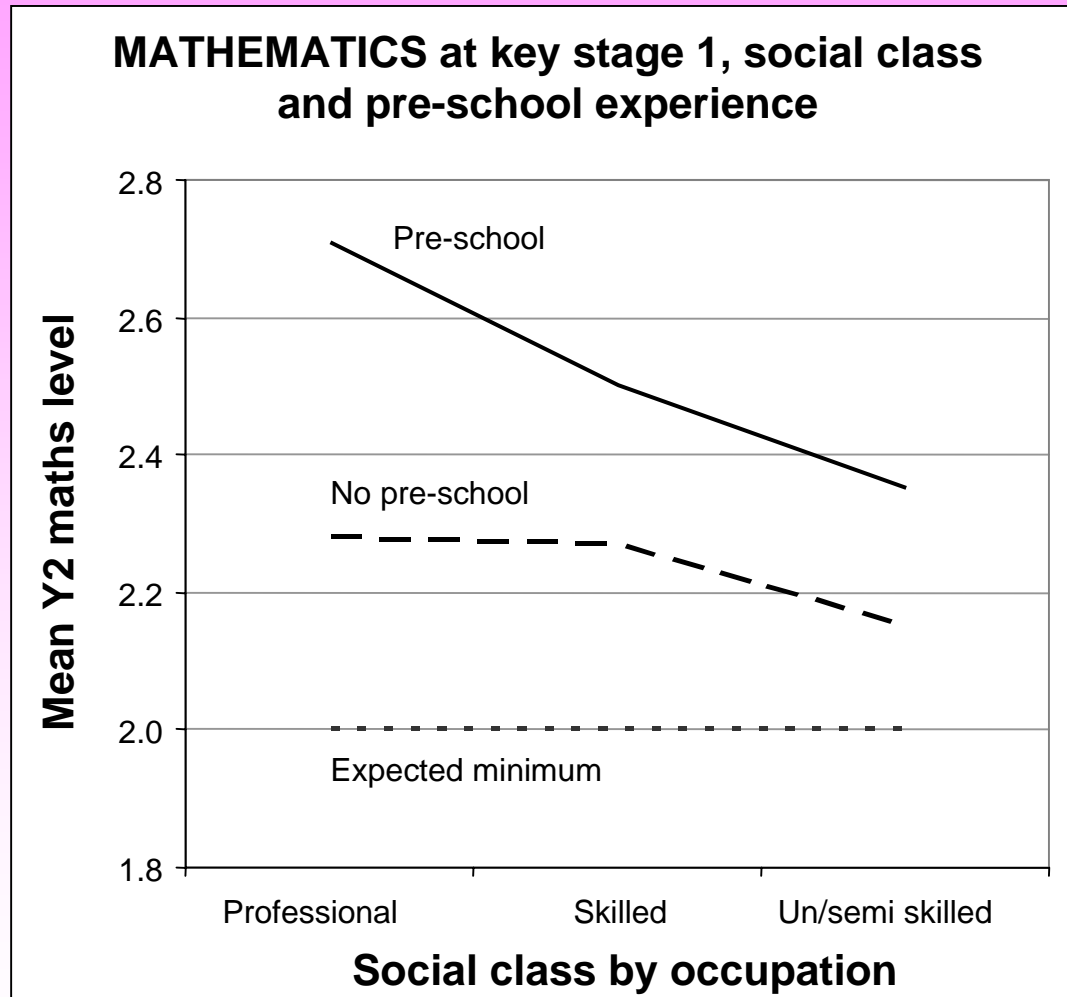
READING at key stage 1, social class and pre-school experience



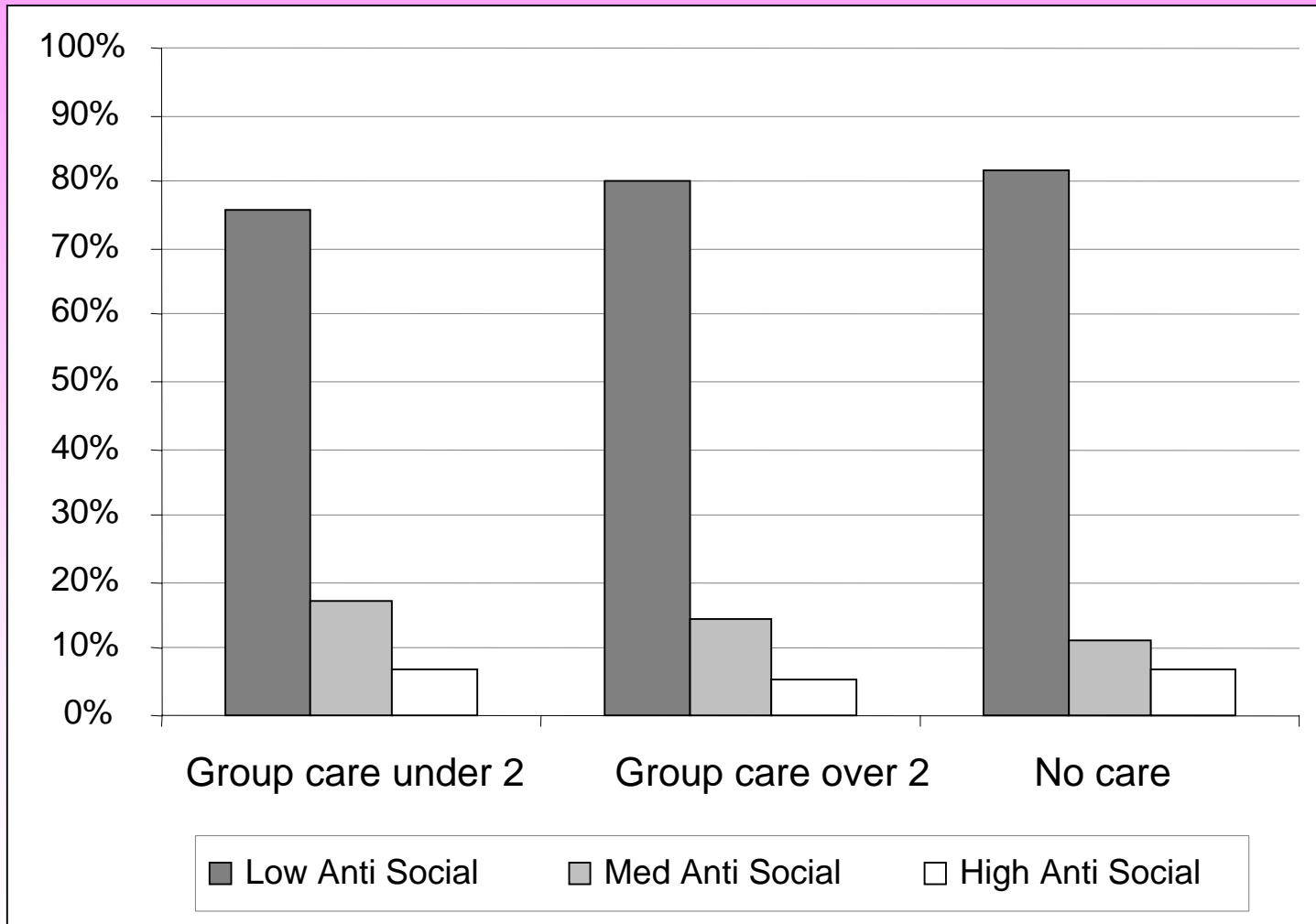
WRITING at key stage 1, social class and pre-school experience



The contribution of social class and pre-school to mathematics attainment (age 7)



Group care and anti-social behaviour



How we measured quality: Two Early Childhood Environment Rating Scales

ECERS-R

❖ Based on observation – 7 sub-scales

- ❖ Space and furnishings
- ❖ Personal care routines
- ❖ Language reasoning
- ❖ Activities
- ❖ Interaction
- ❖ Programme structure
- ❖ Parents and staff

Harms, Clifford & Cryer (1998)

ECERS-E

❖ Based on observation – 4 sub-scales

- ❖ Literacy
- ❖ Mathematics
- ❖ Science and environment
- ❖ Diversity

Sylva, Siraj-Blatchford & Taggart (2003)

Example of the ECERS Rating Scale

Inadequate

Minimal

Good

Excellent

1

2

3

4

5

6

7

An Example of ECERS-R Item

32. Staff-child interactions

Inadequate 1

- | | |
|--|----------------|
| 1.1 Staff members are not responsive to or not involved with children (Ex. ignore children, staff seem distant or cold). | -YES/NO |
| 1.2 Interactions are unpleasant (Ex. voices sound strained and irritable). | -YES/NO |
| 1.3 Physical contact used principally for control (Ex. hurrying children along) or inappropriately (Ex. unwanted hugs or tickling). | -YES/NO |

Harms et al (1997)

An Example of ECERS-R Item

32. Staff-child interactions

Minimal	3
----------------	----------

3.1 Staff usually respond to children in a warm, supportive manner (Ex. staff and children seem relaxed, voices cheerful, frequent smiling).	-YES/NO
---	----------------

3.2 Few, if any, unpleasant interactions.	-YES/NO
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Harms et al (1997)

An Example of ECERS-R Item

32. *Staff-child interactions*

Good

5

- | | |
|---|---------|
| 5.1 Staff show warmth through appropriate physical contact (Ex. pat child on the back, return child's hug). | -YES/NO |
| 5.2 Staff show respect for children (Ex. listen attentively, make eye contact, treat children fairly, do not discriminate). | -YES/NO |
| 5.3 Staff respond sympathetically to help children who are upset, hurt, or angry. | -YES/NO |

Harms et al (1997)

An Example of ECERS-R Item

32. *Staff-child interactions*

Excellent	7
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7.1	Staff seem to enjoy being with the children.	-YES/NO
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7.2	Staff encourage the development of mutual respect between children and adults (Ex. staff wait until children finish asking questions before answering; encourage children in a polite way to listen when adults speak).	-YES/NO
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Harms et al (1997)

An Example of ECERS-E Item

5. Science Activities: Science processes : Food preparation

Inadequate 1

1.1 No preparation of food or drink is undertaken in front of children -YES/NO

Minimal 3

3.1 Food preparation is undertaken by adults in front of the children -YES/NO

3.2 Some children can choose to participate in food preparation -YES/NO

3.3 Staff discuss with the children routine food that has been prepared by adults, where appropriate, e.g. burnt toast or new biscuits or food brought in by children because of special events.

Sylva et al (1998)

An Example of ECERS-E Item

5. Science Activities: Science processes : Food preparation

Good

5

- | | |
|---|---------|
| 5.1 Food preparation/ cooking activities are provided regularly | -YES/NO |
| 5.2 Most of the children have the opportunity to participate in food preparation | -YES/NO |
| 5.3 The staff lead the discussion about the food involved and use appropriate terminology (EX. Melt, dissolve). | -YES/NO |
| 5.4 Children are encouraged to use more than one sense (feel, smell, taste) to explore raw ingredients. | -YES/NO |

Sylva et al (1998)

An Example of ECERS-E Item

5. Science Activities: Science processes : Food preparation

Excellent

7

A variety of cooking activities in which all children have the opportunity to take part are provided regularly.

-YES/NO

7.2 The ingredients are attractive and the end result is reasonable and appreciated (Ex. Eaten by children, taken home).

-YES/NO

7.3 The staff lead and encourage discussion on the process of food preparation such as what needs to be done to cause ingredients to set or melt.

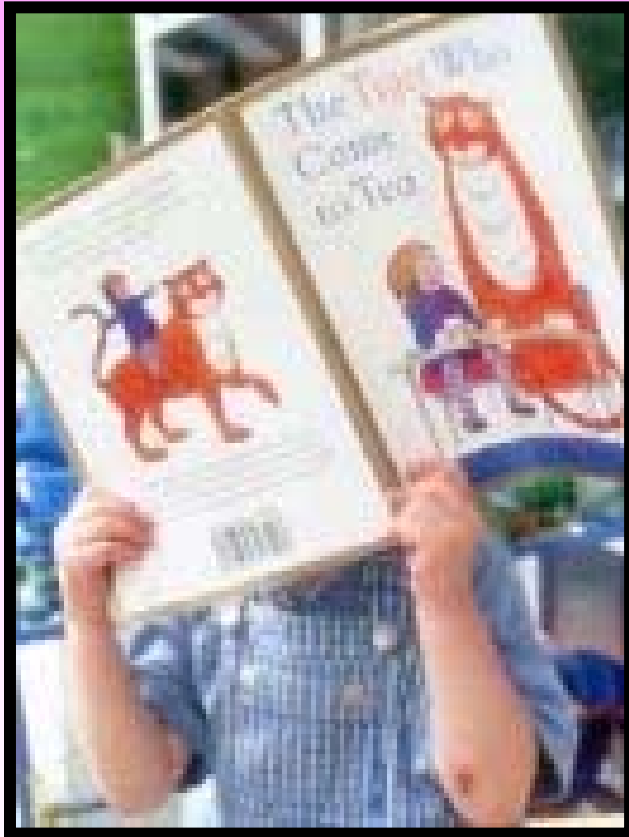
-YES/NO

7.4 Staff draw attention to changes in food and question children about it (Ex. What did it look like before, what does it look like now, what has happened to it).

-YES/NO

Sylva et al (1998)

Main findings From ECERS –R and ECERS-E

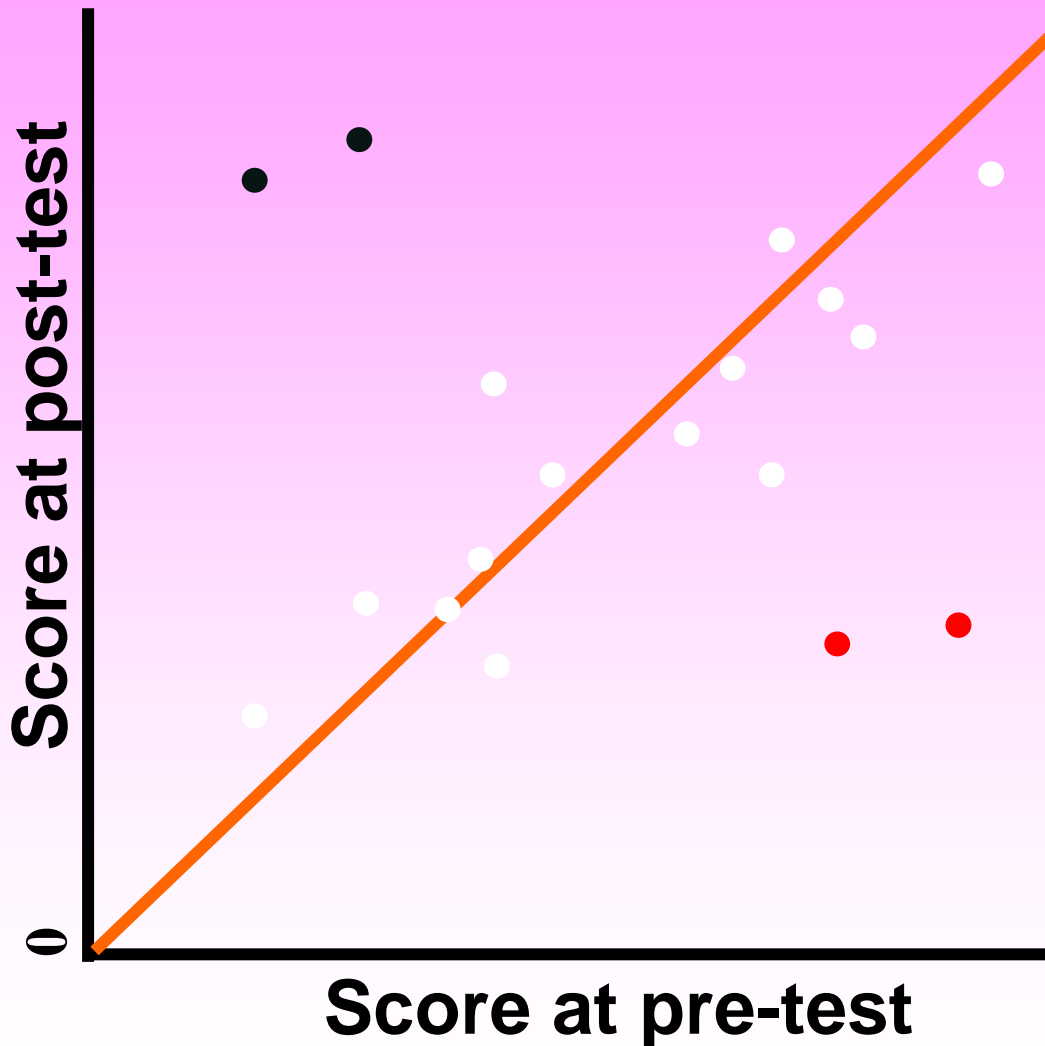


- ❖ ECERS R – (total) positively related to children's progress in co-operation and conformity. Subscale ('social interaction') related independence and peer sociability.
 - ❖ ECERS-E (total) related to progress in pre-reading (Phonological awareness, letter recognition), non-verbal reasoning and number skills. Sub-scale scores were related to independence and cooperation
- YOUNG CHILDREN NEED A BALANCE OF BOTH CARE AND EDUCATION IN PRE-SCHOOLS.**

The Impact of EPPE: Pedagogy

- ❖ Five areas were identified with were particularly important:
- ❖ Quality of the adult-child verbal interaction.
- ❖ Knowledge and understanding of the curriculum.
- ❖ Knowledge of how young children learn.
- ❖ Adults skill in supporting children in resolving conflicts.
- ❖ Helping parents to support children's learning at home.

How we observed pedagogy: Identifying outliers.



Phase 1 analysis – description of case study centres

- 1. CENTRE PROFILE**
- 2. STAFFING**
- 3. MANAGEMENT AND LEADERSHIP**
- 4. CLASSROOM ORGANISATION**
- 5. PARENT INVOLVEMENT**
- 6. ETHOS**
- 7. CURRICULUM**
- 8. PEDAGOGY**
- 9. COMMUNITY OUTREACH**

Figure 3 - *Data entered into QSR NUD*IST - NVivo*

Centre Number	Documentary analysis	Staff interviews	Teacher observations	Other observations	Parent interviews	Centre plan
017	1	3	8 (22:30)	11	08	1
106	1	3	8 (18:55)	6	08	1
214	1	4	9 (30:45)	6	09	1
219	1	2	10 (27:35)	6	10	1
225	1	3	8 (22:20)	7	07	1
306	1	2	4 (10:20)	7	05	1
324	1	4	8 (17:06)	4	08	1
401	1	2	10 (28:21)	3	06	1
413	1	3	9 (11:44)	0	09	1
417	1	2	8 (25:05)	6	08	1
421	1	4	8 (30:40)	12	09	1
426	1	4	10 (23:28)	8	08	1
501	1	4	8 (21:25)	4	06	1
502	1	2	8 (20:20)	8	06	1
Total	14	42	116 (300+hrs)	88 (100+hrs)	107	14

14 files of documentary analysis, 42 staff and manager interviews, 204 transcribed naturalistic observations of staff (400+hrs), 107 parent interviews and 14 centre plans

Total = 381 files 1 million word + data set

NVivo – documentary analysis window

The screenshot displays the NVivo software interface, which is used for qualitative data analysis. The main window is titled "417 obs 8 - Document Browser". It features a menu bar with options: Browser, Document, Edit, View, Format, and Tools. Below the menu is a toolbar with various icons for file operations and text formatting. The main text area shows a document with the following content:

coloured dots shown on two dice, thrown simultaneously. The object of the game is to get the snails across the winning line.)
Apparatus. Published board games.

12.30 Parents/carers and CHILDREN enter the classroom.
NURSERY OFFICER 1 stands between the printing table and the water-play. She greets parents/carers and CHILDREN and then moves to help CHILDREN at the printing activity as they congregate there. She writes CHILDREN's names on the papers as required.

12.35 GIRL 1 (3:3) "Mummy's going to get some Macdonald's tomorrow."
NURSERY OFFICER 1 "That's lovely. I like Macdonald's sometimes too."
Continues to support CHILDREN at water-play, printing and cutting activities - tying and untying aprons, writing names on paper, making encouraging comments and responding to CHILDREN's comments.
GIRL 2 (4:2) "I want to do a painting."
NURSERY OFFICER 1 "Get an apron then. I'll help you to put it on."
"That's lovely cutting GIRL 3 (4:1)."
"Beautiful printing BOY 1 (3:4)..... What shape's your paper? (BOY 1 (3:4) - 'triangle') Well done."
BOY 2 (3:11) pouring water from a small watering can at the water-play, "NURSERY OFFICER 1 I'm watering my flowers."
NURSERY OFFICER 1 "You are."

12.44 A group of 5 girls are already seated at the 'games' table looking at the contents of the box and chatting together.

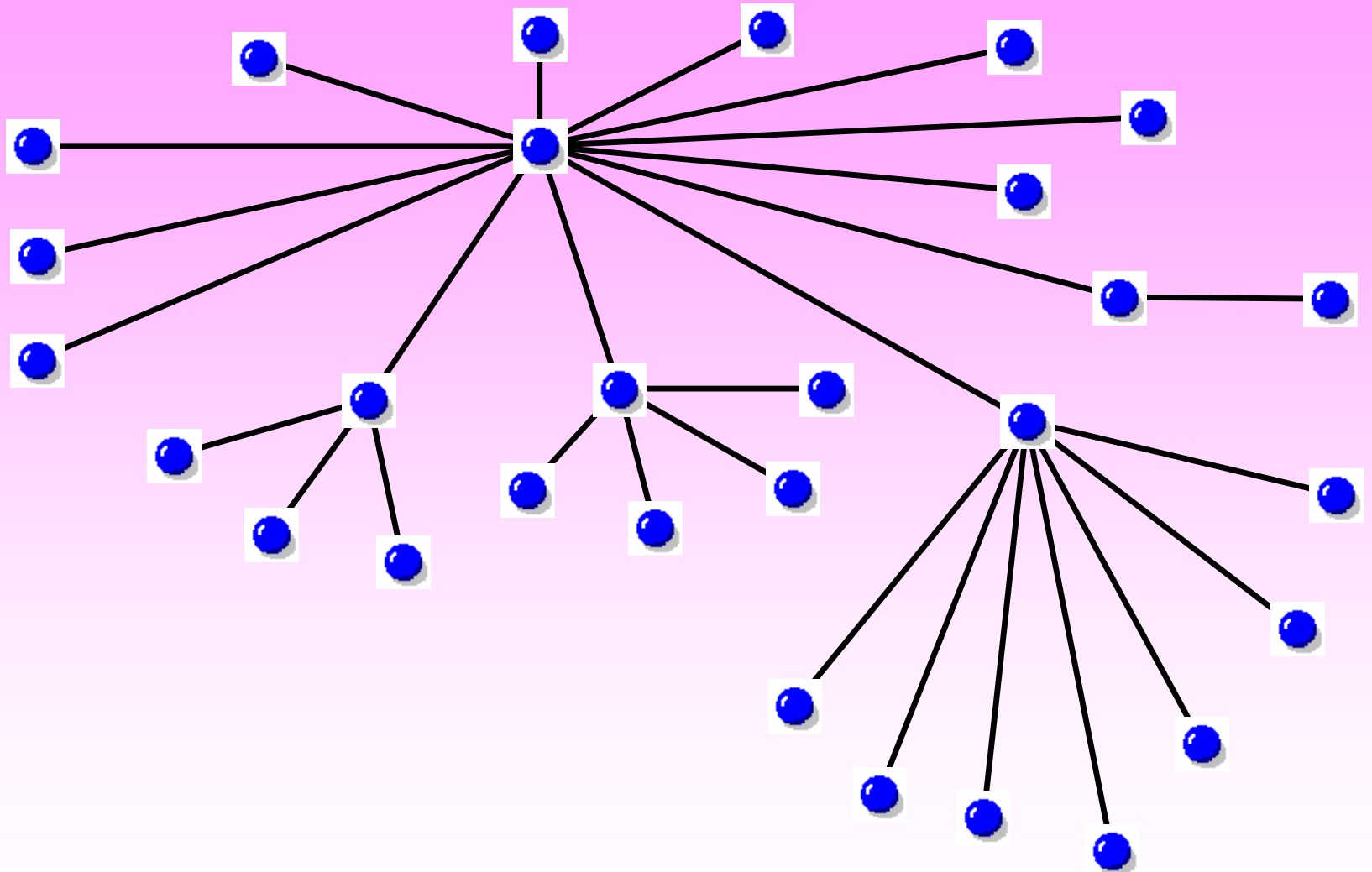
12.45 NURSERY OFFICER 1 leaves the printing area and goes to sit with them:
GIRL 4 (3:7), GIRL 5 (3:7), GIRL 6 (3:6), GIRL 7 (3:7) and GIRL 8 (3:11).
NURSERY OFFICER 1 "How are the 'Snail Pace' girls?..... Bring all the snails back to the beginning. What colour is that snail GIRL 9 (3:3)? (GIRL 9 (3:3) - 'pink')How many snails have we got? Let's count them."
They all count as NURSERY OFFICER 1 indicates each snail in turn.
NURSERY OFFICER 1 "We all share moving the snails. And we'll see which snail gets home first."
She takes the dice cup and puts the two dice inside it. She demonstrates, "Shake the cup. Put your hand over the top to stop the dice going onto the floor. Tip the dice out. There are two colours. GIRL 4 (3:7) what colours are they?"

On the right side of the interface, there is a "417 obs 8 - Coder" window. It shows a hierarchical tree structure of codes. The tree is organized as follows:

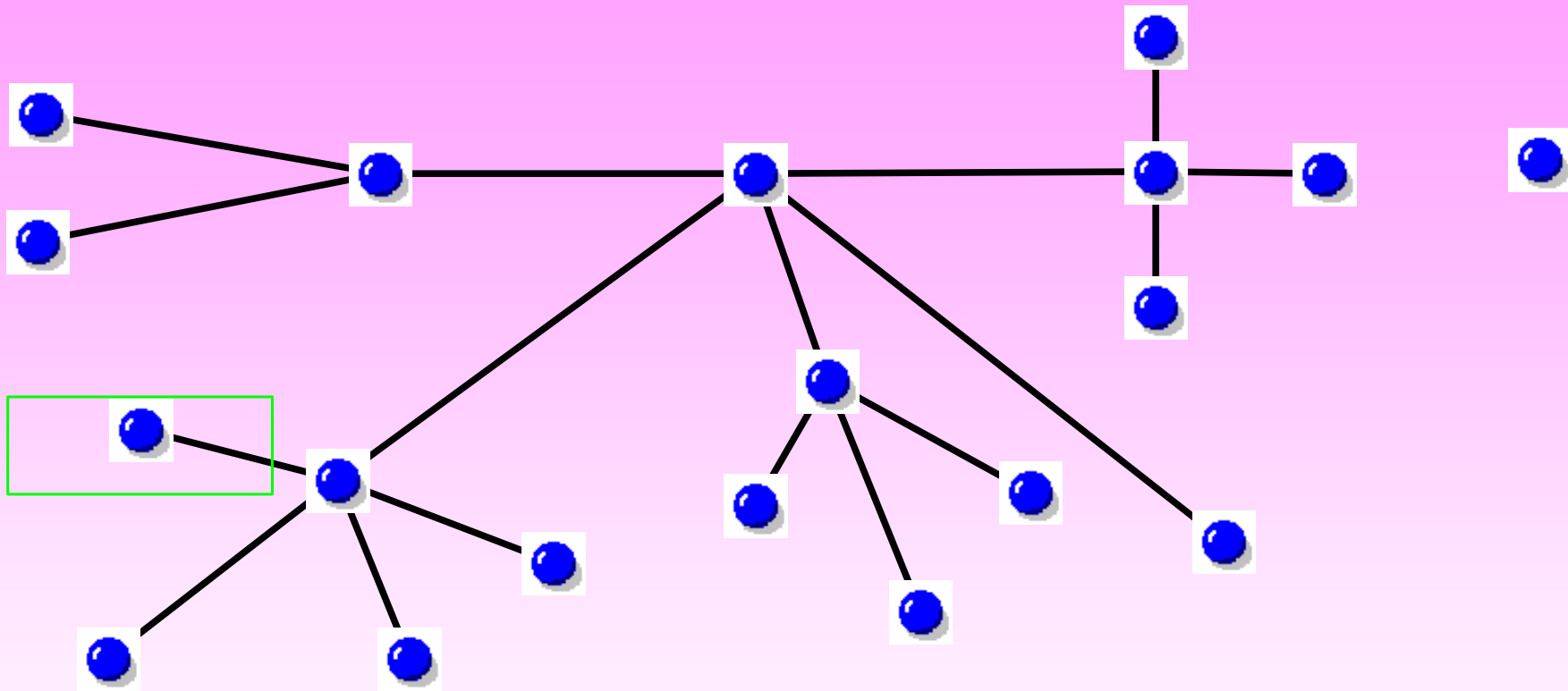
- Pedagogy
 - Instructional techniques
 - Creating learning environmen
 - Socio-dramatic
 - Mime
 - Active exploration
 - Creating discovery learnin
 - Simulation
 - Visits~visitors
 - Scaffolded'activity'
 - Breaking tasks down
 - Identifying new aspec
 - Sequencing
 - Playing game with
 - Montessori
 - Direct instruction
 - Answering questions
 - Demonstrating
 - Describing
 - Telling

Below the tree, there are buttons for "Find", "Code", "UnCode", "Add Node(s)", and "Remove All". At the bottom of the interface, there is a status bar showing "Section: 0" and "Paragraph: 50".

Instruction Nodes 21.03.01



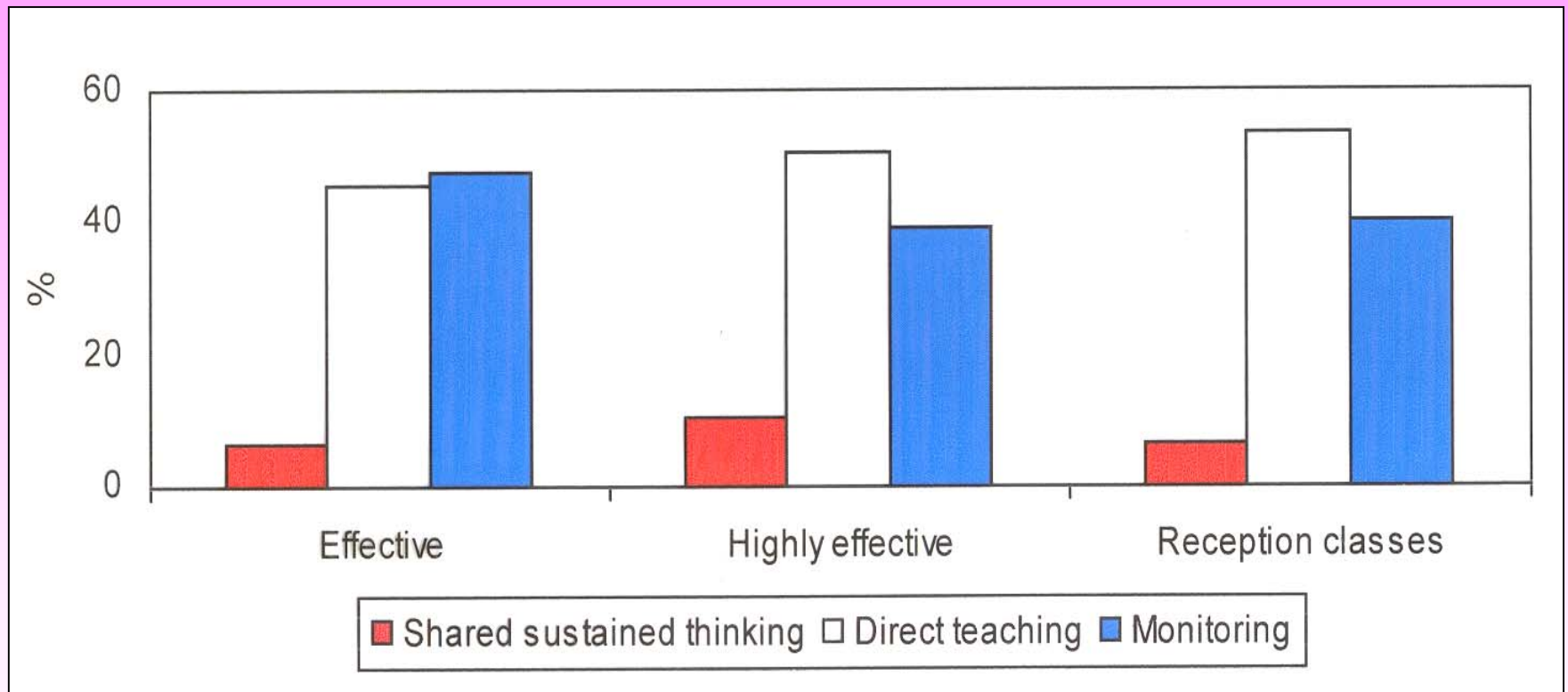
Instruction model



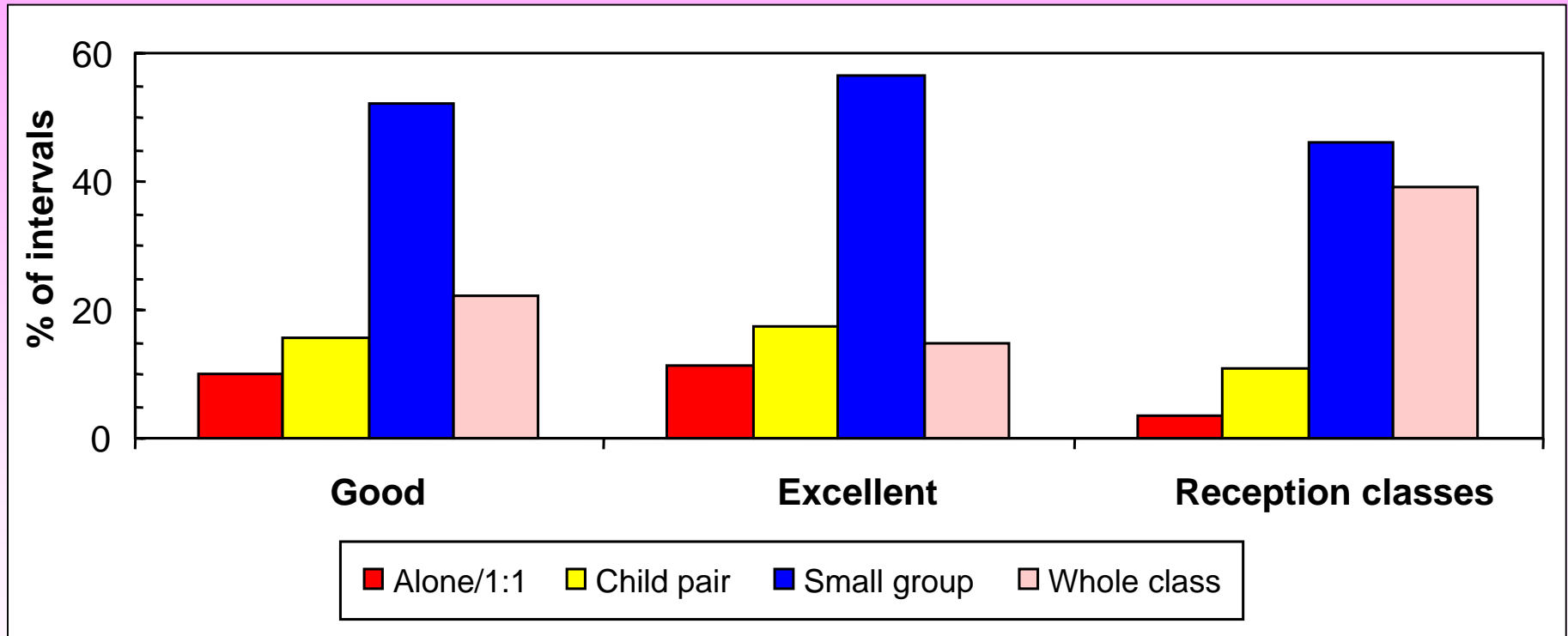
Effective Pedagogy in the Early Years

Sustained shared thinking: An episode in which two or more individuals “work together” in an intellectual way to solve a problem, clarify a concept, evaluate activities, extend a narrative etc. Both parties must contribute to the thinking and it must develop and extend.

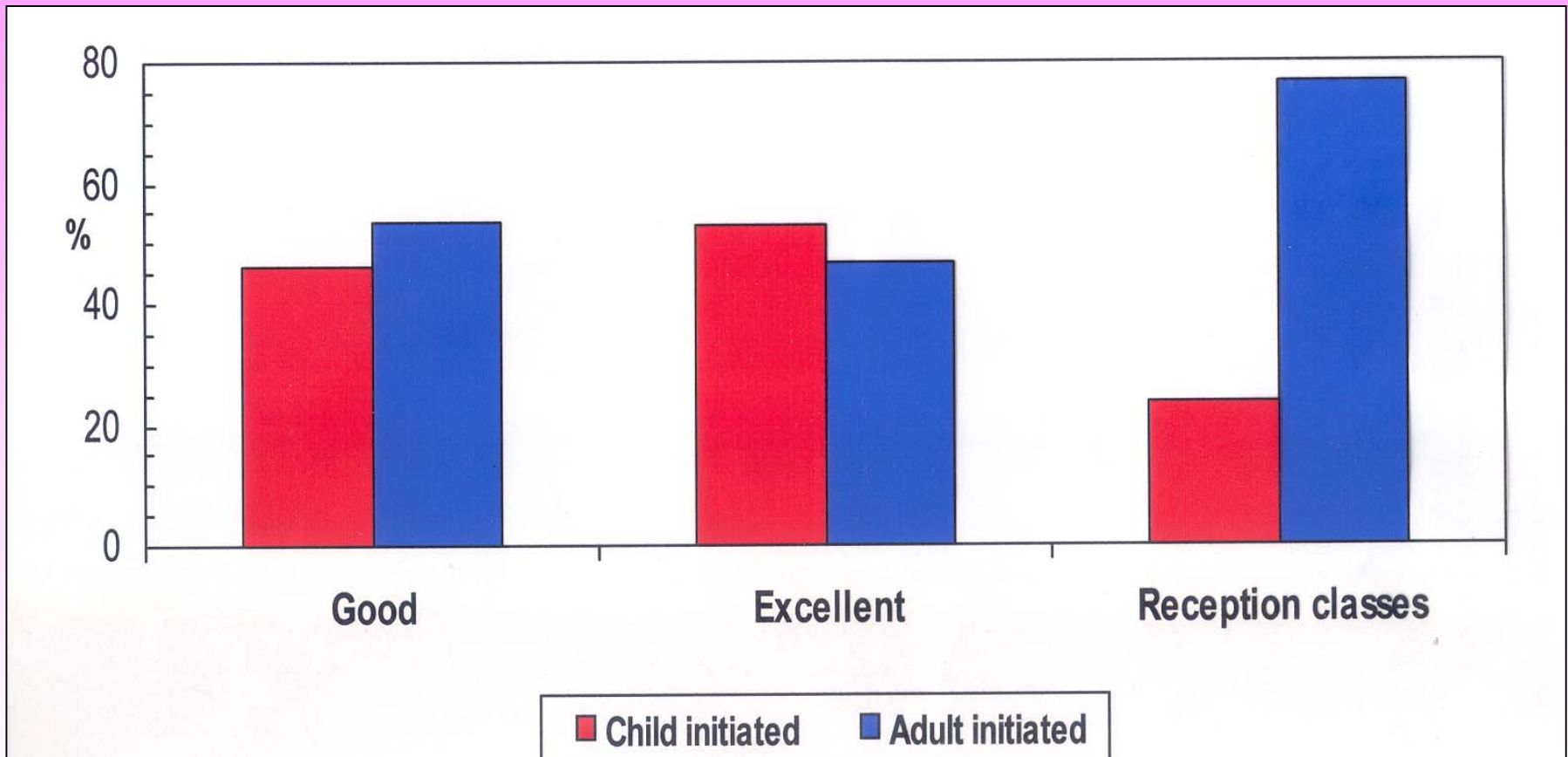
Cognitive interactions (percentage) in settings



Time spent by children in different social groupings across settings of varying effectiveness



Proportion of all episodes initiated by adult or child



The Impact of EPPE

- ❖ **At National level: Treasury and Spending Review. Evidence at Select Committees. Briefing at No 10. etc. 'The EPPE study provides essential evidence which now underpins the work of the Sure Start Unit' Head of Communications Sure Start DfES May 2003.**
- ❖ **At Local Authority level: Work with EYCDP and LEAs who are re-configuring their services.**
- ❖ **At practitioner level: Focus on practical pedagogy from the case study data and REPEY study.**

**For further information about
EPPE visit the EPPE website at:**

<http://www.ioe.ac.uk/projects/eppe>

Or contact

Brenda Taggart

Research Co-ordinator

0207 612 6219

b.taggart@ioe.ac.uk