

# Play, language and social skills of children attending a play-based curriculum school and a traditionally structured classroom curriculum school in low socioeconomic areas

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**AIM AND METHOD:** A comparison study of four six-year-old children attending a school with a play-based curriculum and a school with a traditionally structured classroom from low socioeconomic areas was conducted in Victoria, Australia. Children's play, language and social skills were measured in February and again in August. At baseline assessment there was a combined sample of 31 children (mean age 5.5 years, SD 0.35 years; 13 females and 18 males). At follow-up there was a combined sample of 26 children (mean age 5.9 years, SD 0.35 years; 10 females, 16 males).

**RESULTS:** There was no significant difference between the school groups in play, language, social skills, age and sex at baseline assessment. Compared to norms on a standardised assessment, all the children were beginning school with delayed play ability. At follow-up assessment, children at the play-based curriculum school had made significant gains in all areas assessed ( $p$  values ranged from 0.000 to 0.05). Children at the school with the traditional structured classroom had made significant positive gains in use of symbols in play ( $p < 0.05$ ) and semantic language ( $p < 0.05$ ). At follow-up, there were significant differences between schools in elaborate play ( $p < 0.000$ ), semantic language ( $p < 0.000$ ), narrative language ( $p < 0.01$ ) and social connection ( $p < 0.01$ ), with children in the play-based curriculum school having significantly higher scores in play, narrative language and language and lower scores in social disconnection.

**IMPLICATIONS:** Children from low SES areas begin school at risk of failure as skills in play, language and social skills are delayed. The school experience increases children's skills, with children in the play-based curriculum showing significant improvements in all areas assessed. It is argued that a play-based curriculum meets children's developmental and learning needs more effectively. More research is needed to replicate these results.

## Introduction

Children from low socioeconomic areas are more likely to begin their schooling with limited literacy, language, narrative and social abilities (Dickinson & Tabors, 2001; Paul, Hernandez, Taylor & Johnson, 1996). Children's development can be facilitated by play, including their cognitive, language, literacy and social skills (Baumer, Ferholt, & Lecusay, 2005; Christie & Roskos, 2006; Uren & Stagnitti, 2009). Based on the benefits offered through play, several primary schools in lower socioeconomic status (SES) regions throughout Victoria Australia are currently implementing or considering introducing a play-based curriculum into their early

education programs (Wilson, 2008). The aim of this paper is to present the findings of a pilot study that compared children's development in play, language and social skills within a play-based curriculum to that within a traditionally structured classroom curriculum.

Pretend (or symbolic) play is a cognitive ability that marks the child's ability to represent the world as symbolic. Examples of pretend play include object substitution, attribution of imagined properties to objects, reference to absent objects, and logical sequential play actions (Lewis, Boucher & Astell, 1992; Stagnitti, 2010). Pretend play has been associated with a number of developmental milestones critical

for academic success, such as language and social skills. We discuss some of these effects and make connections to the role of SES in development.

### **Pretend play, narrative language, and language**

The links between pretend play and language have been well-established, with pretend play occurring before expressive language begins (McCune, 1995). Pretend play is associated with enhancement in narrative such as story comprehension and story production (Pellegrini & Galda, 1993; Sook-Yi, 1999). Language skills of primary school children with a low SES differ from those of their higher socioeconomic peers (Paul et al., 1996). Dickinson and Tabors (2001) reported that children living in a low SES area, aged three years through to primary school age, increased their likelihood to perform well on assessments of narrative language when they were involved in pretend play.

### **Pretend play and social skills**

For children to achieve social competency with peers they need the ability to initiate play, join peers in progressing play activities, respond to play suggestions, and resolve peer conflict (Howes & Matheson, 1992). However, children from low socioeconomic areas tend to be delayed in these social competencies (Fantuzzo, Weiss, Atkins, Meyers & Noone, 1998). Children from low socioeconomic areas are less interactive with peers when playing and have poor social competency (Fantuzzo et al., 1998). Pretend play assists in building social abilities, as it involves playing roles and acting out social situations (Lantz, Nelson & Loftin, 2004; Moore & Russ, 2006). Children with more complex pretend play are more likely to be more socially competent with peers (Uren & Stagnitti, 2009).

### **Classroom environment**

Wilson (2008) reported major changes within the Australian primary school curriculum in the past five decades. In the 1950s schools had play-based curricula, and in the 1970s teachers had more control over how they ran the classroom curriculum. During these decades teachers focused on children's individual abilities and needs. However, in the 1990s teachers had less control and the focus strongly shifted to structured classroom settings and standardised testing of children. Currently many schools in Australia have a curriculum such as the one implemented in the 1990s.

Wood (1999) suggests that the school curriculum should be child-centred, suitable for children's age and developmental level, and cater for their individual interests. A play-based curriculum meets these requirements (see also Nicolopoulou, McDowell & Brockmeyer, 2006) since it provides a meaningful context for a child's learning (Korat, Bahar & Snapir,

2002/2003; Justice & Pullen, 2003). For example, a pretend kitchen where children write out shopping lists and menus, and read recipe books provides a meaningful context for play-literacy learning. Within a play-based curriculum, the teacher's role includes how and when to provide opportunities for children to extend their abilities or when to leave them to work it out on their own (Saracho, 2002).

### **Study aims**

The study aimed to explore whether a play-based curriculum was an appropriate learning environment for children with a low socioeconomic status, compared to a traditionally structured classroom environment. The aims were:

- 1: To investigate if children from low socioeconomic areas begin school with delayed play skills.
- 2: To examine changes in play, language and social skills, over a six-month period, of children aged four–six years, attending a school with a play-based curriculum.
- 3: To examine changes in play, language and social skills, over a six-month period, of children aged four–six years, attending a school with a traditionally structured classroom curriculum.
- 4: To compare whether the classroom environment has a significant effect on play, language and social skills of children aged four–six years who attend primary school in a low socioeconomic area.

### **Method**

#### **Classroom setting**

The school with the play-based curriculum will be referred to as School 1 and the school with the traditionally structured classroom curriculum will be referred to as School 2.

#### **Play-based curriculum setting**

In order to construct a play-based curriculum, School 1 had sought information from experts in the field and incorporated aspects from play-based models such as the Reggio Emilia approach and Kathy Walker's (2007) Australian Developmental Curriculum that were applicable for their students' learning. The Reggio Emilia approach assumes that children are strong, capable and competent beings (Thornton & Brunton, 2005). The teacher's role is to find their students' strengths and assist with improving their abilities. The approach places an emphasis on the importance of the children's environment, including the connection the children and school have with parents and the community. The Australian Developmental Curriculum

also focuses on students' interests, involving the teacher in the student's learning through scaffolding, direction and explicit teaching (Walker, 2007). School 1 developed a curriculum they believed would foster development of children attending their school, taking into account their low socioeconomic status and the lack of skills acquired before they attended primary school. The classroom environment was then changed to include a number of play areas to address different areas of learning—a dramatic play area, writing table, block corner, and a reading tent (see Figure 1).

Within this classroom, the teacher's role is to scaffold children's learning, and choose and direct some activities for the children throughout the day. Each day, each child develops a plan of what they will make or do; their ideas are self-initiated.

Figure 1: Interior play space of the two centres



#### Traditionally structured classroom curriculum setting

School 2 had two main areas set up in the classroom, including tables and chairs for each child and floor space for the children to sit (Figure 2). In this classroom, a certain number of hours a day were set aside for subjects including literacy, science, mathematics, physical education and music.

Figure 2. A view of the traditionally structured classroom



## Participants

### Children

The sample included children aged 4.83 to 6.16 years from two primary schools located in regional, low socioeconomic areas of Victoria, Australia. The Socio-Economic Index for Areas (SEIFA) (Australian Bureau of Statistics, 2001) index of relative socioeconomic disadvantage for location of School 1 was 7 per cent and for School 2, 14 per cent. This indicates that the schools were located in areas with socioeconomic status within the lowest seven and 14 per cent of Victoria.

At baseline the combined sample comprised 31 children, and at the six-month follow-up there were 26 children in the study. The withdrawal of five children across both schools was owing to the families moving. Table 1 presents participant demographics for baseline and follow-up for School 1 and School 2.

### Teachers

Two female teachers participated in the study. The teacher at School 1 had seven years teaching experience. The teacher at School 2 had 29 years teaching experience. Participating teachers had been working with the students in their class since the commencement of the school year.

Table 1. Participant information for baseline ( $n = 31$ ) and follow-up ( $n = 26$ )

Participants	School 1 Baseline	Follow-up	School 2 Baseline	Follow-up
Total number	20	18	11	8
Male (number, %)	11 (55%)	11 (61.1%)	7 (63.6%)	5 (62.5%)
Female (number, %)	9 (45%)	7 (38.9%)	4 (36.4%)	3 (37.5%)
Age (years) minimum	4.83	5.33	4.83	5.33
Age (years) maximum	6.16	6.66	6.08	6.50
Age (mean years)	5.45	5.89	5.51	5.94
Age (standard deviation)	0.34	0.32	0.37	0.38

#### Key:

School 1: School with a play-based curriculum.

School 2: School with a traditionally structured classroom curriculum.

Table 2. The ChIPPA items (abbreviations and descriptions)

Item abbreviation	ChIPPA item description
PEPA Conventional-Imaginative	Elaborateness of pretend play using conventional imaginative play materials.
PEPA Symbolic play	Elaborateness of pretend play using unstructured play materials.
PEPA Combined	Total score of the elaborateness of pretend play using both sets of play materials.
NOS Conventional-Imaginative	Number of object substitutions using conventional-imaginative play materials.
NOS Symbolic	Number of object substitutions using unstructured play materials.
NOS Combined	Total number of object substitutions using both sets of play materials.
NIA Conventional-Imaginative	Number of imitated actions using conventional-imaginative play materials.
NIA Symbolic	Number of imitated actions using unstructured play materials.
NIA Combined	Total number of imitated actions using both sets of play materials

PEPA = Percentage of pretend play actions

NOS = Number of object substitutions

NIA = Number of imitated actions

## Instruments

### Child-Initiated Pretend Play Assessment (ChIPPA)

The ChIPPA (Stagnitti, 2007) is a standardised, norm-referenced assessment of a child's ability to spontaneously initiate and engage in pretend play over a 30-minute period for four–seven-year-olds. The ChIPPA is administered with the child and examiner sitting on the floor in front of a 'cubby house', in a relatively quiet location, free from distractions and other children. The ChIPPA assesses both conventional-imaginative play and symbolic play in the one assessment (Stagnitti, 2007). The play materials used in the ChIPPA are age-appropriate and gender-neutral (Stagnitti, Rodger, & Clarke, 1997). Three aspects of pretend play are measured for each set of play materials. These are: (i) the elaborateness of a child's play, (ii) the child's ability to use symbols in play, and (iii) the child's ability to self-initiate play ideas (Stagnitti, 2007). Table

2 describes the nine ChIPPA items. The raw scores of all elaborate scores (PEPA conventional, PEPA symbolic, PEPA combined) and NOS symbolic and NOS combined can be compared to standardised scores. The NOS conventional, and all imitated actions scores (NIA Conventional, NIA Symbolic, and NIA Combined) of a child are compared to the mode and range of the normative sample for their age bracket (Stagnitti, 2007). The ChIPPA has a clinical observations section to record typical play ability or play deficits, such as ability to play for the 30-minute time period of the ChIPPA, development of a narrative, and use of a character in play (Stagnitti, 2007). There are 10 identified play styles based on the pattern of a child's play scores. Four of these play styles are typically developing styles and six are indicative of play deficits. Research has established the reliability (Stagnitti, Unsworth, & Rodger, 2000; Stagnitti & Unsworth, 2004) and validity of the ChIPPA for social competence (Uren & Stagnitti, 2009) and pre-academic skills (Stagnitti et al., 2000).

### School Age Oral Language Assessment (SAOLA)

The School Age Oral Language Assessment (SAOLA) (Allen, Leitao & Donovan, 1993) is an Australian assessment used to assess children's oral language abilities through language-literacy-related activities. The SAOLA assesses children from pre-primary to grade four at school, and consists of a series of tasks that are criterion-referenced. The SAOLA assesses three areas of children's oral language. The first section evaluates semantic organisation, assessing children's abilities in categorisation, comparison, classification, analogical reasoning and word knowledge. An example of a task is the presentation of two cards with a picture of a girl on one and a hat on the other. It is explained to the child that the two pictures belong together 'because on your head you wear a hat'. The second section assesses narrative re-tell and involves using a textless picture book, *Peter and the cat*. The assessor tells the story and then encourages the child to re-tell the story, referring to the textless picture book. The third section of the SAOLA is the metalinguistics section and was not considered applicable for this study. Each section is scored independently, therefore using only two of the three sections did not invalidate the overall results of the SAOLA.

### The Penn Interactive Peer Play Scale (PIPPS)

The PIPPS (Fantuzzo et al. 1995) is a 32-item scale used to measure a child's social competence. The scale is completed in five to 10 minutes. Fantuzzo and colleagues have established the reliability and validity of the PIPPS (Fantuzzo et al., 1998; Hampton & Fantuzzo, 2003). The PIPPS determines whether a child is accomplished at interacting with their peers or has difficulties with interactive peer play skills. The teacher observes the child at school interacting with

other children during free play and uses the four-point scale to specify how frequently a particular behaviour occurs. The PIPPS consists of three subscales: (i) the 'Play Interaction Scale', (ii) the 'Play Disruption Scale', and (iii) the 'Play Disconnection Scale'. Play interaction refers to the items reflecting the child's interactive play competencies, including behaviours such as creative play, cooperation, and helping other children. Play disruption reflects negative and anti-social play interactions with peers, such as aggression, unwillingness to share, and verbally insulting others. Play disconnection reflects the items that indicate a lack of participation with peers, including being rejected by others in play and wandering aimlessly. Children are considered to be accomplished in interactive peer play if they receive high play interaction scores and low play disruption and play disconnection scores.

### **Procedure**

The study used a quasi-experimental design. The study involved pre- and post- testing over a six-month period, using the ChIPPA, SAOLA and PIPPS. Baseline assessments were completed in February and follow-up assessments were completed in August of the same year. Ethical approval for this study was granted by Deakin University Human Research Ethics Committee, Department of Education and Early Childhood Development Human Research Ethics Committee, and the Catholic Education Office. The principals of primary schools 1 and 2 expressed interest in the study and discussed participation with their teaching staff. The two primary schools were provided with plain language statements and consent forms for the teachers and the parents of each child who was in their first year at school. Permission was received from the parent/guardian of each participating child.

Five days of training and practice with the ChIPPA and SAOLA assessments were completed by the first author prior to the study, to ensure reliability and validity in administration and scoring. The ChIPPA and SAOLA were completed on each child at their own school in a relatively distraction-free room. The order of the assessment administration was randomised to account for test order fatigue. ChIPPA and SAOLA assessments were scored before the PIPPS scores were calculated. A qualified speech pathologist scored the narrative re-tell section of the SAOLA for pre- and post-assessments. Teachers completed the PIPPS on their participating students, at baseline and follow-up assessments and did not know the student's ChIPPA or SAOLA scores. At follow-up children were assessed at similar times to their baseline assessments and in the same test order, to ensure consistency of the assessment situation.

### **Data analysis**

Data were analysed using the Statistical Package for the Social Sciences (SPSS) Version 17 software package for Windows. Descriptive statistics, Wilcoxon Signed-ranks Test and Mann Whitney U were used to analyse the data because of the small sample size. Analysis of covariance (ANCOVA) was also used to account for the influence of age, gender and school on non-standardised score data. For all non-norm referenced standard scores, the baseline raw scores were subtracted from the follow-up raw scores and the difference was used in calculations. Alpha was set at 0.05.

## **Results**

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### **Study aims**

At baseline assessment, there was no significant difference between the schools in all measures for play, language, narrative re-tell and social skills. There were no significant differences for age and gender between School 1 and School 2 at baseline.

#### **Aim 1: Children with delayed play skills**

The children's play data were compared to the normative data for the ChIPPA, with standard scores ranging from -1.0 to +1.0 for normal range. Four-year-old and six-year-old children were borderline or delayed in their elaborate play ability, with standard scores being -0.95, -1.34, and -1.58 for four-year-olds and -0.91, -0.97 and -1.07 for elaborate play for six-year-olds. Older five-year-olds and six-year-olds were relying on the examiner for play ideas as indicated by imitated actions above the range expected for their age groups.

#### **Aim 2: Children attending a school with a play-based curriculum**

Table 3 presents the raw scores for all items for baseline and follow-up assessment. There were significant differences in all of the elaborate play scores between baseline and follow-up for School 1, indicating that children's play was more elaborate and complex at follow-up. There was no significant difference in the NOS Conventional scores. There were significant differences in the NOS Symbolic and NOS Combined play scores between baseline and follow-up, indicating that children were using more symbols in their play. There were significant differences in the Typical Play Indicator and Play Deficit Indicator scores between baseline and follow-up, indicating that children displayed fewer play deficits.

There was a significant difference in the Semantic Language scores and Narrative Language scores between baseline and follow-up, indicating that children's language skills and understanding of narrative had increased. There was a significant difference in the

Table 3. Baseline and follow-up raw scores for children in the play-based curriculum (School 1)

Assessment item	Baseline Mean	SD	Follow-up Mean	SD	p value
PEPA conventional	59.16	10.15	85.55	8.63	0.000
PEPA symbolic	52.46	15.47	84.46	6.70	0.000
PEPA combined	109.77	21.56	169.95	12.03	0.00
NOS conventional	0.75	1.48	0.17	0.51	ns
NOS symbolic	21.50	12.64	31.06	11.82	< 0.05
NOS combined	22.25	12.27	31.22	11.90	< 0.05
NIA conventional	0.10	0.45	0.06	0.24	ns
NIA symbolic	0.05	0.22	0.06	0.24	ns
NIA combined	0.15	0.49	0.11	0.32	ns
Typical Play Indicator	21.05	3.66	23.67	0.49	< 0.01
Play Deficit Indicator	2.95	3.66	0.33	0.49	< 0.01
Semantic Organisation	10.00	5.26	23.61	5.61	0.000
Narrative Re-tell	8.75	5.34	13.28	5.41	< 0.01
Social Interaction	20.55	4.49	24.28	6.25	0.000
Social Disruption	29.20	8.34	25.00	7.87	< 0.05
Social Disconnection	18.20	4.75	16.11	5.09	< 0.05

Key: ns = not significant

SD: Standard Deviation; Typical Play Indicators: Number of typical play indicators observed during the ChIPPA; Play Deficit Indicators: Number of play deficit indicators observed during the ChIPPA; PEPA: percentage of elaborate pretend play actions; NOS: number of object substitutions; NIA: number of imitated actions

Table 4. Baseline and follow-up raw scores for children in the traditional classroom (School 2)

Assessment item	Baseline Mean	SD	Follow-up Mean	SD	p value
PEPA conventional	62.18	9.89	65.89	11.73	ns
PEPA symbolic	42.72	17.12	58.56	25.48	ns
PEPA combined	104.9	23.23	124.20	35.94	ns
NOS conventional	0.65	0.92	0.38	0.74	ns
NOS symbolic	20.64	13.22	24.75	9.44	< 0.05
NOS combined	21.27	13.63	25.13	9.54	< 0.05
NIA conventional	0.18	0.60	0.13	0.35	ns
NIA symbolic	0.09	0.30	0.00	0.00	ns
NIA combined	0.27	0.65	0.13	0.35	ns
Typical Play Indicator	20.64	3.85	19.38	6.41	ns
Play Deficit Indicator	3.36	3.85	4.63	6.41	ns
Semantic Organisation	8.09	3.90	11.63	2.97	< 0.05
Narrative Re-tell	9.00	3.97	9.88	3.04	ns
Social Interaction	17.36	4.15	19.63	2.97	ns
Social Disruption	26.27	6.66	25.88	7.28	ns
Social Disconnection	18.36	4.92	19.75	6.11	< 0.05

Key: ns = not significant

SD: Standard Deviation; Typical Play Indicators: Number of typical play indicators observed during the ChIPPA; Play Deficit Indicators: Number of play deficit indicators observed during the ChIPPA; PEPA: percentage of elaborate pretend play actions; NOS: number of object substitutions; NIA: number of imitated actions

Figure 3: ChIPPA Play Styles at baseline ( $n = 31$ )

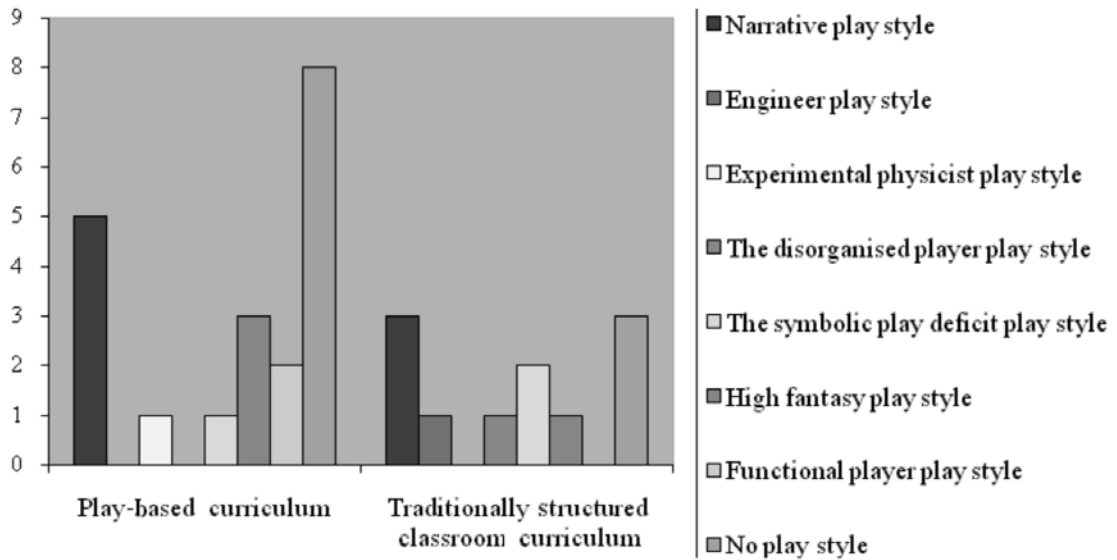
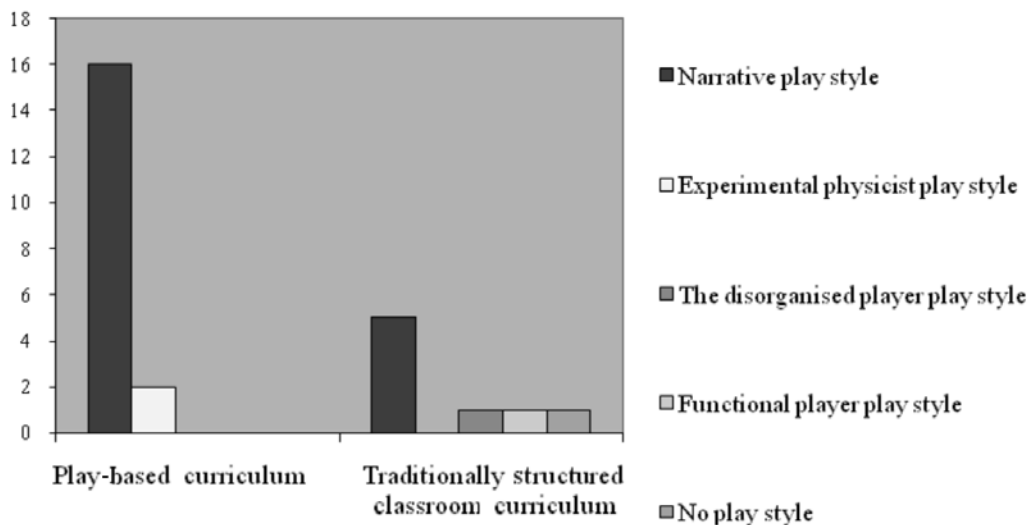


Figure 4: ChIPPA play styles at follow-up ( $n = 26$ )



Play Interaction sub-section scores between baseline and follow-up, and significant decreases in the Play Disruption and Play Disconnection scores between baseline and follow-up, indicating that children were more socially interactive with peers, less disruptive and more connected.

**Aim 3: Children attending a school with a traditionally structured classroom curriculum**

Table 4 presents the baseline and follow-up raw scores for School 2. There were significant differences in

the NOS Symbolic and NOS Combined play scores between baseline and follow-up ( $p < 0.05$ ), indicating that children used more symbols in their play at follow-up. There was a significant difference in Semantic Language scores between baseline and follow-up ( $p < 0.05$ ) indicating that children's language ability had increased. A significant difference in Play Disconnection scores between baseline and follow-up ( $p < 0.05$ ) indicated that the children had become more disconnected as scores increased between baseline and follow-up.

#### Aim 4: At follow-up, to compare whether classroom environment had a significant effect on children's play, language and social skills

For all non-norm referenced standard scores, the baseline raw scores were subtracted from the follow-up raw scores and the difference was used in calculations. For non-normed data, an ANCOVA was used to account for the influence of age, gender and school when non-parametric analysis revealed a significant difference.

There were significant differences for PEPA Conventional scores between School 1 ( $M = 85.55$ ;  $SD = 8.63$ ) and School 2 ( $M = 65.89$ ,  $SD = 11.73$ ) ( $U = 11.50$ ,  $p = 0.000$ ); PEPA Symbolic scores between School 1 ( $M = 84.46$ ;  $SD = 6.7$ ) and School 2 ( $M = 58.56$ ;  $SD = 25.48$ ) ( $U = 24.50$ ,  $p < 0.01$ ); and the PEPA Combined scores between School 1 ( $M = 169.95$ ;  $SD = 12.03$ ) and School 2 ( $M = 124.2$ ;  $SD = 35.94$ ) ( $U = 12.00$ ,  $p = 0.000$ ).

There was no significant difference between schools for NOS Conventional, NOS Symbolic, or the NOS Combined. There was a significant difference in Typical Play Indicator ( $M = 23.67$ ,  $SD = 0.49$ ;  $M = 19.38$ ,  $SD = 6.41$ ) and Play Deficit Indicator scores ( $M = 0.33$ ,  $SD = 0.49$ ;  $M = 4.63$ ,  $SD = 6.41$ ) between School 1 and School 2 respectively ( $U = 28.00$ ,  $p < 0.01$ ). School 1 had a decrease in the number of play deficit behaviours and an increase in typical play indicators. School was a significant factor for children's Typical Play Indicator and Play Deficit Indicator behaviours ( $F = 5.51$ , (1, 26),  $p < 0.05$ ).

There was a significant difference in the Semantic Language scores between School 1 ( $M = 23.61$ ,  $SD = 5.61$ ) and School 2 ( $M = 11.63$ ,  $SD = 2.97$ ) ( $U = 5.50$ ,  $p = 0.000$ ). The school attended was the significant factor on a child's semantic language abilities ( $F = 34.94$ , (1, 26),  $p = 0.000$ ). There was also a significant difference in the Narrative Language scores between School 1 ( $M = 13.28$ ,  $SD = 5.41$ ) and School 2 ( $M = 9.88$ ,  $SD = 3.04$ ) ( $U = 25.00$ ,  $p < 0.01$ ). The school children attended was the significant influence on children's Narrative Language abilities ( $F = 7.23$ , (1, 26),  $p < 0.01$ ).

There was a significant difference in Play Disconnection between School 1 ( $M = 16.11$ ,  $SD = 5.09$ ) and School 2 ( $M = 19.75$ ,  $SD = 6.11$ ) ( $U = 16.50$ ,  $p < 0.01$ ) with School 1 being more socially connected. The ANCOVA test revealed that the school attended was a significant factor in how disconnected children are from their peers ( $F = 19.60$ , (1, 26),  $p = 0.000$ ). The ANCOVA also revealed that age was a factor on how disconnected a child is from their peers ( $F = 13.77$ , (1, 26),  $p < 0.01$ ). There was no significant difference between schools on Social Interaction and Social Disruption.

#### ChIPPA clinical observations

In the clinical observations of the ChIPPA there are 10 categories of play styles: four typical play profiles and

six profiles that indicate a play deficit. Not all children fit into one of these play styles; therefore they have no play style. Figure 3 presents the play styles for both schools at baseline. Figure 4 presents play styles at follow-up. At follow-up the children from the play-based curriculum school only had typical play profiles; conversely, the children from the traditionally structured classroom curriculum school displayed typical and deficit play styles.

## Discussion

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### Pretend play and low socioeconomic status

Children who attended schools located in low socioeconomic areas began school with poorer elaborate pretend play skills, compared to the pretend play norms of the ChIPPA. The implications of this finding are that the play of these children is not as complex as it could be, that children are not developing stories in their play and that they have difficulty sustaining play. This is the first study in 41 years to support the findings of Smilansky (1968). Smilansky reported that children with lower SES have significantly fewer sociodramatic play skills, also referred to as pretend play skills.

### Elaborate play and learning

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Children who attended a school with a play-based curriculum significantly increased their scores in elaborate play abilities over a six-month period. Conversely, there were no significant differences in elaborate play for children who attended the traditionally structured classroom school. Elaborate pretend play skills reflect cognitive skills, such as the ability to think flexibly and divergently, problem solve, logically sequence their thoughts, and develop concepts (Stagnitti, 2007). Elaborate play scores also indicate that children can pre-plan their own play. All of these cognitive skills are vital in assisting children's learning throughout their schooling and have been associated with language and narrative competence (Stagnitti, 2010).

Typical play indicators show whether a child can spontaneously self-initiate play, extend their play, follow through with their play after setting up the play scene, and develop a narrative in their play. After six months, children who attended the school with a play-based curriculum were significantly advanced in their typical play abilities, and had significantly fewer play deficit behaviours, compared to children from the traditionally structured classroom school. The ability to spontaneously self-initiate play is considered as more indicative of children's actual performance than is adult-directed play (Stagnitti, 2007).



## **Play styles and learning**

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At follow-up all children from the play-based school had typical play styles of either the narrative player or experimental physicist. Narrative players have advanced oral language skills, can attend to activities for extended periods, self-initiate, logically and sequentially organise narrative, and think flexibly when using objects in play scenarios, and understand story (Stagnitti, 2007). Experimental physicist players are mathematical; this is displayed in their methodical and analytical use of unstructured objects examining cause and effect (Stagnitti, 2007).

There was no difference between the two groups in number of imitated actions; however, it is the pattern of imitated actions with elaborate play that indicates play style. Children who attended the traditionally structured classroom school were more likely to be functional and disorganised players. Functional players appear busy; however, they are rarely able to extend their thought processes or use play objects in a higher elaborate play sequence (Stagnitti, 2007). Disorganised players have lower scores in elaborate play and do not imitate the examiner as they do not pick up cues on how to use the play materials. Disorganised players have difficulty self-initiating play or extending their play. They also experience difficulties in group situations, as they cannot relate to their peers on the same developmental level.

## **Symbols in play and language**

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The object substitution abilities of children from each school significantly increased over the six months of the study and there was no significant difference between the schools for this ability. This was an interesting finding. Discussion with the teacher from the traditionally structured classroom revealed she introduced unstructured objects, such as boxes, into the classroom environment during the school year. Using unstructured objects such as boxes expose children to using symbols by giving the box a use or a meaning (for example, the box is a car or a cave). The ability to substitute objects indicates that a child is creative, flexible and has problem-solving skills, and this ability is related to language (Russ, 1998).

The semantic language abilities of the children significantly increased over six months of school attendance. When children from the two schools were compared, children from the play-based curriculum had significant increases in semantic language ability compared to children from the traditional curriculum school. Increases in children's semantic language abilities are related to increases in their symbolic pretend play abilities. Many results support the assertion that language is strongly related to symbolic play (Christie & Roskos, 2006; Doswell, Lewis, Sylva & Boucher, 1994; Lewis, Boucher, Lupton & Watson, 2000). Unstructured objects were introduced into the

traditionally structured classroom, which enhanced children's object substitution abilities, and the language of these children also significantly improved. The children from the play-based curriculum significantly improved in elaborate symbolic play as well as object substitution, and they were significantly more advanced in language after six months when compared to School 2. Unstructured objects were always present in the play-based curriculum classroom.

Children from the play-based school had significantly higher narrative language abilities than those from the traditional curriculum school after six months of school attendance. The use of narrative language while involved in pretend play reflects children's ability to think rationally and organise their thoughts (Stagnitti, 2010). Nicolopolou (2005) explained that narrative and pretend play are connected by their developmental and cognitive roots, and are presented on a continuum which ranges from the narrative descriptions in storytelling to producing narratives in pretend play.

## **Play-based curriculum and social skills**

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After six months, children who attended the play-based school had significantly improved social interaction skills, were less disruptive and less socially disconnected from their peers than those attending the traditional curriculum school. Children who are competent at interacting with their peers and score well on the play interaction subscale of the PIPPS are flexible, comfortable with their peers, encourage peers to join in their play and are creative players who attract peers into their play. Children who have well-developed symbolic play abilities with unstructured objects are less socially disruptive (Uren & Stagnitti, 2009).

Children from the play-based school were significantly less socially disconnected when interacting with their peers than were children from the traditionally structured classroom school. Therefore the children attending the school with a play-based curriculum were less likely to be ignored by others, wander aimlessly, seem unhappy, need adult/teacher direction, or become confused when socially interacting with peers.

## **Recommendations for further research**

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Owing to the increasing interest in play-based curricula (Wilson, 2008), there is a need to provide evidence of the benefits of such curricula. This study needs to be replicated to validate findings and provide further evidence to strengthen the knowledge on the benefits of a play-based curriculum for children living in low socioeconomic areas. It is suggested that replications of this study should include a larger sample size and a range of SES areas to investigate if play-based curricula would benefit a wider group of children.

## Study limitations

The researchers knew the school the children attended. In order to prevent experimental bias the researcher administered and scored the ChiPPA and SAOLA assessments according to the manual. To avoid experimental bias on the narrative language section of the SAOLA, a qualified speech pathologist, who was blind to the group allocation of the children and the aims of the study, scored the baseline and follow-up assessments. There was no contact with the schools between baseline and follow-up by any of the researchers.

## Summary and conclusion

Children from low socioeconomic areas begin their schooling with low elaborate play skills. After six months at school, children from the play-based school had more highly developed language abilities, narrative language, complex play and peer social competence ability than did children from a traditionally structured classroom school. The findings contribute to the evidence base of classroom environment on early education and paediatric practice. It provides positive evidence on the benefits of using a play-based curriculum to increase abilities associated with emergent literacy skills in primary schools located in low socioeconomic areas.

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