INSTITUTE OF EDUCATION
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The Effective Provision of Pre-School Education (EPPE) Project

Technical Paper 6A

Characteristics of Pre-school Environments

A Longitudinal Study funded by the DfEE
1997-2003

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Technical Paper 6A
CHARACTERISTICS OF PRE-SCHOOL ENVIRONMENTS

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Contents

Characteristics of Pre-school Environments

EXECUTIVE SUMMARY

The EPPE project investigates the characteristics of early childhood education and care through a variety of research methods; this paper reports on just two instruments. A 'centre profile' was created for each centre through systematic observation and questions to staff. The Early Childhood Environment Rating Scale: Revised (ECERS) was used in drawing up each centre's profile along with an extension to it based on the Desirable Learning Outcomes (ECERS-English Extension). The ECERS rating scales consisted of eleven sub-scales with a range of items describing 'quality' of provision. Each item was rated 1 (inadequate) to 7 (excellent). The ECERS and ECERS-E are one approach to describing the 'processes' through which children are cared for and educated.

There are other important sources of information excluded here such as adult–child ratio, unit cost per child, and management of the centre. A fuller analysis of centres in the EPPE research will require the linking of the findings reported here with parent interview data, centre manager interview data and child outcome data when children enter reception class. This will occur in later papers in this series.

This paper describes the characteristics of the 141 centres used by 3 and 4 year-old children in the EPPE sample. Averaged across all the centres, provision in the sample approached 'good' on the ECERS but the curricular profile developed for England (ECERS-E) showed that the learning opportunities in maths and science were limited and sometimes inadequate. However overall scores on ECERS indicate similar quality for much provision in England with that in other industrialised countries.

Considering type of provision, the LEA centres (nursery schools, nursery classes and nursery schools combined with care) had scores in the good-to-excellent range. Social services daycare were next, nearing the good range. However the playgroups and private day nurseries were consistently found to have scores in the 'minimal/adequate' range. These differences in quality are similar to recent Ofsted reports on variation in the quality of pre-school provision (Ofsted, 1999) and to a recent study using ECERS on 44 pre-school centres in London by Lera et al. (1996).

This large sample of pre-school centres from different regions in England shows great variation in the curriculum and care on offer, the pedagogical strategies seen in interactions between children and staff, and in the resources available for children's play and learning. Comparisons between types suggest that a ratio of 1:8 as found in the private and voluntary sector do not guarantee high standards by themselves and that ratios of 1:13 in the LEA sector are not associated with low quality. However, the issue of ratio is inevitably confounded with type of preschool and other variation associated with type.

Although centres offering full day care generally had lower ratings than those on a sessional basis, the LEA nursery schools which had changed from 'education only' to centres offering full day care and encouragement of parental involvement usually scored highest of all. Further it appeared that adding 'education' to more traditional local authority day care settings (usually one teacher or a peripatetic teacher) is not associated with higher quality. This implies that there is still some way to go before the ideal of combined education and care can be achieved and that the training of all staff is important.

ASSESSING PRE-SCHOOL ENVIRONMENTS

Researchers have been debating for years about the concept of 'quality' in early childhood education and care. Judgment of quality involves values and what is a 'high quality' centre to one parent may be quite low in the eyes of a local authority officer or indeed another parent. Munton et al. (1995) identified three basic dimensions in describing the early years setting. These are the **structure** which includes both facilities and human resources; the educational and care **processes** which children experience every day; and the **outcomes** or the longer term consequences of the education and care the child receives. The observational measures described in this technical paper focus on educational and care processes but also includes some structure in their description of quality. That dimension of quality which relates to the **outcomes** for children will be addressed in later papers in the EPPE series.

One of the most widely used observational measures for describing the characteristics of early childhood education and care is the **Early Childhood Environment Rating Scale** (ECERS, now revised; Harms, Clifford & Cryer 1998). The revised ECERS has 43 items which are divided into 7 sub-scales. These sub-scales are space and furnishing, personal care routines, language and reasoning, activities, social interactions, organisation and routines, adults workng together. Each item is rated on a 7 point scale (1 = inadequate, 3 = minimal/adequate, 5 = good, 7 = excellent). Completion of the ECERS usually involves approximately one day of observation, as well as talking to the staff about aspects of the routine which were not visible during the observation session (for example, weekly swimming or seasonal outings).

In the EPPE study, the ECERS was supplemented by a new rating scale (ECERS-Extension, Sylva et al 1998), devised by the EPPE team based on the Desirable Learning Outcomes for 3 and 4 year-olds and pedagogical practices associated with it (Siraj-Blatchford and Wong 1999). Because the ECERS was developed in the United States of America and intended for use in both care and educational settings, the EPPE team thought it necessary to devise a second early childhood environment rating scale which was focused on provision in Britain as well as good practice in catering for diversity (Sylva et al 1998). The ECERS-E was devised after wide consultation with experts and extensively piloted. The ECERS-E consists of 4 sub-scales: literacy, mathematics, science and environment, and diversity. Both the ECERS and the ECERS-E will be described as they were applied in 141 pre-school settings across five regions in England.

Both ECERS ratings were carried out by a senior research officer responsible for the region. The research officers had, in every instance, experience of assessing children for at least 6 months in the centre before carrying out the ECERS observation and ratings. Moreover, each observer put aside a full day to complete the ECERS. This was necessary because the two rating scales contained very detailed information about curricular provision, pedagogy, planning, resources and relationships.

METHODS

Rating Scales: the Early Childhood Environment Rating Scale (ECERS) and the English Extension (ECERS-E)

Each pre-school centre was assessed using the ECERS and its extension. The ECERS consists of 7 sub-scales; each sub-scale is composed of 4-10 individual items which describe the 'quality' of provision along a continuum centred on materials, facilities, pedagogy or social interactions.

Space and furnishings – items 1-8
Personal care routines – items 9-14
Language and reasoning – items 15-18
Pre-school activities – items 19-28
Social interaction – items 29-33
Organisation and routines – items 34-37
Adults working together – items 38-43

The ECERS-E consists of 4 sub-scales:

Literacy – items 1-6
Mathematics – items 7-9
Science and environment – items 10-12
Diversity – items 13-15

The structure of the two environmental scales is described below and examples of individual items in the ECERS and ECERS-E appear in Appendix A.

Structure of the Environmental Rating Scale

I. Space and furnishings
1. Indoor space
2. Furniture for routine care, play and learning
3. Furnishings for relaxation and comfort
4. Room arrangement for play
5. Space for privacy
6. Child related display
7. Space for gross motor
8. Gross motor equipment

II. Personal care practices
9. Greeting/departing
10. Meals/snacks
11. Nap/rest
12. Toileting/diapering
13. Health practices
14. Safety practice

III. Language and reasoning
15. Books and pictures
16. Encouraging children to communicate
17. Using language to develop reasoning skills
18. Informal use of language

IV. Pre-school activities
19. Fine motor
20. Art
21. Music/movement
22. Blocks
23. Sand/water
24. Dramatic play
25. Nature/science
26. Math/number
27. Use of TV, video, and/or computers
28. Promoting acceptance of diversity

V. Social interaction
29. Supervision of gross motor activities
30. General supervision of children (other than gross motor)
31. Discipline
32. Staff-child interactions
33. Interactions among children

VI. Organisation and routines
34. Schedule
35. Free play (free choice)
36. Group time
37. Provisions for children with disabilities

VII. Adults working together
38. Provisions for parents
39. Provisions for personal needs of staff
40. Provisions for professional needs of staff
41. Staff interaction and cooperation
42. Supervision and evaluation of staff
43. Opportunities for professional growth

(Harms, T., Clifford, M. & Cryer, D., 1998)

Structure of the Environmental Rating Scale - Extension

I. Literacy
1. 'Environmental print': Letters and words
2. Book and literacy areas
3. Adult reading with the children
4. Sounds in words
5. Emergent writing/mark making
6. Talking and Listening

II. Mathematics
7. Counting and the application of counting
8. Reading and writing simple numbers
9a. Mathematical Activities: Shape and space (select either 9a or 9b for evidence; choose the one which you observed most)
9b. Mathematical Activities: Sorting, matching and comparing

III. Science and Environment
10. Natural materials
11. Areas featuring science/science resources
12a. Science Activities: Science processes: Non Living (select one of a, b, c for evidence; choose one you observed most)
12b. Science Activities: Science processes: Living processes and the world around us
12c. Science Acitivities: Science processes: Food preparation

IV. Diversity
13. Individual learning needs
14. Gender equity
15. Multicultural Education

(Sylva, K., Siraj-Blatchford, I., Taggart, B., & Colman, P., 1998)

Reliability of our observations

Before using observational rating scales in research it is necessary to establish inter-observer agreement. Good levels of agreement depend on a sound choice of instruments and good researcher training. EPPE observers spent many days in each centre before formal observation began. All research officers were trained extensively on the observational instruments and research officer from the University of Cardiff acted as the 'standard' in a reliability exercise. In each region five centres were observed by the regional research officer and the person acting as 'standard'. Each centre was observed and rated over the course of a whole day. At the end of the day the two observers who had independently scored the ECERS and ECERS-E compared their scores on the same observations. Hence reliability was established for two instruments in 25 centres chosen randomly throughout the regions. The results of this exercise indicated good to excellent inter-observer reliability in all regions. (Kappa range = .75-.90, median = .81). Such high levels of inter-observer reliability demonstrate accuracy and objectivity of ratings across settings and regions.

Sample of regions and centres

The five regions in EPPE were strategically chosen to represent urban, suburban, and rural areas and also to include neighbourhoods with social and ethnic diversity. All local authorities in the EPPE sample were divided into five sampling areas, usually geographic divisions that already existed. Official lists of playgroups, nursery classes, nursery schools, private day nurseries, social services/voluntary day nurseries, and nursery schools combining care and education were obtained with the help of the local early years co-ordinators in every authority. Within each sampling area, one of each type of provision was randomly selected, yielding approximately 25 centres of various types in each region. Some over- and under-sampling occurred in each category of provision because not all authorities had sufficient numbers of local authority day nurseries. The ECERS observations were carried out in each of the 141 centres in the full EPPE sample in the period May 1998 – June 1999.

Summary of the different types of provision

For the main analysis pre-schools were divided into six types.

1. Local Education Authority nursery classes (n=25)
   These are part of primary schools, have an adult:child ratio of 1:13, (one in every two adults is normally a 4 year graduate qualified teacher and the other adult has had 2 years childcare training) and usually offer only half-day sessions in term time, 5 days/week.

2. Voluntary playgroups and/or pre-schools (n=34)
   These have an adult:child ratio of 1:8, (training of adults is variable from none to graduate level. The most common type of training is based on short Pre-school Learning Alliance courses). All offer sessional provision in term time. Many children attend fewer then 5 days/week. Playgroups usually have fewer resources (facilities, materials and sole use of space) than other types of centres.

3. Private day nurseries (n=31)
   These have an adult:child ratio of 1:8, (normally the adults have a two year childcare training, but some have less training). All offer full day care for payment.

4. Local authority (day care) centres (n=24)
   These came from the social services day care tradition, although in recent years many

have come under the authority of the LEA. Thirteen in this group combined care and education with one teacher per centre or a peripatetic teacher shared with other centres. 11 centres have not officially incorporated education into care. The ratio is 1:8, (normally the adults have a two year childcare training. The combined centres have a small input from a teacher), and all offer full day care.

5. Nursery schools (n=20)
   These are 'traditional' nursery schools under the LEA with adult:child ratios of 1:13, (the headteacher would be a 4 year graduate qualified teacher with an early years background, other staff would reflect nursery classes in training), usually offering half-day provision. One in this group was an 'Early Excellence Centre'.

6. Nursery schools combining education and care (n=7)
   These are similar to nursery schools but have developed their provision of extended care to include full day care and parent involvement. They would have adult:child ratio of 1:13, (staffing would be the same as nursery schools for the over 3s). Even though these centres were chosen as a stratified random sample four in this group were 'Early Excellence Centres'.

RESULTS

A 'snapshot' of educational and care provision

The distribution of scores in the ECERS and ECERS-E was normal and allowed us to carry out powerful statistical tests to identify significant differences.

Figure 1 shows the means for the ECERS and the new scale based on Desirable Learning Outcomes, ECERS-E. The ECERS scores tend towards the top of the 'adequate' range and sometimes approach 'good'. The ECERS-E scores are more disappointing with provision for mathematics, science and diversity hovering around 'minimal' ratings. Note that these means are not weighted by proportion of children attending each type of provision.

Figure 1. Mean ECERS and ECERS-E scores

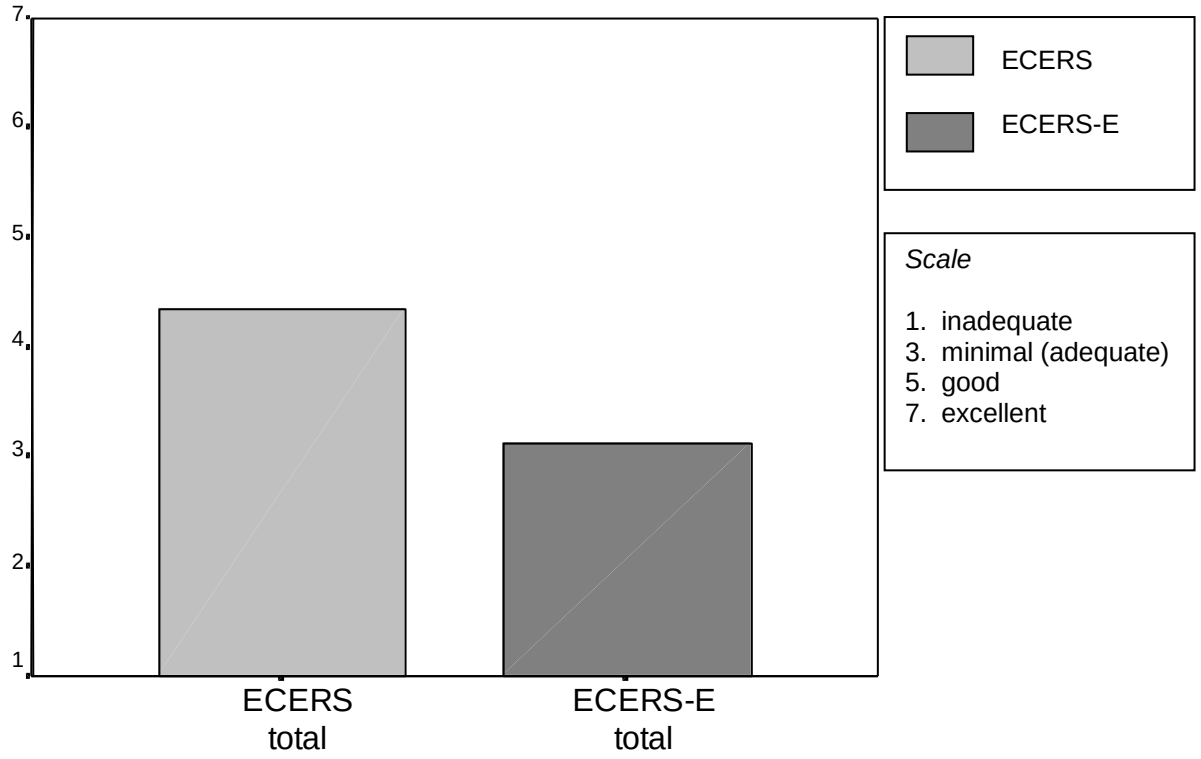
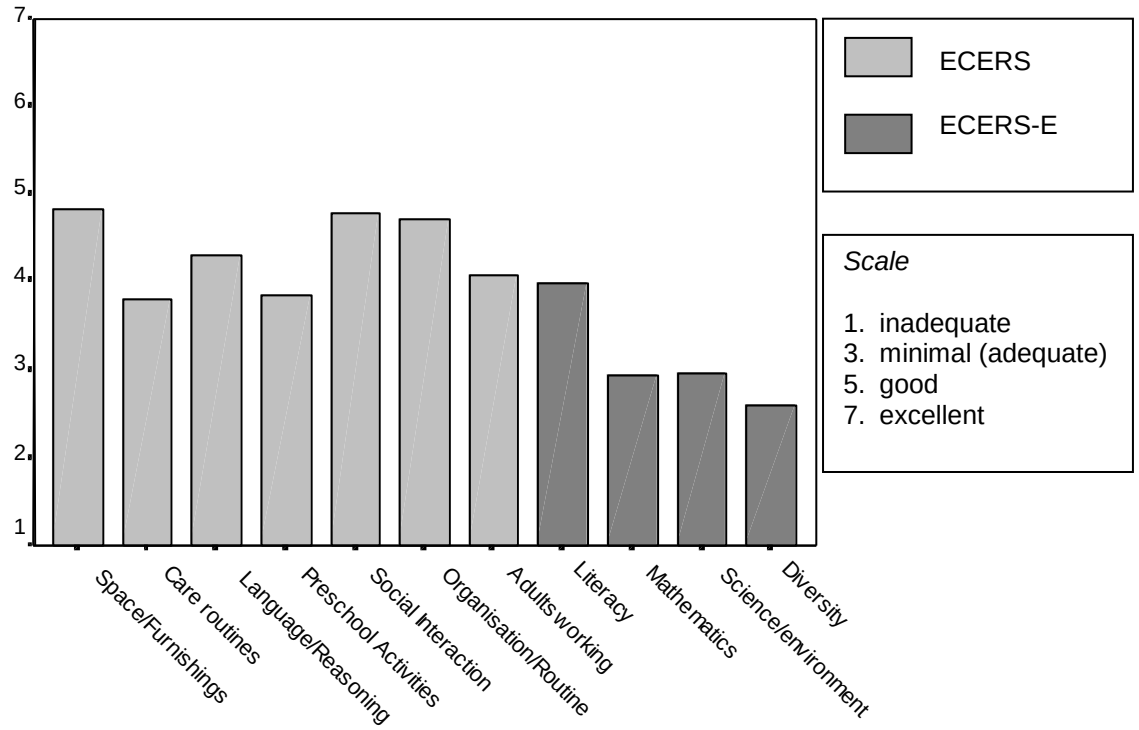


Figure 2 breaks down the two scales into their sub-scale components. The highest scores are found in 'social interactions', 'organisation and routines' and 'space and furnishings' while the lowest scores are seen in 'personal care', 'pre-school activities', and 'adults working together'. Although the ratings averaged across all types of provision are broadly satisfactory, closer inspection within types of provision reveals some striking differences. In this sample many centres were found to be exciting places where children were challenged and supported in their learning and where the interactions between staff and children were sensitive and enabling. Unfortunately, other centres were characterised by hasty planning and poor implementation of the curriculum.

Figure 2. ECERS and ECERS-E sub-scale scores

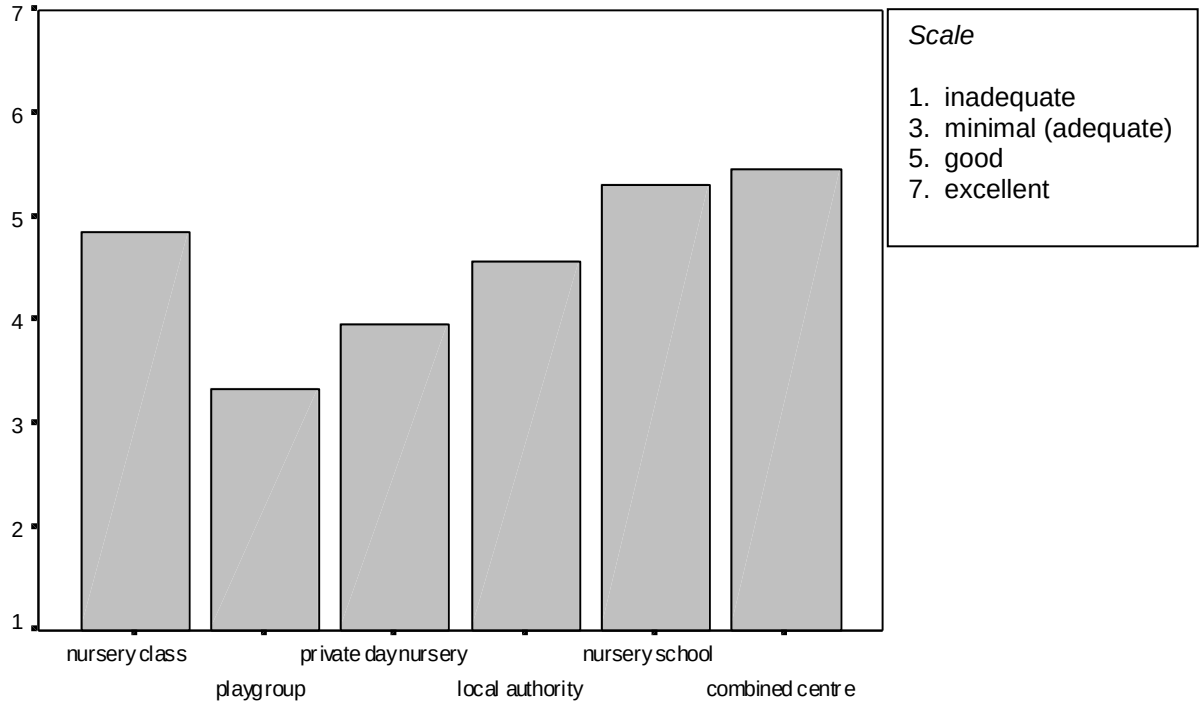


The profile of pre-school environments according to type of provision

We turn now to the analyses on differences in the environment according to type of provision. Figure 3 shows that the three types of provision managed by the LEA had significantly higher scores for total ECERS when compared to other types of provision. Statistical tests were carried out to identify exactly which types of provision differed significantly from each other. Local authority day centres, nursery classes, nursery schools and combined centres all had significantly higher scores than playgroups and private day nurseries. Additionally private day nurseries had a significantly higher total ECERS score than playgroups, and local authority centres had significantly lower total ECERS scores than nursery schools and combined centres.

We shall now consider ECERS sub-scales which focus specifically on aspects of the educational and care environment experienced by children and staff. Some sub-scales focus more on facilities while others describe pedagogical practices and the ways adults and children interact with one another in a purely social way. The pedagogy is described in terms of the balance between child-initiated activity and adult-led activities.

Figure 3. Total ECERS scores by pre-school type



The trends seen in the ECERS total scores are fairly consistent throughout the sub-scale scores (see Figures 4-10).

Figure 4. Space and furnishings by pre-school type

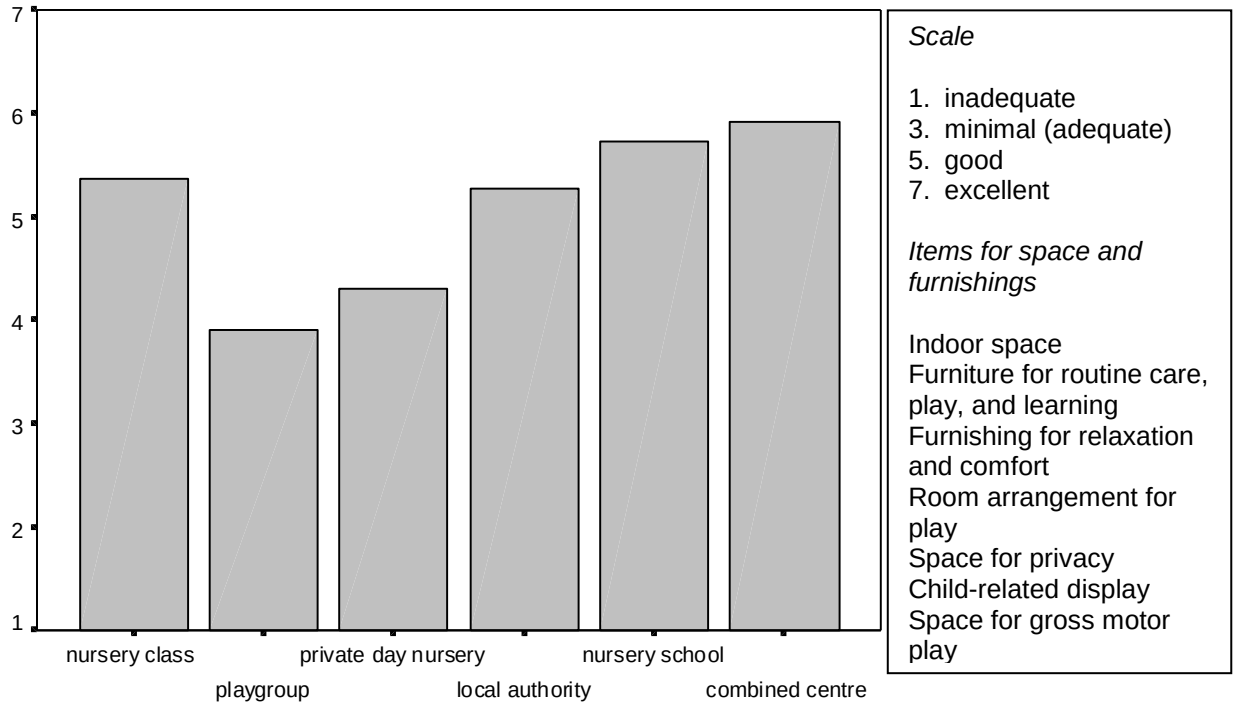


Figure 5. Personal care practices by pre-school type

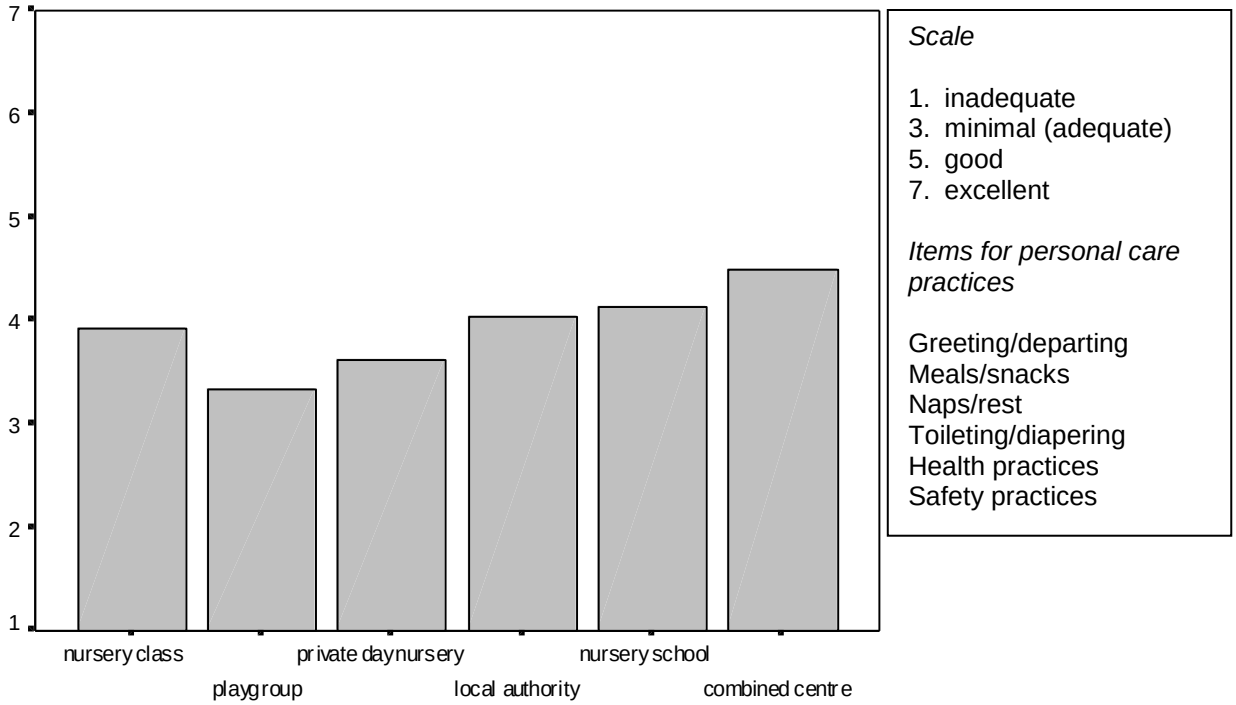


Figure 6. Language and reasoning by pre-school type

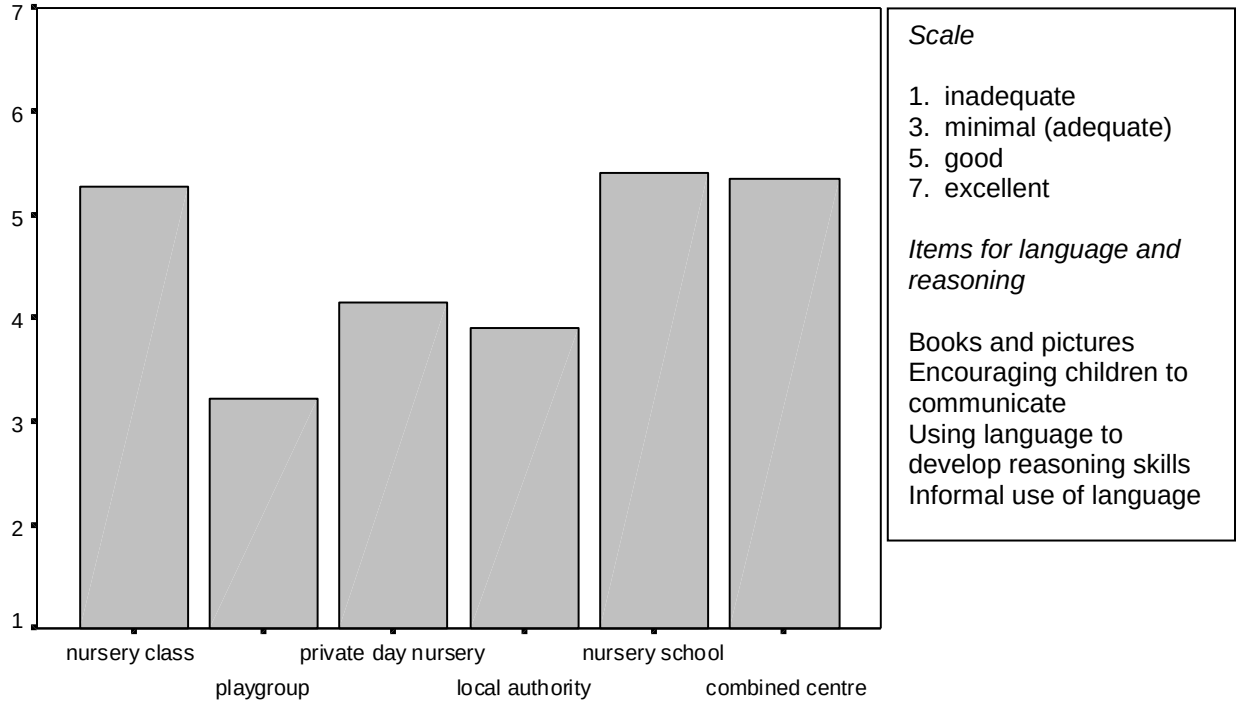


Figure 7. Pre-school activities by pre-school type

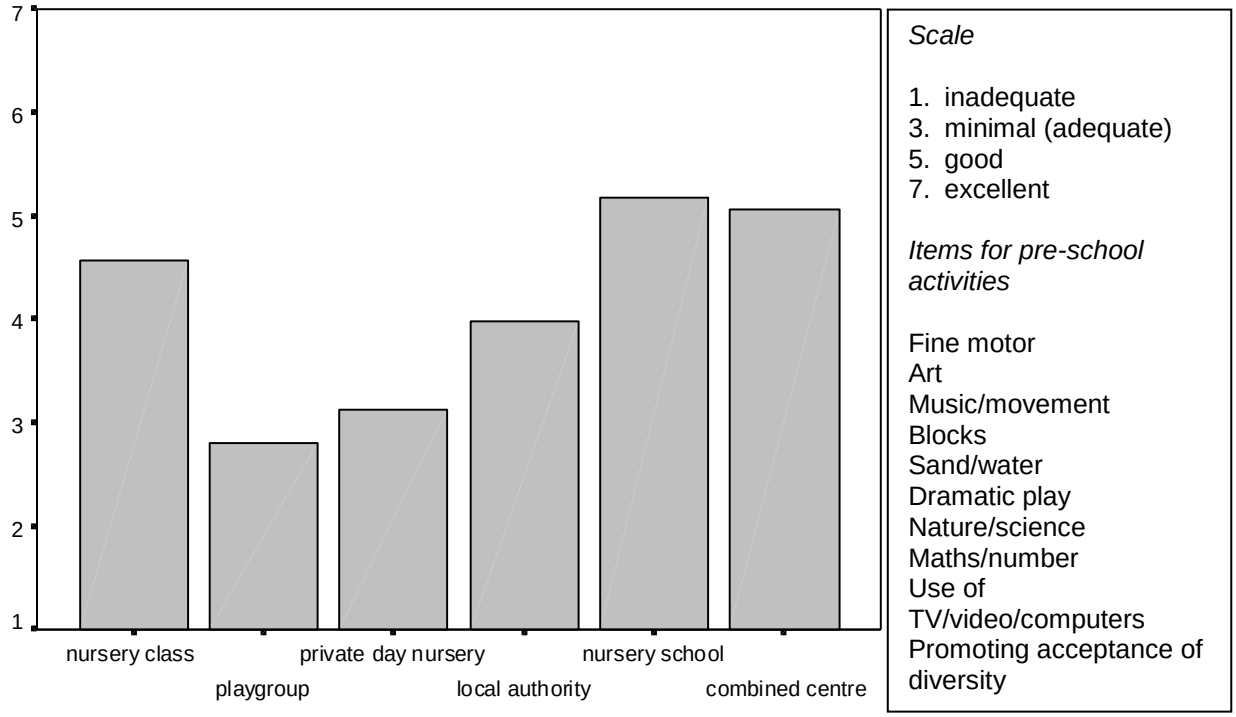


Figure 8. Social interaction by pre-school type

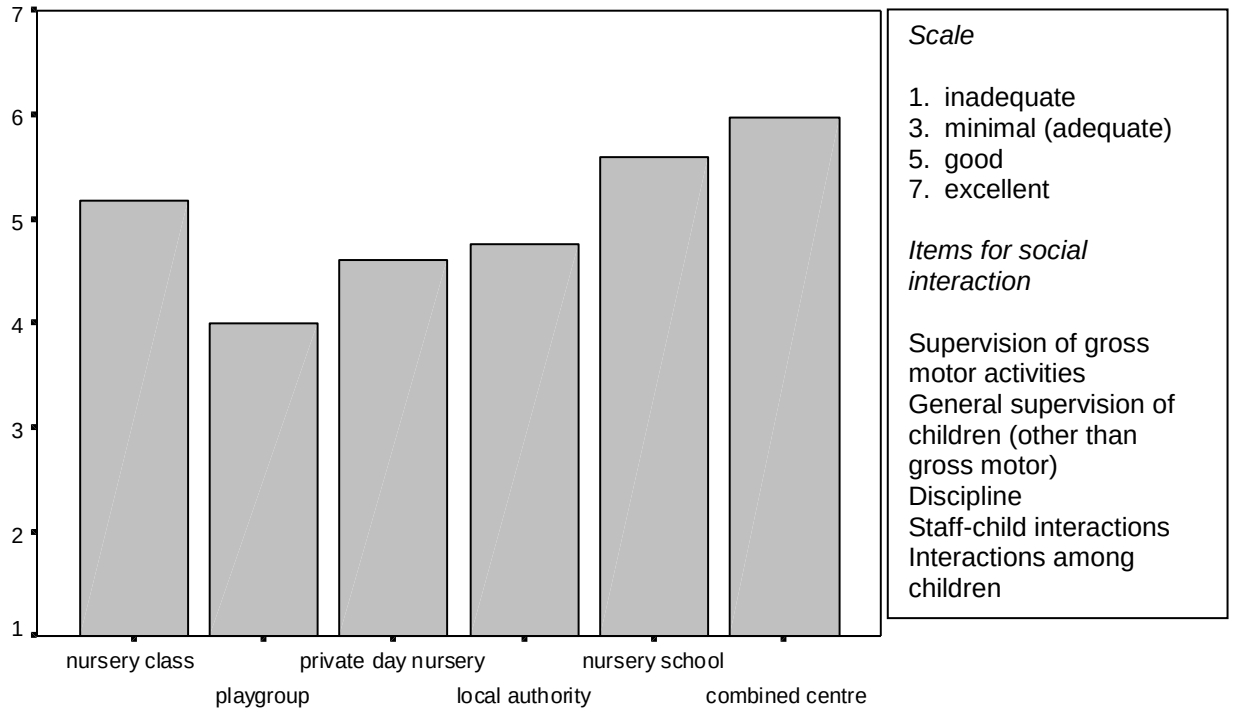


Figure 9. Organisation and routines by pre-school type

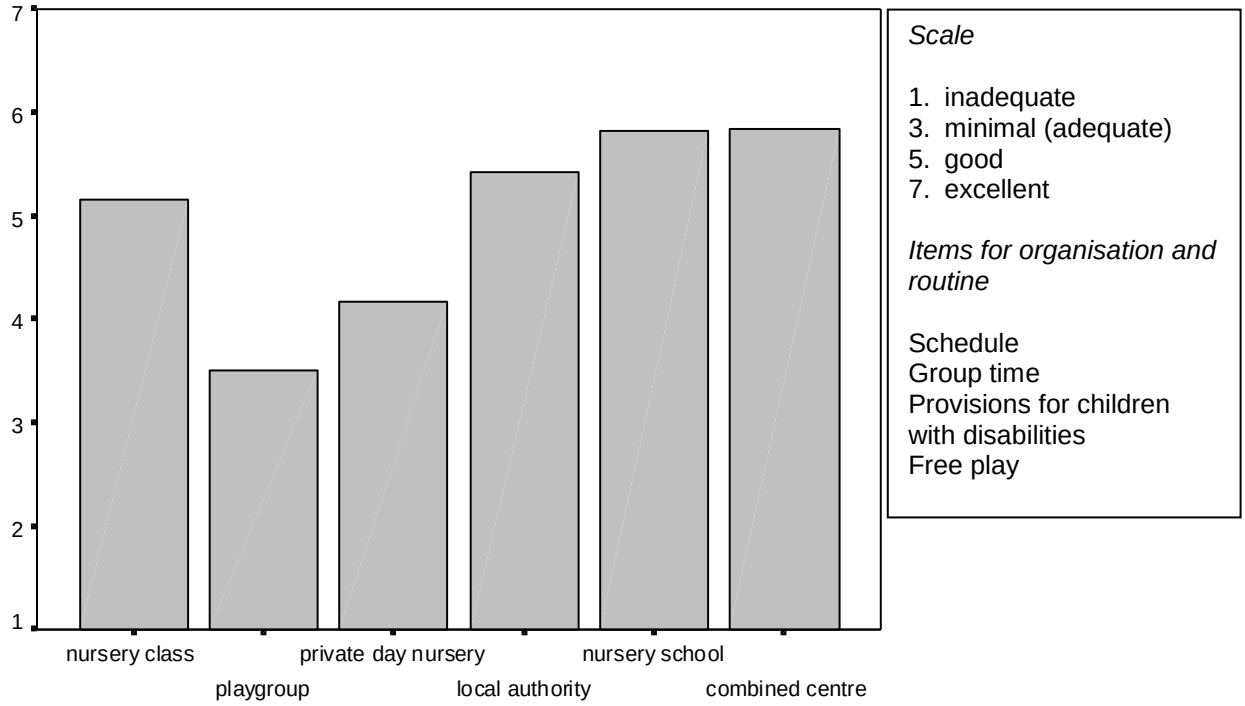
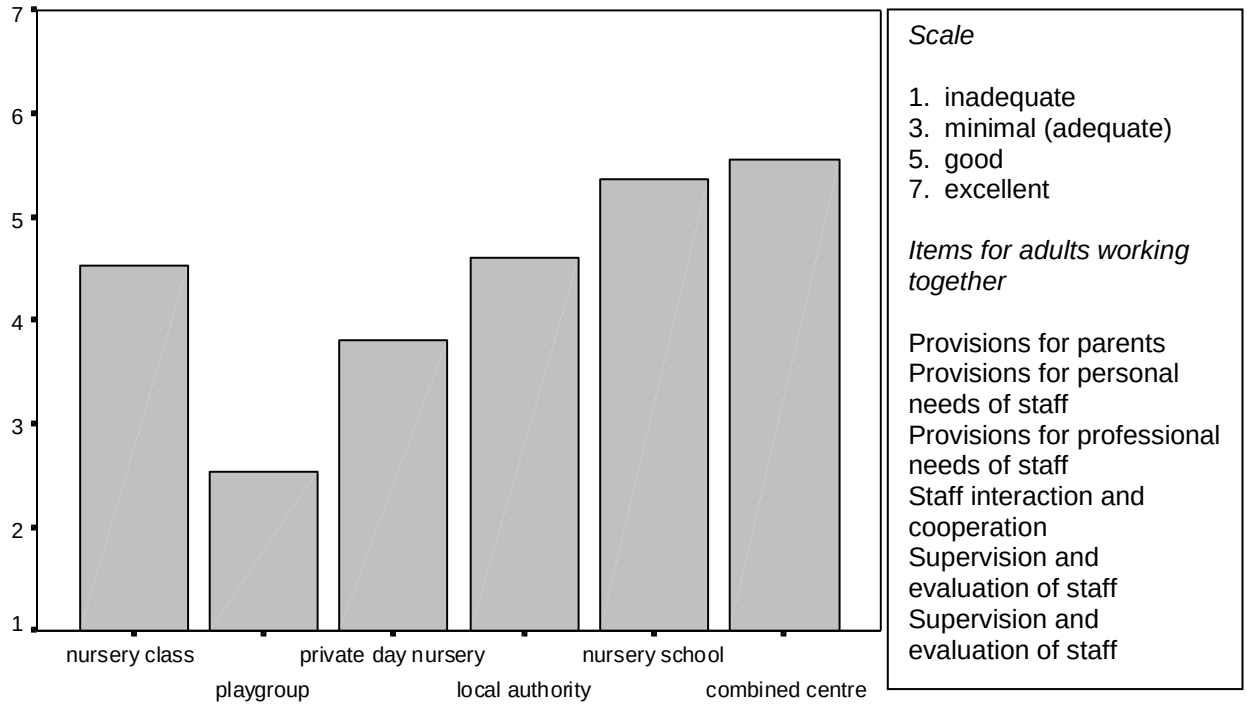


Figure 10. Adults working together by pre-school type

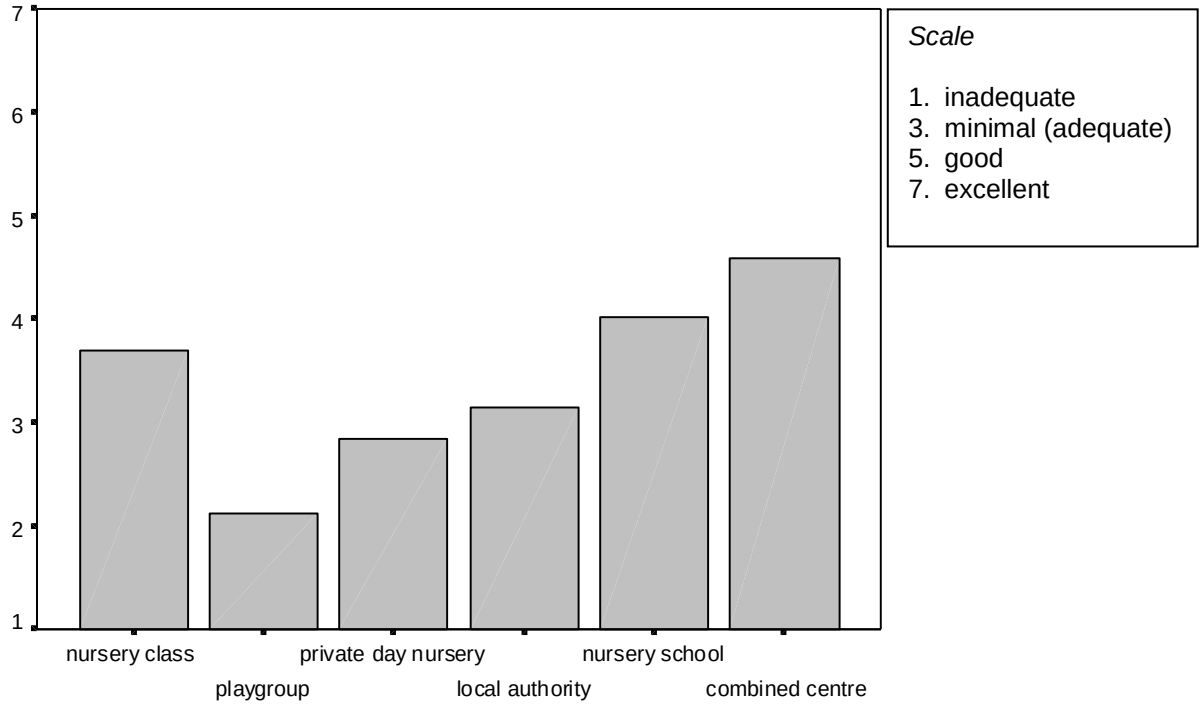


Of the six pre-school types, nursery classes, nursery schools and combined centres were rated consistently higher on all the sub-scales compared to other forms of provision. Playgroups had the lowest mean sub-scale score for all 7 sub-scales; private day nurseries had the second lowest mean sub-scale scores for all sub-scales except language and reasoning in which they were significantly higher than local authority day nurseries. Statistical tests revealed that there were significant differences for 6 out of the 7 sub-scales according to type of provision. (No significant pre-school differences were found in personal care routines.) The fine-grained statistical testing shows that there are broad bands in terms of quality measured on ECERS with the LEA provision always scoring highest followed by Local Authority day care, then private day nurseries, and finally playgroups.

Curricular dimensions in ECERS-E

The total ECERS-E scores for the 6 types of provision show an almost identical trend to the ECERS scores (see Figure 11).

Figure 11. Total ECERS-E scores by pre-school type



LEA nursery classes, nursery schools and nursery schools combining care and education score most highly, significantly higher than playgroups and private day nurseries. Local authority (day care) centres score significantly higher than playgroups, *but not* private day nurseries; local authority (day care) centres also score significantly lower than *both* nursery schools and nursery schools combining care and education. Additionally, private day nurseries score significantly higher than playgroups, and centres combining care score significantly higher than nursery classes.

Moving away from total scores to sub-scale scores, on all four ECERS-E curricular dimensions the nursery schools and nursery schools combining care and education are rated more highly than playgroups and private day nurseries (see Figures 12-15).

Figure 12. Literacy by pre-school type

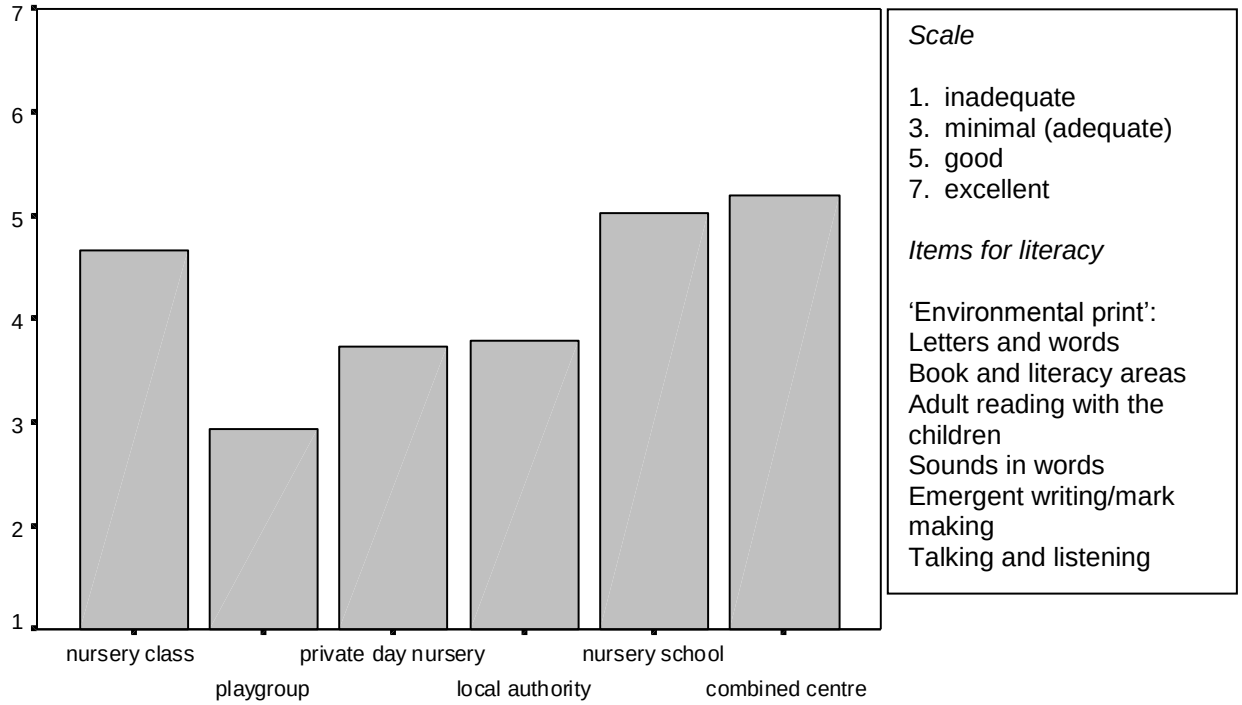


Figure 13. Mathematics by pre-school type

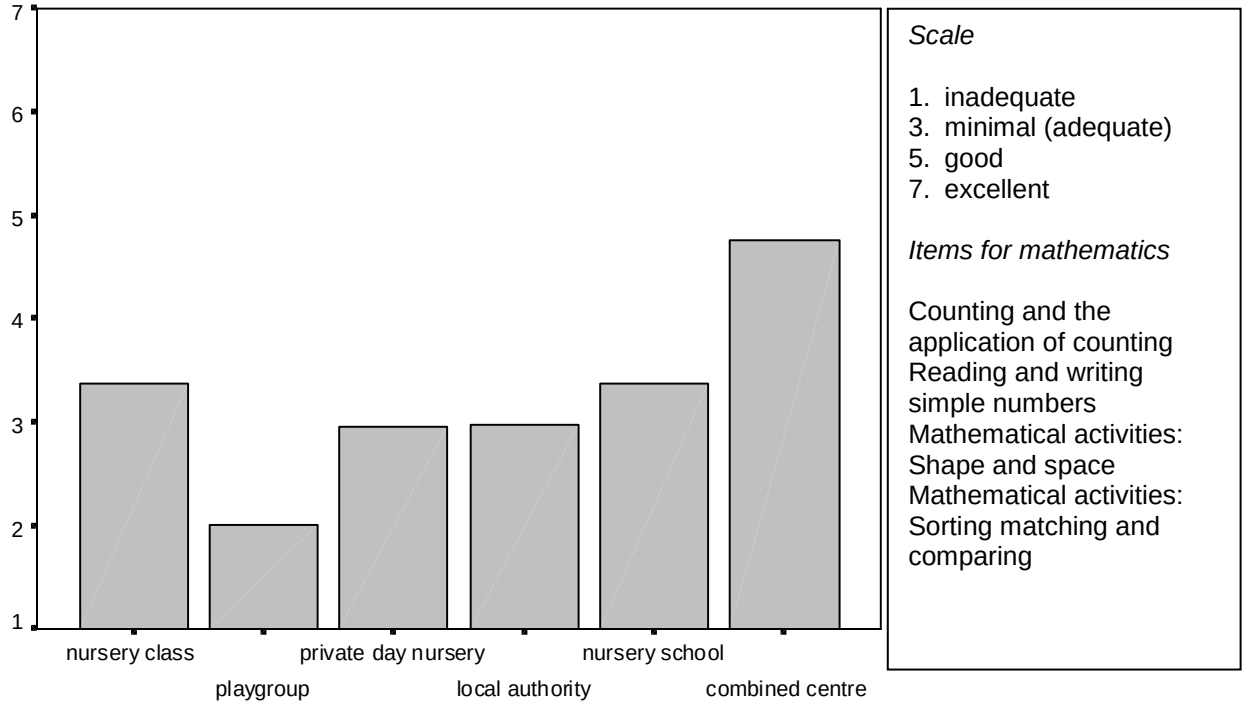


Figure 14. Science and Environment by pre-school type

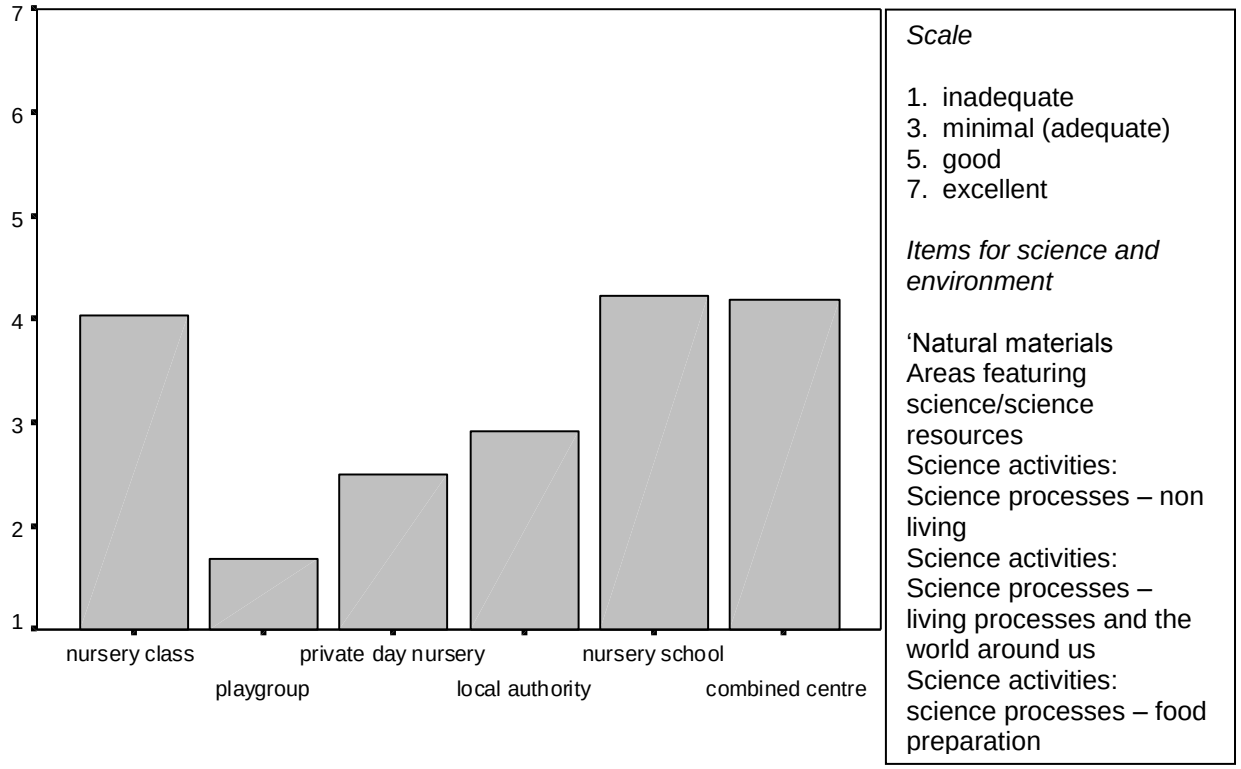
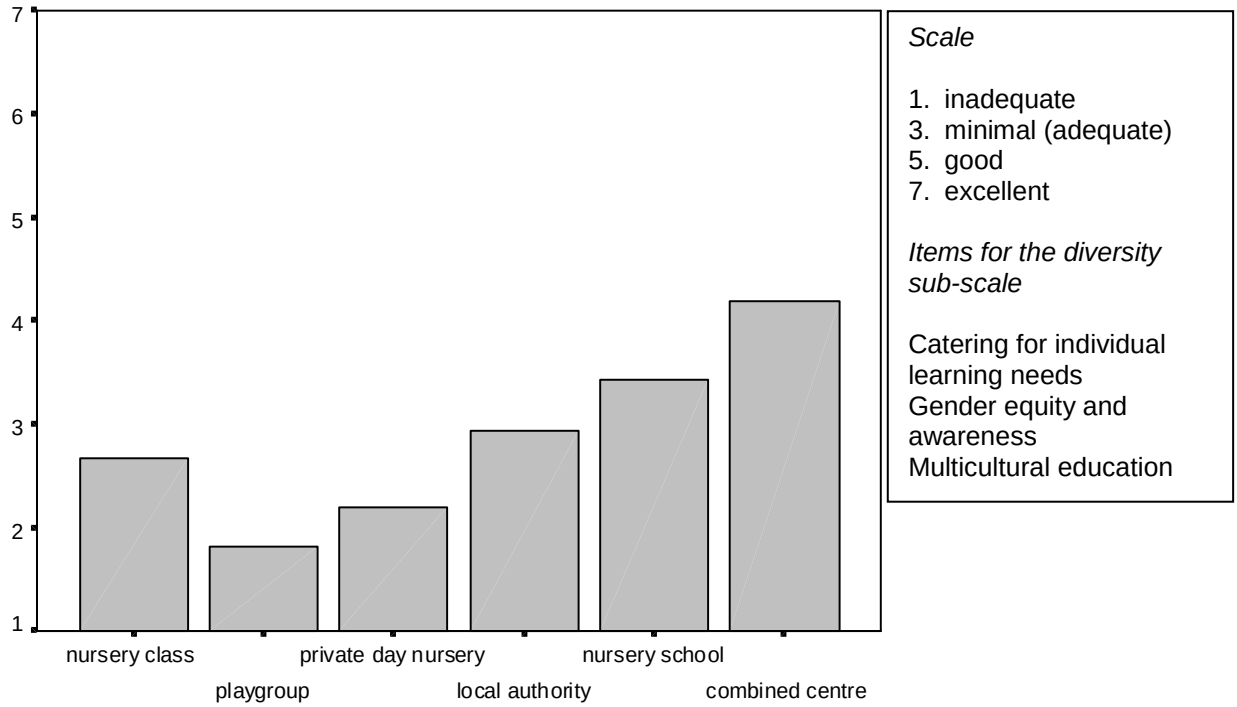


Figure 15. Diversity by pre-school type



To summarise, the findings on both rating scales showed that nursery schools, nursery schools combining care and education, and to a slightly lesser degree nursery classes, are rated in the 'good' range on both observations. Playgroups and private day nurseries are rated with lower 'quality' (minimal/adequate) provision while local authority day care (social service) centres are identified as medium provision. Social service centres combining care and education had significantly lower quality of provision than nursery schools which combine education and care.

Focus on Combined Centres

The results were re-analysed using an alternative method of grouping the pre-school types to explore the effects of joining together the social services combined centres (which have added a small amount of 'education') with the nursery schools combined centres which came from a strong tradition of education. Thus all maintained centres combining education and care were merged together in one group such that the 13 local authority day centres which combined care and education were combined with the 7 nursery schools which also combined education and care. (Note that all other pre-school groupings remained the same.) This new grouping of provision was analysed statistically because it will show how the scores of the group of former nursery schools now combining care are affected by adding combined centres which come from a social services tradition.

Nursery schools (n=25)
Playgroups (n=34)
Private day nurseries (n=31)
Local authority centres (n=11); (these have not added 'education' through the appointment of teachers)
Nursery schools (n=20)
Combined centres (n=20)

The results for the total scores and sub-scale scores all show a fairly consistent pattern when the social services centres are added: the ratings of the combined centres group falls whereas ratings of the local authority centres often increase with the removal of the combined centres. With the original grouping the total ECERS scores for combined centres is the highest. When the scores for social services combined centres are added to this group their rating drops considerably and falls below that of the nursery schools and nursery classes. This indicates that the social services combined centres (which combine a small amount of education with care) diluted the quality of the nursery schools which have added care to education.

Re-grouping the combined centres leads to similar changes in the sub-scales. For example, the score for the personal care dimension shows this pattern again. The low score of the social services centres combining care and education dramatically brings down the group score of the nursery schools combining care and education.

Was there variation within type of provision?

Although there was some variation in ECERS and ECERS-E scores within each type of provision, the amount of variation within type of provision did not differ between the different types of provision. The means, standard deviation and range on ECERS and ECERS-E totals and subscores appear in Appendix D. A more graphic summary of the variation found within each type of provision will be seen in the box-plots in Figures 16 and 17. In them the horizontal line inside the box represents the median score on each sub-scale and the length of the box shows the range in which 75% of the centres fall. The lines reaching up and down (called 'whiskers') show the location of higher and lower scores in that particular distribution.

Although playgroups generally had fewer resources and lower environmental ratings, there were exceptions to this. Coldspring Playgroup (not the real name) had a very strong ECERS profile, usually scoring above the combined average for all centres (see Playgroup 54 in the box plots in Appendix C). Coldspring is an 'Outlier' because it scored substantially higher than other centres in the same group. It has good to excellent provision for furnishings, language and reasoning, science and the environment. These last two scales are closely related to curricular strength and attest to the sophisticated leaning environment achieved in this exceptional playgroup which had no place for staff to store their belongings and no separate room for staff or parents. Despite this the staff met daily for planning and participated regularly in PLA training courses. So, it was

possible for playgroups to achieve high ECERS ratings, especially on items which did not require expensive materials.

Figure 16. Box plot of mean ECERS score by pre-school type

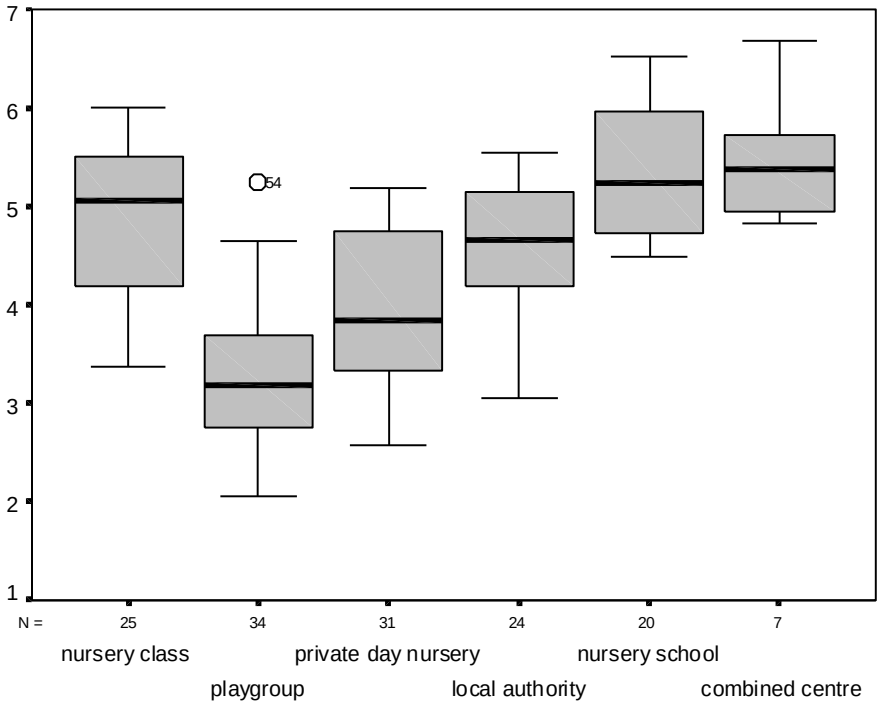
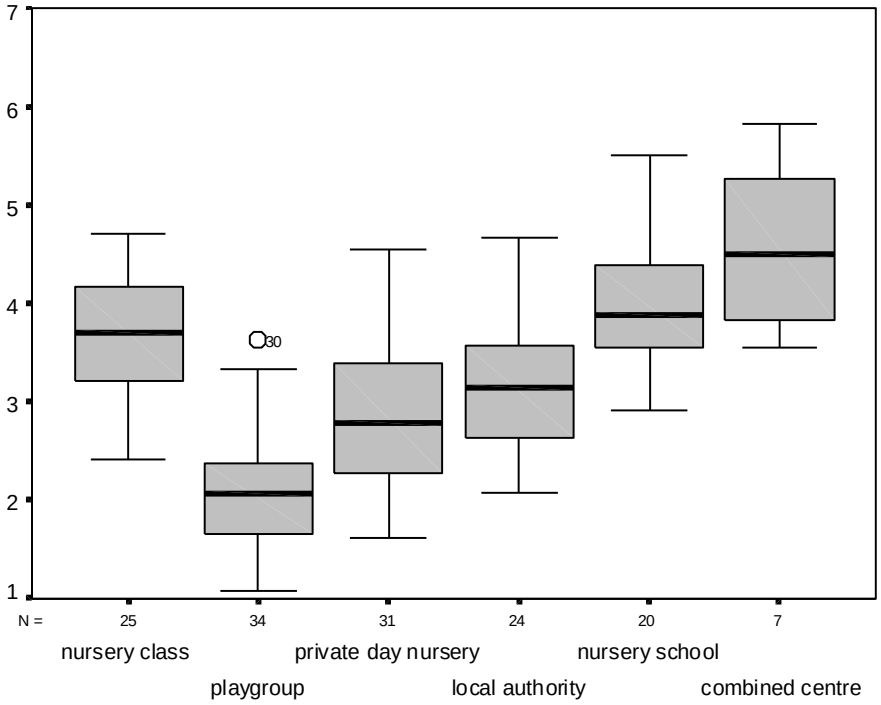


Figure 17. Box plot of mean ECERS-E score by pre-school type



Careful study of the box-plots shows that there was a range of quality within all the types of provision but that no one type of provision had exceptional amounts of 'spread'. This indicates

that the use of means for comparisons earlier in the paper is appropriate and that there were few 'rogue' centres pulling down the means for any provision group (or 'angels' either, pulling them up).

THE RELATIONSHIP BETWEEN ECERS AND ECERS-E

The statistical correlation between scores on the two environmental scales was very high (r = 0.77) which is a clear demonstration that the different rating scales are tapping into overall 'quality' whilst measuring slightly different aspects of it. Most of the sub-scales are moderately correlated with one another. This means that centres high on one sub-scale tend to be high on others.

LOOKING FOR 'THEMES' IN THE RATING SCALES

Global dimensions of quality

Further analysis (principal components analysis) was used to examine the structure of the ECERS and the ECERS-E, and to establish whether any clear 'themes' could be identified in either scale. Analysis of the ECERS indicated the existence of two groups of items, that is, items which tended to cluster together. These were:

Factor 1: Activities and facilities

Sand/water
Opportunities for personal growth
Art
Child related displays
Blocks
Provision for professional needs of staff
Provision for personal needs of staff

Factor 2: Communication and supervision

General supervision of children
Discipline
Staff-child interactions
Informal use of language
Language to develop reasoning skills
Interactions among children

Factor 1 includes items related to 'activities and facilities' (for children, staff and parents); and factor 2 includes items related to 'communication and supervision'. Note that factor 2 does not require material resources.

A similar statistical exercise was carried out on the ECERS-E. This also showed 2 global factors. Again, the most important items to each group are listed below.

Factor 1: Curriculum Areas

'Environmental print' letters and words
Natural materials
Counting
Science resourcing

Talking and listening
Sounds in words

Factor 2: Diversity

Gender equity
Multicultural education
Book and literacy areas (provision for 'inclusive' literacy)

Factor 1 contains items related to the Desirable Learning Outcomes: literacy, numeracy and science. Factor 2 consists of only three items related to diversity and inclusive literacy.

Comparison between types of provision on the two dimensions

The scores of the 6 pre-school types on the 'activities and facilities' and 'communications and supervision' factors were compared. Nursery schools and nursery schools combining care are rated the highest for both factors and playgroups and private day nurseries are rated the lowest (see figures 18 and 19). Significant pre-school differences were found for the 'communication and supervision' factor. This is interesting in that these items do not require well-resouced premises or materials. Further analysis showed that, for the communications and supervision factor, nursery classes, nursery schools and nursery schools combining care had significantly higher ratings than playgroups, and additionally, nursery schools had significantly higher ratings than private day nurseries.

Figure 18. Mean scores for activities and facilities factor by pre-school type

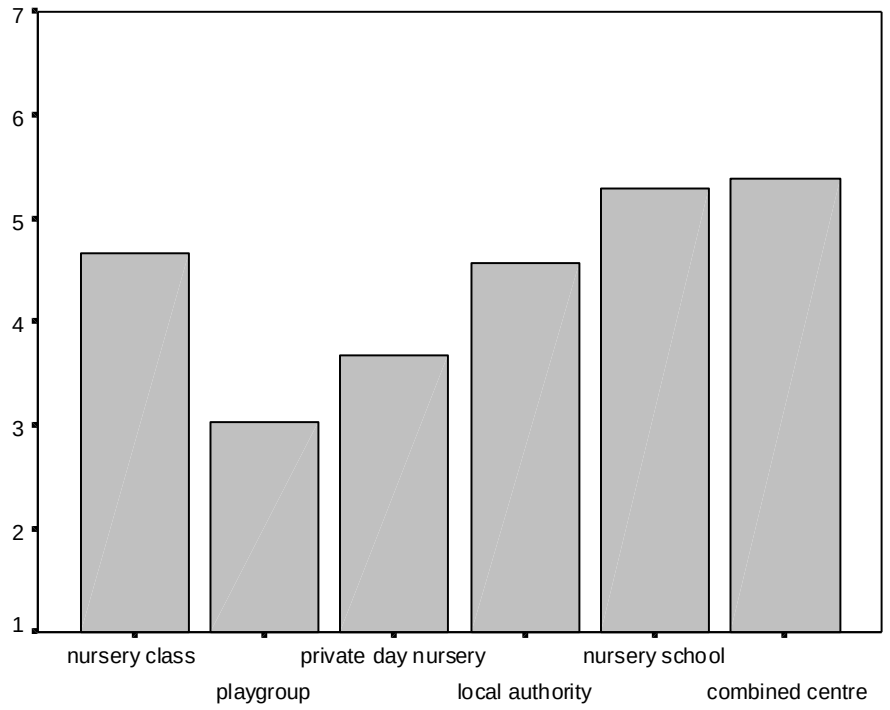
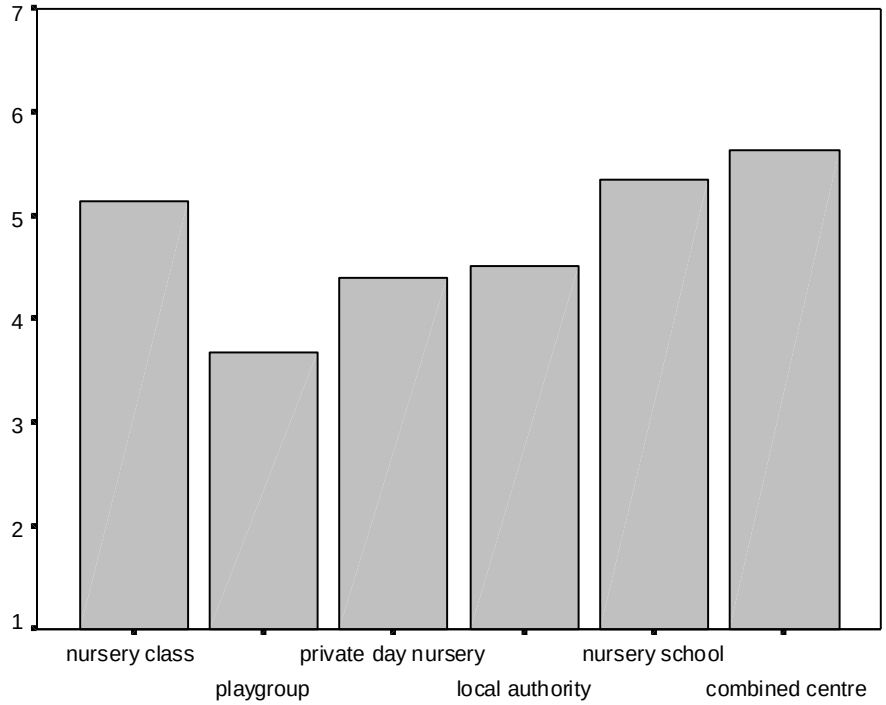


Figure 19. Mean score for communication and supervision factor by pre-school type



DISCUSSION

The main findings from this large study on the characteristics and quality of pre-school provision are supported by other sources. Research in London by Lera et al in 1996 showed higher scores on ECERS for nursery classes, followed by social services day nurseries and then playgroups. The latest OFSTED inspection report (1999) describes more favourably provision in the maintained sector (local authority day nurseries) followed by the private day nurseries, followed by the voluntary playgroups. Further confirmation of the stronger provision in the maintained sector is found in the latest inspection report for Wales (OHMCI, 1999).

Looking back at Figures 1 and 2 reveals the sub-scale scores for the entire sample, undivided as to type of provision. Across the sample, the totals and sub-scale scores on ECERS range from 4 to 5, just short of 'good' provision. Kwan (1997) summarised comparative data from studies using ECERS in other countries. How does the U.K. compare? The other countries with sub-scale means similar to the U.K. include Canada (a small group of 'superior' centres studied in Montreal) and Sweden along with one study from the U.S.A. (Head Start). Studies in Germany and New Zealand report sub-scale means just under 4 with studies in Bermuda reporting means closer to 3. Hence findings from other 'western' countries indicate that the U.K. is not too different from Sweden and parts of North America; it is marginally better than Germany and New Zealand. All these comparisons must be taken with some caution as they may not be fully representative of the country and only one of the studies reported here had a sample as large as that in the EPPE study.

Although the EPPE results present a picture of satisfactory pre-school environments, centres varied considerably in their ECERS profiles according to type of provision. The traditional nursery schools and LEA nursery-combined-with-care usually had the highest scores, often close to 'excellent', followed by nursery classes. Unfortunately many young children are attending centres where the provision is 'minimal' rather than 'good'. The playgroups and private day care

nurseries typically had the lowest scores, with social services day care nurseries somewhere in between. This study shows clearly that well-resourced pre-school centres which had a history of 'education' (including a more substantial number of trained teachers, LEA in-service training, Ofsted 'Section 10' rather than 'pre-school Section 5' inspection) were providing the highest quality of care and education. The centres from the 'care' tradition, despite their more favourable ratios, were offering a different level of care and education. It is relevant here to mention that care-oriented provision usually offers the lowest salaries to staff, employs workers with the lowest level of qualifications, and has limited access to training and higher staff turnover. We found that provision above the 'minimal' level was concentrated in well-resourced centres.

The group of seven LEA nursery schools with a long history of combined education and care had very high ratings when they were a stand-alone group. When the 13 social service combined centres were grouped with them, the average score of the new grouping was depressed (or the 'quality became diluted'). This indicates that the newer emphasis on 'education' in social service nurseries, established by introducing one (often part-time) teacher, is slow to filter through the system and that the more traditional social services day care nurseries (when grouped on their own) had adequate to good scores.

This preliminary report on the EPPE centres has concluded that they vary in 'quality' as measured on an international instrument (devised initially in North America) and one devised in the UK based on the Desirable Learning Outcomes. It is necessary to ask whether some types of provision have been 'disadvantaged' by the structure and the content of ECERS. For example, it is not easy for a playgroup to provide special facilities for parents or for staff, both of which are required for high ECERS ratings on certain items. Although it remains a possibility that ECERS disadvantaged some sectors of provision, the pattern of results seen in the ECERS-E analyses was so similar to the ECERS findings that we cannot conclude that ECERS is inappropriate to the UK. Because the curriculum sub-scales in ECERS-E were devised to tap educational and care provision based on the UK Desirable Learning Outcomes, they are well tuned to assess English provision and their agreement with the original ECERS validates its use here in England. Moreover the playgroups were rated rather low on the 'communication and supervision' factor which requires no material resources.

To conclude, this study found that the standard of education and care in pre-school provision was of adequate standard in the vast majority of settings. In the 'educational' settings, it was particularly good. Future papers in this series will describe the outcomes of such provision in terms of children's cognitive, social and behavioural development. When the 'value added' analyses of children's outcomes are available, we will know better whether these observational profiles predict children's longer-term intellectual, social and behavioural progress. If they do, we will have established a firm link between educational and care processes and children's developmental outcomes. Although studies using the ECERS in other countries have sometimes shown such links, their applicability to the UK needs to be confirmed. The identification of 'quality characteristics' in pre-schools awaits confirmation from analyses of children's progress when entering school and at Key Stage 1.

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Appendix A.

Following are four sample items from the ECERS-Revised

Item	Inadequate 1	2	Minimal 3	4	Good 5	6	Excellent 7
34. **Schedule**							
Y N	1.1 Schedule is *either* too rigid, leaving no time for individual interests, OR too flexible (chaotic), lacking a dependable sequence of daily events.*	Y N	3.1 Basic daily schedule exists that is familiar to children (Ex. routines and activities occur in relatively the same sequence most days).	Y N	5.1 Schedule provides balance of structure and flexibility (Ex. regularly scheduled outdoor play period may be lengthened in good weather).	Y N	7.1 Smooth transitions between daily events (Ex. materials ready for next activity before current activity ends; most transitions handled a few children at a time rather than whole group).
		Y N	3.2 Written schedule is posted in room and relates generally to what occurs.**	Y N	5.2 A variety of play activities occur each day, some teacher directed and some child initiated.	Y N	7.2 Variations made in schedule to meet individual needs (Ex. shorter story time for child with short attention span; child working on project allowed to continue past scheduled time; slow eater may finish at own pace).
		Y N	3.3 At least one indoor and one outdoor play period (weather permitting) occurs daily.	Y N	5.3 A substantial portion of the day is used for play activities.		
		Y N	3.4 Both gross motor and less active play occur daily.	Y N	5.4 No long period of waiting during transitions between daily events.		

34. ***Notes for Clarification***

* Daily events refers to time for indoor and outdoor play activities as well as routines such as meals/snacks, nap/rest, and greeting/departing.

** The written schedule need not be followed to the minute. The intent of this indicator is that the general sequence of events is being followed.

Ratings are to be assigned in the following way, taking into account exact indicators for each item (see Appendix X):

- A score of 1 must be given if any indicator under 1 is scored “Yes”.
- A rating of 2 is given when all indicators under 1 are scored “No” and at least half of the indicators under 3 are scored “Yes”.
- A rating of 3 is given when all indicators under 1 are scored “No” and all indicators under 3 are scored “Yes”.
- A rating of 4 is given when all requirements for 3 are met and at least half of the indicators under 5 are scored “Yes”.
- A rating of 5 is given when all requirements for a 3 are met and all indicators under 5 are scored “Yes”.
- A rating of 6 is given when all requirements for 5 are met and at least half of the indicators under 7 are scored “Yes”.
- A rating of 7 is given when all requirements for a 5 are met and all indicators under 7 are scored “Yes”.
- A score of NA (Not Applicable) may only be given for indicators or for entire items when permitted as shown on the scoresheet. Indicators which are scored NA are not counted when determining the rating for an item. Items scored NA are not counted when calculating subscale and total scale scores.

Item	Inadequate		Minimal		Good		Excellent
	1	2	3	4	5	6	7

17. **Using language to develop reasoning skills**

Y N	1.1	Staff do not talk with children about logical relationships (Ex. ignore children's questions and curiosity about why things happen, do not call attention to sequence of daily events, differences and similarity in number, size, shape; cause and effect).	Y N	3.1	Staff sometimes talk about logical relationships or concepts (Ex. explain that outside time comes after snacks, point out differences in sizes of blocks child used).	Y N	5.1	Staff talk about logical relationships while children play with materials that stimulate reasoning (Ex. sequence cards, same-different games, size and shape toys, sorting games, number and math games).	Y N	7.1	Staff encourage children to reason throughout the day, using actual events and experiences as a basis for concept development (Ex. children learn sequence by talking about their experiences in the daily routine or recalling the sequence of a cooking project).
Y N	1.2	Concepts* are introduced inappropriately (Ex. concepts too difficult for age and abilities of children; inappropriate teaching methods used such as worksheets without any concrete experiences; teacher gives answers without helping children to figure things out).	Y N	3.2	Some concepts are introduced appropriately for ages and abilities of children in group, using words and concrete experiences (Ex. guide children with questions and words to sort big and little blocks or to figure out the cause for ice melting).	Y N	5.2	Children encouraged to talk through or explain their reasoning when solving problems (Ex. why they sorted objects into different groups; in what way are two pictures the same of different).	Y N	7.2	Concepts are introduced in response to children's interests or needs to solve problems (Ex. talk children through balancing a tall block building; help children figure out how many spoons are needed to set table).

17. ***Note for Clarification***

* Concepts, include same/different, matching, classifying, sequencing, one-to-one correspondence, spatial relationships, cause and effect.

Item	Inadequate		Minimal		Good		Excellent
	1	2	3	4	5	6	7

32. **Staff-child interactions***

Y N	1.1	Staff members are not responsive to or not involved with children (Ex. ignore children, staff seem distant or cold).	Y N	3.2	Staff usually respond to children in a warm, supportive manner (Ex. staff and children seem relaxed, voices cheerful, frequent smiling).	Y N	5.1	Staff show warmth through appropriate physical contact (Ex. pat child on the back, return child's hug).	Y N	7.1	staff seem to enjoy being with the children.
Y N	1.2	Interactions are unpleasant (Ex. voices sound strained and irritable).	Y N	3.2	Few, if any, unpleasant interactions.	Y N	5.2	Staff show respect for children (Ex. listen attentively, make eye contact, treat children fairly, do not discriminate).	Y N	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).
Y N	1.3	Physical contact used principally for control (Ex. hurrying children along) or inappropriately (Ex. unwanted hugs or tickling).				Y N	5.3	Staff respond sympathetically to help children who are upset, hurt, or angry.			

32. **Note for Clarification**

* While the indicators in this item generally hold true across a diversity of cultures and individuals, the ways in which they are expressed may differ. For example, direct eye contact in some cultures is a sign of respect; in others, a sign of disrespect. Similarly some individuals are more likely to smile and be demonstrative than others. However, the requirements of the indicators must be met, although there can be some variation in the way this is done.

Inadequate 1			2	Minimal 3		4	Good 5		6	Excellent 7	
4. **Room arrangement for play**											
Y N	1.1	No interest centers* defined.	Y N	3.1	At least two interest centers defined.	Y N	5.1	At least three interest centers defined and conveniently equipped (Ex. water provided near art area; shelving adequate for blocks and manipulatives).	Y N	7.1	At least five different interest centers provide a variety of learning experiences.
Y N	1.2	Visual supervision of play area is difficult.	Y N	3.2	Visual supervision of play area is not difficult.				Y N	7.2	Centers are organized for independent use by children (Ex. labeled open shelves; labeled containers for toys; open shelves are not over-crowded; play space near toy storage).
			Y N	3.3	Sufficient space for several activities to go on at once (Ex. floor space for blocks, table space for manipulatives, easel for art).	Y N	5.2	Quiet and active centers placed to not interfere with one another (Ex. reading or listening area separated from blocks or housekeeping).			
			Y N NA	3.4	Most spaces for play are accessible to children with disabilities enrolled in the group. *NA permitted.*	Y N	5.3	Space is arranged so most activities are not interrupted (Ex. shelves placed so children walk around, not through, activities; placement of furniture discourages rough play or running).	Y N	7.3	Additional materials available to add to or change centers.

4. **Note for Clarification**

* An interest center is an area where materials, organized by type, are stored so that they are accessible to children, and appropriately furnished play space is provided for children to participate in a particular kind of play. Examples of interest centers are art activities, blocks, dramatic play, reading, nature/science, and manipulatives/fine motor.

Question

(7.3) Are there any additional materials available that you add to the interest centers?

Following are three sample items from the ECERS-Extension

Inadequate		Minimal		Good		Excellent
1	2	3	4	5	6	7

3. Adult reading with the children

Y N	1.1	Adults rarely read to the children.	Y N	3.1	An adult reads with the children most days.	Y N	5.1	Children take an active role in group reading during which discussion of the words and / or story usually takes place.	Y N	7.1	There is discussion about print and letters as well as content.
			Y N	3.2	Children are encouraged to join in with repetitious elements of the text.	Y N	5.2	Children are encouraged to conjecture about and comment on the text.	Y N	7.2	There is support material for the children to engage with the story by themselves e.g. tapes, flannel board, displays etc.
									Y N	7.3	There is evidence of one to one reading with some children.

Inadequate		Minimal		Good		Excellent
1	2	3	4	5	6	7

1. Natural materials

Y N	1.1	There is little access inside the centre to natural materials (Ex. plants, rocks, pebbles, fir cones).	Y N	3.1	Some natural materials are available and are accessible to the children indoors.	Y N	5.1	Natural materials are used beyond decoration to illustrate specific concepts (Ex. growth - planting seeds or bulbs).	Y N	7.1 Children are encouraged to identify and explore a wide range of natural phenomena in their environment outside the centre and talk about/describe them.
			Y N	3.2	Natural materials are accessible outdoors, e.g. plants.	Y N	5.2	Through regular activities children are encouraged to explore the characteristics of natural materials (Ex. things that are smooth or rough).	Y N	7.2 Children are encouraged to bring natural objects into the centre.
						Y N	5.3	Adults show appreciation, curiosity and respect for nature when with children (Ex. curiosity and interest rather than fear or disgust about fungi, insects, worms, etc.).	Y N	7.3 Children are encouraged to make close observations of natural objects and/or draw them.

Inadequate		Minimal		Good		Excellent
1	2	3	4	5	6	7

Diversity : Planning for individual learning needs. Ask to see the records kept on individual children.

Y N	1.1	All children in the setting are offered the same range of materials and activities, rather than having activities matched to their age or aptitude.	Y N	3.1	Some additional provision is made for individuals or groups with specific needs.*	Y N	5.1	The range of activities provided enables children of all abilities and from all backgrounds to participate in a satisfying + cognitively demanding way.***	Y N	7.1	The range of activities provided, together with the organisation of social interaction, enables children of all abilities and backgrounds ot participate at an appropriate level in both individual and common tasks.***
Y N	1.2	If planning occurs there is no mention of specific groups or individuals.	Y N	3.2	Some of the planning shows differentiation for particular individuals or groups Ex. simple peg puzzles to complex jigsaws, fat paint brushes to watercolour brushes.	Y N	5.2	Day to day plans are drawn up with the specific aim of developing activities that will satisfy the needs of each of the children either individually or as groups.	Y N	7.2	Planning shows attention to adult participation to individual/paired/group tasks and to the range of levels at which a task or activity may be experienced.
Y N	1.3	If records are kept, they describe activities rather than the childs response or success in that activity.+ Ex. Ticked checklists or sampling of childrens work.	Y N	3.3	Childrens records indicate some awareness of how individuals have coped with activities, or of the appropriateness of activities +Ex. 'need biligual support' 'could only manage to count to 3'.	Y N	5.3	Children are observed regularly , and individual records are kept on their progress indifferent aspects of their development+.	Y N	7.3	Children are observed regularly, and their progress is recorded and used to inform planning.
			Y N	3.4	Staff show some awareness of the need to support and recognise childrens' diferences, by giving praise and public approval to children of all abilities	Y N	5.4	Staff regularly draw attention of individuals to differences in a positive and sensitive manner.	Y N	7.4	Staff regularly draw the attention of the whole group to difference and ability in a positive way.****

Note*= Ex. children of different ages or developmental stage, bilingual support for bilingual children, specific support for children with learning difficulties or a disability.
Note**= Ex. staff demonstrate in playing with children the different tasks which can be attempted with a construction toy, computer game.
Note***= Ex. children of different ages or aptitudes may be paired for a particular task, such as reporting on the weather, selecting stories for a group, exploring a new computer programme, or an adult may focus on working with one group or activity on a particular occasion.
Note****= Ex. show disabled individuals or those with learning difficulties in a positive light or individual capability is celebrated e.g. bilingualism is seen as an asset.

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