"An investigation of gender difference in four year old children’s visual art experiences at kindergarten."

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Abstract

This study investigates whether what children make and/or create in the visual art area of collage/construction is influenced by their gender and whether children’s gender makes them play differently. The purpose of the study was to discover the similarities and/or differences with girls and boys play in the visual art area of collage/construction.

Data was collected through the use of participant observer observations. The research utilized anecdotal notes and narrative descriptions to describe the visual art work that was undertaken by boys and girls playing at collage in a kindergarten. Data was coded using organisational categories. They were, engagement in the process, subject matter, talking about their work and the resources used. Once coded, data was analysed from these.

Analysis revealed a tendency for both boys and girls to engage in stereotypical play in relation to both the use of resources and the final products that they made. The observation data showed a strong link between the boys’ creations and risk taking themes. Boys were also heavily influenced television inspired ideas. The girls were more content with utilizing items that were readily available in the kindergarten, and made items that were safe, which I interpreted as, objects they knew the teachers would like. Findings indicate that boys can be helped to realize ways of being creative in the curriculum area of visual arts. Providing new and varied resources, that are of interest to boys and which enable them to risk take, will promote participation and will also bring boys back to play themes on consecutive days.
This study may be of interest to teachers wanting to achieve gender equity within an early childhood setting. It suggests ways of making sure that the curriculum area of collage/construction is enticing for boys as well as girls.
Introduction

This project is investigating boys and girls play in visual arts. As a kindergarten teacher I am interested in equity and the ways in which we as teachers can help ensure that all children are able to participate fully in all areas of the kindergarten programme. My experience suggests that visual art is a place that boys don’t get to participate in as much as girls. They may therefore be missing out on ways to further develop and enhance skills such as creativity and as such this is a problem to be investigated. My interest was sparked by the gender performance differences that I had observed as a kindergarten teacher and the ways in which children represent their own reality of the world around them.

Gender is an integral part of how western society views children and because of the way that we socialise boys and girls it becomes something that filters through their everyday existence. Through this study I aim to discover whether what children make and/or create in the visual art area of collage/construction is influenced by their gender and whether or not children’s gender makes them play differently. This research project is a small-scale study in which the data will be analysed using an inductive approach. I aim to exemplify qualitative understanding of boys and girls play in one area of a kindergarten curriculum and to identify ways in which boys can be helped to realise ways of being creative in the visual art area of the kindergarten environment, an area that research states that they do not traditionally engage in (Hendrick, 2001; Bee and Boyd, 2002).

How children’s gender is understood

In order to understand the similarities and/or differences that are evident between boys and girls in their construction of art in the collage/construction area it is necessary to look at the literature that exists on how children construct notions of gender. There are several competing notions around gender role development and
according to Fagot and Leinbach (as cited in Smith 1998) “no one theory gives a
cohherent account of gender role development and different theories emphasise
different aspects of development” (Smith, 1998, p144). There are however, three
broad frames that I am interested in and that help me as a teacher understand gender.
These are; social construction, social learning theory and cognitive-developmen
ty theory.

A social constructionist view of child development indicates that children’s
experiences in family life, school and in the community are not only directly affected
by their gender but whether they are male or female also affects their experiences
construction of gender is a systematic process that begins at birth and is continually
shaped, moulded and reshaped throughout life, according to the sex of the new-born”
(Yelland and Grieshaber, 1998, p1). Gender roles dictate to individuals exactly how
they should behave and in a western culture are a significant variable in any one
child’s life experiences.

According to social learning theory gender roles are learned “like any other behaviour
through a combination of reward, punishment and observation of models” (Smith,
1998, p144). Parents, teachers, television as well as peers all act as models for the
individual with ‘appropriate’ behaviours encouraged while ‘inappropriate’ behaviours
are actively discouraged. However social learning theory does not take into
consideration of other factors, for example biological influences, on the development
of gender roles. It has been criticised “because of its implication that people are
merely a reflection of environmental forces and have no unique contribution to
shaping their own interactions with the environment” (Smith, 1998, p145).

A third alternative way of understanding gender is through cognitive-developmen
ty theory. Based on Piagetian theory, cognitive-developmen theory focuses on
cognitive aspects and “according to Kolberg, children’s categorisation of themselves according to gender is important in organising gender role development” (Smith, 1998, p145).

I consider that gender is a social construct and because of the importance that we place on it in western society it is a part of children’s everyday experiences from birth. Boys and girls learn from a very young age what they should be and also how they should do things and I believe that it is important that we as teachers encourage gender equity right from the early childhood years. It is my belief that society itself plays a crucial role in determining how children view themselves as well as others and therefore if we want gender equity to occur it is within aspects of society that we must first change. Early childhood settings such as kindergartens are the ideal place for this to start.

**Play choices**

Gender has long been of interest in early childhood education where children’s play choices are often aligned with opportunities for learning and the quality of children’s learning. Boys and girls are often compared and contrasted according to their gender. Children of both genders can traditionally be found engaged in play in different areas of early childhood centres. Boys are more likely to engage in ‘rough-n-tumble’ play, with blocks and outside whereas girls are seen in ‘nurturing’ roles in the family area. (Soderman and Phillips, 1986; Liss, 1986; Lasky and Mukerji, 1992; Burford and Foley, 1996; Collins- Standley and Gan, 1996; Smith, 1998; Hendrick, 2001; Bee and Boyd, 2002; Fromberg, 2002).

Girls can also stereotypically be found in visual art areas such as collage where they tend to dominate the play (Hendrick, 2001; Bee and Boyd, 2002). According to Lewis (1991) both boys and girls play in visual arts can also be classified as stereotypical in nature with girls subject matter focusing on family and friends and
boys on fantasy and cars. “Teachers can either reinforce classic traditional sex-
 stereotype choices or increase children’s awareness of all the opportunities open to
 them in a non-sex-typed society the children themselves may sometime build” (Liss,
 1986, p136). In this project I am interested to find out about any differences or
 similarities that exist between boys and girls and the ways in which we as teachers
can help ensure that all children participate and are able to express themselves
through the media of visual arts.

**Visual arts and early childhood education**
Visual art is a powerful form of expression that has long been recognised as a crucial
component of any early childhood curriculum (Lasky and Mukerji, 1992). “Young
children “do” art for the experience, the exploration, the experimentation. In the
“process” they discover mystery, creativity, joy, frustration” (Kohl, 1994, p11) and
are able to further enhance their own development through a system of cognitive and
self expression.

In art children use “symbols that assist them in creating meaning for themselves about
the world” (Lasky and Mukerji, 1997, p3). Art is a language (Seefeldt, 1995:
Ministry of Education, 1996: Lasky and Mukerji, 1997) and by viewing visual art as a
communicative tool teachers can ensure that they receive communication from all the
children that they teach. All children should be supported to be creative and to
communicate as advocated in the curriculum and this study aims to identify ways in
which boys can also be helped to realise ways of being creative in the visual art area
of the kindergarten environment, an area that professional literature states that they do
not traditionally engage in (Hendrick, 2001; Bee and Boyd, 2002).

I believe that the visual art area in an early childhood setting should enable creative
expression from boys as well as girls, while at the same time facilitating the further
development of their communicative skills. “During the early years, children are
learning to communicate their experiences in many ways, and they are also learning to interpret the ways in which others communicate and represent experience” (Ministry of Education, 1996, p72). One of the goals of the early childhood curriculum Te Whaariki is communication where it states “children develop non-verbal ways of expressing and communicating imaginative ideas” (Ministry of Education, 1996, p74). The fourth goal in the communication strand of the curriculum “children experience an environment where they discover and develop different ways to be creative and expressive” (Ministry of Education, 1996, p84), suggests to me that the current Ministry of Education policy supports the belief that an effective visual art programme provides an important mechanism for acquiring communicative and expressive skills in the developing child.

“An early childhood programme for young children should provide a rich bank of experiences from which children can learn to make sense of their world and the world around them” (Ministry of Education, 1996, p25). It is important that all curriculum areas encourage the involvement and full participation of all children -both boys and girls. “Gender itself is not a determinant of learning. However, invalid assumptions made about roles, abilities, interests and potential on the basis of gender can significantly affect learning processes” (Department of Education, 1989, p15).

Despite the goal of valuing children as individuals, we are still fascinated by how boys and girls ‘do’ art differently and “during the 20th century, many studies of children’s drawings and paintings signalled differences in form, colour and imagery according to gender” (White, 1998, p232). The research focus has changed over time, moving from “investigating psychological characteristics of children’s art making, to observing the subject matter chosen by children, and, more recently, to analysing the influence of the curriculum in children’s artistic development” (White, 1998, p232).
A 1994 study by Kawecki found that the artistic approaches of children reflected their gender—both in content and composition. Furthermore, when the children’s artwork was examined, specific traits were identified in both the girls’ and boys’ art, for example, dynamic aggression in boys and orderliness in girls. I too am interested in how boys and girls do art differently and my study provides insight into the similarities and differences in their play in this area of the early childhood programme.

**Play as a context for learning**

Play is one powerful way in which children learn. Research tells us that “play helps youngsters to improve their thinking skills, social skills, language skills and problem solving skills” (Fromberg, 2002, p132). “The play context is ideal for supporting children’s creative and imaginative growth because it offers a risk-free environment” (Isenberg and Jalongo, 1997, p53) in which children are able to try things out without risk of failure. This is important because within visual arts children are able to experiment with different materials and ideas and to also try new experiences that under different conditions they may not have.

Within the play environment young children are also developing relationships with not only the adults around them but also with the other children. “Friendship depends on many variables, including similarity of age, sex, propinquity, and sociability, as well as the less readily analysable quantities of personal attractiveness” (Young and Cooper, 1994 as cited in Hendrick, 2001, p202). Friendships typically occur between children on the same sex (Thorne 1993; Hendrick 2001; Miller and Church 2002) and are also an important socializing agent in young children. It will be interesting to note who children prefer to play with and whether particular friendships have any influence on participation in the visual art area of collage in the present study.
Gender equity

"To learn and develop to their full potential children must be respected and valued as individuals" (Ministry of Education, 1996, p40). They need to be given equal opportunities not only in society itself but throughout the education system that begins in early childhood. This has important implications for teachers and the programme that they offer for children so that teachers’ decision making in the collage area can be enticing for boys as well as girls. This study attempts to discover the similarities and/or differences that exist between boys and girls play in the visual art component of the early childhood curriculum.

Gender equity is an important facet of the education system today with educators advised of the need to “achieve greater gender equity in their work with children by making children’s learning materials, language and behaviours free of traditional sex-role stereotypes by providing children with equal opportunities to access all learning materials” (MacNaughton, 1998, p149). This includes ensuring that all children are able and willing to access all parts of an early childhood curriculum as well as devising new and novel ways of ensuring that access takes place. While research has previously been conducted regarding where both boys and girls choose to play (Soderman and Phillips, 1986; Liss, 1986; Lasky and Mukerji, 1992; Burford and Foley, 1996; Collins-Standley and Gan, 1996; Smith, 1998; Hendrick, 2001; Bee and Boyd, 2002; Fromberg, 2002) a gap exists as to the quality and product of the play specifically generated in a sessional kindergarten setting. I am interested in looking more closely at this quality and product of children’s play and of highlighting the need for kindergarten teachers to make available and present a variety of different resources that are of importance to both girls and boys. This will help ensure that all children are able to reach their full potential creatively, artistically and personally.

This study looks at the visual art work that was undertaken by four year old children attending a kindergarten. This is specific to my own area of teaching interest and
enables myself as well as my colleagues to gain important information that can be used in the development of programme plans in the kindergarten. It attempts to discover whether gender has any direct correlation on what children construct within a visual art programme.

The research question
The research question in this study was: What are the similarities and/or differences with girls and boys play in the visual art area of collage/construction?
Method and Sources of Data

The ways researchers carry out their work sends messages about how they perceive the world to work. The aim of qualitative enquiry is to elaborate a phenomenomen rather than to objectify it, as well as to try to capture the context and explain it. As a teacher my teaching philosophy reflects the holistic way children grow and learn within both society and the kindergarten setting itself. This influences my teaching practice with both boys and girls as I believe that learning is not one dimensional but instead encompasses all aspects of young children’s development and growth. Children should be viewed as a whole and “qualitative research allows a more holistic view toward data collection, as it considers the complete activity to be studied as an interrelated system with deep structure that will yield rich, extensive and rigorous data” (Light 1983, as cited in Davis 2000, p4).

This study describes the visual art work that was undertaken by boys and girls in a kindergarten environment through the use of the qualitative technique of participant observer observations. A qualitative approach was seen as most appropriate for this study because in order to get a reliable sense about both the process and the final product of young children’s work in the collage/construction area, a descriptive account of what is observed is, I think, most appropriate.

Researcher Position

“Qualitative research has been described as naturalistic” (Lincoln and Guba 1985, as cited in Taylor and Bogdan, 1998, p8). “This means that researchers adapt strategies that parallel how people act in the course of daily life, typically interacting with informants in a natural and unobtrusive manner” (Taylor and Bogdan, 1998, p8). In this study I adopted a role which placed me alongside the children as they worked. I was able to converse easily and note children’s play whilst doing so. This was not a
dissimilar role to one that teachers adopt in the kindergarten programme and was therefore familiar and natural to this context, both for the children and myself.

**Participant observations**

As “observation methods are powerful tools for gaining insight into situations” (Cohen, Manion and Morrison, 2000, p315) and enable the researcher to observe both people and their actions in a holistic manner this study was observationally based. Taylor and Bogdan (1998) describe participant observations as “research that involves social interaction between the researcher and informants in the milieu of the latter, during which data are systematically and unobtrusively collected” (p24). Through the use of participant observer observations important information about boys and girls play in the visual art component of a kindergarten programme was able to be directly and unobtrusively observed and interpreted.

As a participant observer in the study I was also a part of what was observed. My goal was for the children to act as naturally as possible in my presence, however, I was aware that just my being there had some effect, especially at the beginning of the study when a large number of children participated because I was a familiar participant. However as explained earlier, the nature of the observations was one which was natural to this context.

“Although qualitative researchers cannot eliminate their effects on the people they study, they attempt to minimise or control those effects or at least understand them when interpreting data” (Emerson 1983, as cited in Taylor and Bogdan, 1998, p8-9). This is important in any qualitative study and because I had previously worked as a teacher in the kindergarten being used in this study I was known to most of the children attending the morning session. This enabled them to feel comfortable with me and also ensured that they both talked to me and requested help if they needed it. However, it also meant that the children saw my position as a teacher rather than that
of a researcher and this meant that at times they asked me to do other things with them. I dealt with this by telling the children that I could do things such as read a story to them after I had finished at the collage area.

**Setting**

The study was conducted at a suburban kindergarten in Christchurch that was one of sixty two Kidsfirst Kindergartens. This particular kindergarten had been chosen due to previous teaching experience that I have had in this kindergarten.

The observations took place in the free play morning session which meant that the children were able to choose whether or not to participate in the visual arts programme that was offered. Consequently the number of children actually engaging in play in this area varied each day.

**Participants**

The participants involved in the study were the 45 children who attended the morning session at the kindergarten as well as their three female teachers. All of the children were aged between four and five years old. At the time of the study there were 21 boys and 24 girls on the attendance roll, although the number of children attending the kindergarten differed each day. The three teachers were all fully trained.

**Recording procedure**

The recording procedure utilised in this study used anecdotes and narrative descriptions that were based around Bentzen (2000). (An example of the recording sheet that was used is attached as an appendix 1). Observations are a “technique that can often reveal characteristics of groups or individuals which would have been impossible to discover by other means” (Bell, 1999, p156). This recording procedure had therefore been designed so that as much information as possible about children’s participation could be obtained. I recorded what the children said as they completed
their work, as well as the materials that were used, how they were collected and the final product that was produced. The participant observer method employed in the study also allowed for interaction to occur between the participants and myself and the observations enabled me to directly observe what the children were doing in the collage area. Where children consented, photocopies and photographs of their work were taken. This enabled analysis of this data later.

The participation of any of the teachers in the visual art area was also noted. Field notes as the children created and copies of the children’s work enabled me to gain an accurate picture about what resources the children used and what they ultimately made in the collage/construction area without interfering with the process itself.

Procedure
The procedure I followed during the participant observer visits to the kindergarten was standard across all days and each day I tried to do the same thing. Each visit, I created a change in the children’s regular kindergarten environment and then watched what happened. I was able to obtain a set of reactions and interactions that would not have happened otherwise because I set out the collage/construction area in a different way, moving the tables around so that resources were able to be placed around the whole table rather than at just one end. This enabled easy access to the resources and by placing two tables together the children also had plenty of space to work in. I did this when the children were all engaged in mat time (sitting on the mat listening to stories, singing songs etc. with two of the teachers) and the area was returned to its normal way at the conclusion of each observation period. I introduced new resources into the area including and not limited to: paper, felt pens, crayons, ‘collage’ boxes, pipe cleaners, googly eyes, felt squares, sellotape, glue, glitter, paint of different colours etc. and these were placed on trolleys and in boxes surrounding the two tables.
I set up this area in the kindergarten for one hour each time I visited between 9:15 am - 10.15am. This meant I observed for the whole hour I attended each day over a two week period. Children were able to choose to participate in the area and were free to make or draw whatever they chose to. A typical day of observation is described in the passage below.

**A typical day**

*Once the tables were set up and the resources were placed on the trolleys and shelves around the area I got my observation sheets and pen and sat down on a child sized chair at the table and waited for the children to arrive. As they came into the area I welcomed them and they began to create with the available resources. As the hour progressed I would move around the table talking with different children about what they were doing and also listening to their conversations with each other. The gender of each child, what they created and who they were with were all noted on the observation sheets. I also recorded the teachers interactions with the children. My camera was placed on the table beside my observation sheets and as each child finished their construction of art at the table I would ask their permission to photograph it. This sometimes occurred immediately and at other times after the hour had finished. All of the children were happy to have their work photographed and I would return the items to them after I had done so.*

*Immediately after each observation period I also made notes about what I had observed with the children.*
Interpretations about the work that was undertaken were also recorded throughout the observations themselves. After the hour had finished I returned the collage area to its original layout. I then spoke with the teachers about what I had observed that day.

Data analysis

“A qualitative researcher organises the raw data into conceptional categories and creates themes or concepts, which he or she then uses to analyse data” (Neuman, 1997, p421). “Because qualitative data analysis is an intuitive and inductive process, most qualitative researchers analyse and code their own data” (Taylor and Bogdan, 1998, p141), I did, and this was an integral part of this study. Using methods outlined in Bogdan and Biklen (1998) and Taylor and Bogdan (1998) common characteristics and relationships within the observation data were identified and the data was organised.

I began by numbering all of the pages in a chronological order according to the order that they were collected. I then took the photographs that I had taken of the children’s work and assigned each item with a number on the back of the photograph and this same number was also placed beside the observation notes. This enabled easy retrieval and identification regarding exactly what each child had made. I searched through the collected data for any regularities and patterns and in the margins beside the observation data I used abbreviations to note down what category each child’s work and interactions fitted into. Some of the coding categories became evident during data collection and these were noted at the time under interpretations. The original notes were then photocopied and filed away.

“In qualitative research, coding is a way of developing and refining interpretations of the data. The coding process involves bringing together and analysing all the data
bearing on major themes, ideas, concepts, interpretations and propositions” (Taylor and Bogdan, 1998, p150-151). It enabled the large amounts of information that were present in the raw data to be reduced into manageable parts (Neuman, 1997). This coding was the first step in interpreting the patterns in children’s play emerging out of the setting in which they occurred. As I read and though through the data that I had collected I devised analytic categories with which I began to interpret the play patterns in visual arts.

As the categories emerged from the data I also continued to read the literature and the writing process evolved. A narrative description was used to portray the children’s actions and verbal conversations with others in the collage/construction area and this allowed the children’s own thoughts about what they were making to come through, rather than simply my own interpretations. As mentioned previously, the analysis of the data collected did not happen in isolation but was instead an ongoing process throughout the research (Taylor and Bogdan 1998; Neuman 1997).

**Coding Categories**

Analysis involved the reading and rereading of the data collected through the observations as it is important in qualitative research to become familiar with the data collected (Taylor and Bogdan, 1998). As I was reading the data ideas were also talked about with both my supervisor and the kindergarten teachers involved in the project. Four main organisational categories emerged out of the data and became central to this study. Each category also included subcategories which became clearer as I read and re-read through observations and notes.

The first category was that of *engagement in the process*. What I started to see as I came to know the data was the strategies the children used to get started and the variety of ways children participated. I believe that factors influencing participation as well as some of the indicators of deep engagement are: *the length of time* that the
children participate in the collage/construction area, who they participate with, the repeat of an idea on subsequent days and the permission sought before commencing work. These became subcategories of engagement in the process.

Although it was recognized that the process is a valuable part of the construction process (Jalongo and Stamp 1997) the final product was also an important part of this study. The second category of subject matter was therefore chosen as it identified exactly what it was that each child had made and enabled me to group similar items according to content to see if boys and girls made similar or different things. The children and I were always very keen to talk about what it was that was being created and this was a key dimension of similar and different play patterns between boys and girls. Girls’ use of materials to make things for others and boys use of materials to risk take became important features of this category.

The category of talking about their work enabled the children’s voice to come through in the study. This was an important part of the study as it allowed children’s own thoughts and ideas to be revealed rather than simply an adult’s interpretation of the play. Included in this category was the announcement about what the children intended to make, response to questioning and the adult recognition that was sought by the children.

The final category identified from the data collected was that of the resources used by the boys and girls involved in the construction of items in the collage/construction area. This was seen as central to the study and allowed me to look at the different ways that the children used a variety of different materials as well as what those materials were.

Because I was part of the process of the study this enabled me to reflect upon my own actions as a kindergarten teacher and my practice with children in visual arts.
“Researchers draw on their first hand experience with settings, informants, or documents to interpret their data” (Taylor and Bogdan, 1998, p141).

**Ethical Issues and Information to Participants:**

See Appendices 2, 3, 4, 5, 6, 7 and 8 (attached).

Fundamental to this research was the need to ensure that all participants’ privacy and confidentiality were respected and maintained at all times. To provide anonymity all names were changed.

Written consent requesting permission for the study to be conducted at Kidsfirst Kindergartens was required from the Kidsfirst Kindergartens Head Office and the Head Teacher at the kindergarten. Additional written consent was obtained from the Head Teacher as well as the other two teachers who teach in the kindergarten and whom may have been observed as part of the study. The parents/caregivers of the children attending the morning session were also required to sign consent forms.

Participation in the research project was entirely voluntary. Should a parent ask that their child not be included in the study no information regarding that child was recorded. Children who did not participate in the study were not penalised or disadvantaged in any way. Parents had the right to withdraw their child from the study at any time. In addition, the three teachers working in the kindergarten were also able to withdraw at any time.
Results

The aim of this study was to discover the similarities and/or differences with girls and boys play in the visual art area of collage/construction. This is because as a kindergarten teacher I am interested in gender equity and my experience tells me that boys don’t participate in play in the collage area of visual arts as much as girls. To structure the results section I intend using the four organisational categories that emerged out the data. Where useful, examples of observations and the items made will be used to exemplify particular results.

Engagement in process

Over the duration of the study eight boys and seventeen girls chose to participate in play in the collage/construction area. A total of 52 items were made by the boys and 45 by the girls. While these figures would suggest that more boys participated than girls this was not the case. The majority of the objects made by boys were made by two particular boys, George and Matthew, who were present in the area for the majority of the study. It was not unusual for these two particular boys to participate at the collage table for the whole hour of the observation. In this time sometimes working on only one item and at other times on a number of different ones.

Length of participation time

The total time spent in this area differed across both boys and girls. The average time spent by the girls was five minutes, with the longest period spent in the area by a girl being twenty five minutes. The boys on average spent much longer in the area (fifty one minutes) although as previously mentioned it was usually the two boys George and Matthew who participated for the majority of the study and were often present for the whole hour. Important to note however was that two other boys (Tom and Connor) also spent over thirty minutes in the area on the days that they chose to
participate. Their participation may have been influenced by the presence of George and Matthew.

**Who they participated with**

Collage play enables children to choose to play independently as well as with and alongside other children without fear of ‘doing it wrong.’ Much of the work that was completed at the collage/construction area throughout the study was parallel (done alongside others), with children of both genders choosing to create by themselves without conversing with the other children.

When work was done with another child both boys and girls participated with a child of their own gender. George and Matthew always participated with each other, with the only exception to this being on the two days that Matthew was late arriving at kindergarten, which meant that George was there on his own. Through discussions with one of the kindergarten teachers working in the kindergarten it was discovered that these two also enjoyed a friendship in other areas of the kindergarten. Towards the end of the study Tom also began to make crash gears (a children’s television programme in which car like objects fight and crush each other) alongside these two boys. Grace and Rose, Marie and Rebecca, and Kate and Elle were the girls who participated in play alongside each other.

It was with Grace and George that the only boy/girl verbal interaction occurred throughout the ten day study. This interaction was initiated by Grace, who after selecting a piece of purple feather wool put it around her neck and said to George “I can make a scarf with it” (obs 2, 26/4/04). It is important to note that these two children shared a relationship outside of kindergarten. George’s mother looked after Grace while her mother worked and this most likely contributed to this discussion.

No boys and girls made any items together nor any of the same item at the same time.
Repeat of idea on subsequent days

Three of the boys (George, Matthew and Tom) demonstrated an interest in crash gears (a children’s television programme) and consequently made a number of them throughout the study. This reoccurring theme continued over six days and although their resource of choice to make these was the coloured iceblock sticks George was able to substitute these for other items when the sticks were not available.

George also demonstrated an interest in both trains and train tracks -making five of each over the duration of the study. Both the trains and crash gears were very detailed in nature and required the boys to spend a considerable amount of time in making their items. Generally the boys were much more careful and took more time to make their items than the girls.

Two of the girls also completed the same objects on different days. Candice made a total of three presents for her mum over three different days and Lucy made two snakes. Both of these items were able to be made quickly by both girls before making other items or leaving the area.

Permission sought before beginning

Only Candice and Sarah asked for permission to make something at the table. Candice asked “Can I make something?” (obs 6, 3/5/04) and it was interesting to note this did not occur until the third day that she participated in the area. Sarah on the other hand had stood and watched Grace make a head band using a green piece of ribbon and a coloured plastic piece before asking “Can I make one?” (obs 3, 28/4/04). This demonstrated that it was a specific thing that she was interested in making rather than just participating at the table in general.
The boys did not ask for permission to begin making anything at the
collage/construction area and instead entered the area and began selecting the
resources that they wanted before going to the table and beginning to create.

**Subject Matter**

The subject matter of the children’s construction is presented in Table 1. The
interpretations about each item was based on what the children themselves said,
which at times was changeable, with one girl changing her mind later on in the
session regarding what exactly her item was. Sometimes when I asked them about
what they were making they didn’t answer. I felt as though I had put them on the spot
and I labelled these items no-label. This does not diminish the value of the process
for these children and the importance of what they are doing but is instead a way for
me to categorize their item.

**Table 1: Subject matter of the items made**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number of items made by boys</th>
<th>Number of items Made by girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV/Movie influence</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>Presents</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Transport</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Reality Objects</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Animals</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Jewellery and Accessories</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>No Label</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Person</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Musical Instruments</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Pictures</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 1 shows the frequency of the types of objects that were created by both girls
and boys. There was a TV/Movie influence present in many of the boys items, with
16 items made in this subject area. Presents for other people were the items most
often made by the girls, with 12 made over the duration of the ten day study.
In children’s play I noticed that there were regular risk taking play patterns that emerged. By this I mean children used resources to create objects that were inclusive of dangerous play scripts. I perceived that the product of children’s visual art play allowed the boys predominantly to access and mobilise risk-taking play scripts. Four examples follow.

*After making his crocodile Matthew said to George who had also made one “See there’s my pointy tail, my pointy tail. There’s my crocodile. Shall we play fights with it?”*

(lobs 9, 6/5/04)

*After announcing that he was making a Frisbee using metal clips attached to a plastic lid Matthew said “This ones going to be a dangerous one. See these sharp things. I need them into a sharp thing.” He was aware of its dangerous nature and the fact that it could hurt people. “I’m going to take it outside but you’ve got to watch out for people. It’s dangerous.”*

(lobs 1, 26/4/04)

*The danger element was also an important element of Matthew, George and Tom’s crash gears. The crash gears were made in order to ‘fight’ and this idea was repeated on subsequent days. Matthew: “This is crash gear. You have to bash it into another crash gear. If you have lots you have to crash into everyone’s crash gear.”*

(lobs 4, 29/4/04)
Jack also used the metal clips to create 2 knives.
(obs 9, 6/5/04)

On the final day of the study one girl, Elle, made
"Dragon ball Z." However, as she was making it
she remarked to the teacher who was helping her that
it was for her brother and immediately upon finishing
it she handed it over to him. Even though she’d made
a dangerous object she took no steps to activate a
risk taking play script with it.
(obs 10, 7/5/04)

The subject matter allowed risk taking play scripts to emerge. These scripts were
only activated by boys and provided a significant point of difference for me in
interpreting children’s play in the collage area.

Television inspired play occurred most frequently throughout the study.
George, Matthew and then towards the end of the study Tom were very preoccupied
by what they termed as ‘crash gears.’ I initially categorised these under the transport
heading because according to an adult’s eye they appear to be car like (having
wheels). However following discussions with them I discovered that they were in fact
from a children’s television programme and that they were made to fight and crush
each other.

Justine:  "What have you made Matthew?"
Matthew:  "A crash gear."
When I asked how crash gears worked George replied
"They just fight and no persons go in and they don’t
have any string wheels and you just throw them in it
and they crush.” (obs 10, 7/5/04)

When I asked Tom how his crash gear worked he said
“The same as normally crash gears do. You hold onto
it and you throw it.” (obs 10, 7/5/04)

Although George and Matthew called them crash
gears only Tom, who didn't begin making them until
the end of the study, called them by their correct
name of 'crush gear.' All three boys did mentions
that they would 'crush.'

George also made Mike from Monsters Inc. -
"This is the green guy. It's mike from Monsters Inc."
(obs 4, 29/4/04)

The type of play pattern that girls most involved themselves with was the making of
presents for other people -with a total of 12 presents made over the 10 day study.
It was usually when making these presents, which consisted of a variety of resources
that they would wrap in paper, that the girls would mention mum and dad.

    Bridgett:  “I'm making a present for my mum.” (obs 4, 29/4/04)
    Megan:    “I'm making a present for my mum and
dad.” (obs 2, 27/4/04)
    Lucy:      “You know what I've made? A present
              for mum and dad.” (obs 3, 28/4/04)

Boys did not engage in the act of present making and at no stage did any of them
mention mum or dad or another family member whilst they played at visual arts.
Talking about their work
All children in this study were able to talk about their work in the collage/construction area of the kindergarten. While this would demonstrate that they were comfortable in my presence at the table and that they were often making things for a specific purpose or had a definite idea in mind as to what it was, it may also indicate that they thought that I expected that it should have a label.

In thinking about how the children talked about their work it became apparent from the data that several types of talk occurred, 1) children made announcements about their work; 2) children responded to questions about their work; 3) children sought adult recognition regarding their work.

1. Announces what they intend to make
The boys generally stated at the beginning what they were intending to make before commencing work.

George: “I'm making a person.” (obs 1, 26/4/04)

Matthew: “I'm going to make a light that glows in the dark.” (obs 6, 3/5/04)

George: “I need four tubes because I'm going to make a crash gear.” (obs 7, 4/5/04)

Matthew: “I'm making a superlife because I saw one like this and it moves at the front.” (obs 3, 3/5/04)
They were then able to continue collecting the resources that they needed and followed this through by making what they had said that they would.

While the girls were able to talk about what they had made after they had started, they tended not to verbally announce at the beginning what their item was going to be. They instead collected the resources that they wanted and brought them over to the table. They would then proceed to begin creating their objects.

It was usually only after they had finished or nearly finished working that they would either bring the item to the attention of myself or a teacher explaining what they had made:

Grace: "Look Justine - a bracelet." (obs 9, 6/5/04)

Lucy: "Look Justine - Look I've made another snake." (obs 9, 6/5/04)

or they would respond to a question from myself or a teacher asking them what they had made.

Justine: "Tell me about what you've made Bridgett."

Bridgett: "That's the yoghurt and this is the mouth and that's the hat." (obs 2, 27/4/04)

Justine: "What are you making?"

Sharlene: "A shaker." (obs 1, 26/4/04)

2. Response to questioning

When asked questions by the adults in the area about how their objects worked the boys were able to give clear explanations relating to their creations.
George had been making a ‘crash gear’ by gluing iceblock sticks together. "My crash gears so strong Justine" he said to me. He then put a metal clip on top of the sticks and a bottle top on each side. "Justine look at my speedy crash gear."

Justine: "How does it work?"

George: "You pull that and then it goes swish." (obs 8, 5/5/04)

This also demonstrates that he not only knew and could explain how his crash gear worked but that he had made it for a specific purpose.

The fact that both George and Matthew were able to give such explanations about their work and spoke so clearly and freely may have been because of the amount of time that they spent in this area throughout the duration of the study compared to the other children. They came to expect that I would be asking them about what they were doing and consequently would approach me and explain about their item without being asked by me. They were aware of my interest in what they were making with George even saying on one particular day "Look at my crash gear Justine. You can photograph it here." (obs 6, 3/5/04)

3. Seeks adult recognition

Both boys and girls were able to gain the attention of both myself and the teachers who were working in this particular curriculum area in order to show and demonstrate their creations. This was done independently by the children.

Examples of recognition seeking were when

Matthew brought his crash gear over to where I was sitting and said "This is a crash gear. It goes on a slippery piece like this and it flies and it spins." (obs 6, 3/5/04)
or when Lucy brought over a plastic bottle that she had filled with milk bottle lids. “It’s food for my baby” she said as she put it down on the table in front of me. (obs 3, 28/4/04)

The children did not always verbally seek recognition from an adult but would also simply hold up their creations so that I could see them and comment on them.

**Resources used**

The children in this study used a variety of different resources as they went about their work of creating objects/products in the collage/construction area of the kindergarten.

**Table 2: Resources used by the children**

<table>
<thead>
<tr>
<th>Resources</th>
<th>Number used in items by boys</th>
<th>Number used in items by girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coloured/uncoloured ice-block and peg sticks</td>
<td>22</td>
<td>6</td>
</tr>
<tr>
<td>Metal clips/sticks and circles</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>Boxes</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Wall paper sheets</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Drinking straws</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Googly eyes</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Tin foil and tin plates</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Coloured ribbon</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Feather wool</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Plastic containers and lids</td>
<td>27</td>
<td>15</td>
</tr>
<tr>
<td>Plastic tubes</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Sparkly/glitter pipe-cleaners</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Cardboard</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Rubber-bands</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Glue</td>
<td>25</td>
<td>14</td>
</tr>
<tr>
<td>Sellotape</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Staples</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 2 shows the resources that were used by the boys and girls in the collage/construction area. Plastic containers and lids accounted for the most use with 27 of the items made by boys and 15 of the items made by girls consisting in some way of a plastic container or a lid. The next most commonly used resources for the boys were the coloured/uncoloured iceblock and peg sticks (22) and the metal clips, sticks and circles (17). The girls next most preferred resources to use were cardboard boxes (12) and the wall paper sheets (12).

While many of the same resources were used by both the boys and girls the ways in which these were used differed across gender. The girls used the plastic containers and lids in order to make items such as ‘a swimming pool for duckies,’ shakers and a guitar. The boys used them as a resource to cut up into pieces in order to make the different components of items such as trains and also attached a number of them together with sellotape when making aeroplanes and crash gears when there were no coloured sticks available.

The coloured/uncoloured iceblock sticks and pegs were a resource that was frequently used by the boys. Matthew, George and Tom used the sticks repeatably on consecutive days and asked for more when they had used them all.

George: “There are no more sticks. We need sticks for our crash gears.”
( obs 7, 4/5/04)

The sticks were an integral part of the crash gears that these three boys made and had specific uses. On one occasion George said “Mine just has sticks because it pushes bodies stomachs open.” (obs 5, 30/4/04) This also demonstrates the danger element that was evident across a number of the different items made by the boys. When there were not enough sticks the boys simply broke up the sticks that they did have into pieces and were also able to uses other boxes etc. to make crash gears when there were none left.
The boys repeated use of the metal clips, sticks and circles demonstrates their interest in danger and risk taking. These three items were dangerous looking, are not usually available in the kindergarten and were used to make items such as ‘dangerous Frisbees’. One girl also used a metal clip in a back scratcher that she made.

The wallpaper sheets and boxes were the second most utilised resource items by the girls. These were used to make presents and were also the only time that the girls used sellotape in their creations - at all other times using glue to stick things together.
Discussion

The main aim of this study was to discover the similarities and/or differences with girls and boys play in the visual art area of collage/construction. In this study I chose to look at the product and subject matter of children’s play as they went about constructing items in the collage area. In doing so I was able to discover both similar and different play patterns between boys and girls. This helps me as a teacher discover ways of ensuring that boys are helped to realise ways of being creative and expressive in the collage area. As previously stated this is an area that they do not traditionally engage in.

Four categories of participation were recognised in this particular study. These were \textit{engagement in the process, subject matter, the manner in which children talked about their work and the resources used.}

The first category, \textit{engagement in the process} reflected some of the indicators that I believe show deep engagement. One indicator, time involved, was significant in this study’s results. The boys, whilst fewer in number, played longer in the area. Additionally their play scripts were longer and repeated more frequently. In this way their participation differed from their girl peers who generally spent a short amount of time in the collage area.

I believe that relationships with others play a major role in children’s involvement in curriculum areas and activities. Both boys and girls preferred to participate in play with children of their own gender, with only one boy/girl interaction occurring throughout this study. This finding is consistent with Thorne (1993) and Miller and Church (2002) who found that children prefer to play with their same sex peers. “Peers are powerful influences in the pre-school setting on sex-role behaviour” (Smith, 1985, p39) and can both positively and negatively reinforce stereotypical
behaviours. George and Matthew’s friendship played an important role in their presence and construction of items in the area and while not all of the children worked with friends the social interaction of just being alongside other children may have been an influencing factor in drawing some children to the table.

Socialising agents may also have been at work with the permission to begin participating that was only sought by girls. In society itself it is traditionally both expected and accepted that boys are more dominant with girls taking a more passive role. However, male and female roles are changing and “it seems essential therefore that our education system should not constrain social, education and occupational choices according to sex” (Smith, 1985, p39).

The second category examined was one of the subject matter of the items created by the children. The different nature of the items made was a major finding of the study and the observation data strongly showed that boys were more willing or able to risk take than the girls. According to some “it’s perfectly normal for boys to want to engage in “boy” activities and for girls to want to do “girl” things, but it’s also important to help children see that activities needn’t be restricted by gender” (Miller and Church, 2002, p1). In this project by adding resources and restructuring the layout I was actively trying to promote boys to play in an area that they don’t normally go to.

**Risk-taking**

The observation data also showed a strong link between the boy’s creations and risk taking. The risk taking scripts were only activated by the boys and their items such as the crash gears, dangerous Frisbees, knives etc. all displayed dangerous characteristics which enabled them to use ‘dangerous’ resources such as the metal clips. According to Smith and De Felice (2003) and Hendrick (2001) males are more aggressive than women. The notion that “boys play power games where dominance and hierarchy are
pervasive” (Smith and De Felice, 2003, p11) was supported in this study with the object of using a crash gear being to “...bash it into another crash gear” (obs 4, 29/4/04) with the intention of destroying the other crash gear and thus gaining superiority. One girl, Elle, while she made a Dragon Ball Z, chose not to activate risk taking.

The often stereotypical nature of the subject matter that was created by the children is consistent with the results of a study carried out by Lewis (1991) who found that “boys are drawing scenes of fantasy, cars, the countryside, etc. and the girls main focus is themselves and family and friends” (Lewis, 1991, p255). This was a definite aspect of this study with the girls often observed making presents that were for their mums and dads while fantasy was an aspect of the TV inspired crash gears that the boys consistently made.

According to social learning theory and cognitive developmental theory children learn sex roles through the power of observation and “from these observations children associate certain patterns of behaviour to be female/male appropriate” (Lewis, 1991, p251). The boys in this study were heavily influenced by the influences of television (in particular a programme that was aimed at boys called Crash Gears) as well as movies and repeatedly incorporated what they had seen on the TV into their creations. This was also a type of super hero play as the crash gears that they made took on hero/dominator status.

“Superhero’ play can be a vehicle for positive outcomes, which is not often realised by adults who try to discourage it as ‘aimless and aggressive’” (Lewis, 1991, p255). While Lewis referred to this with specific regard to dramatic play in an early childhood setting the same is also true in an art and craft area of the programme. I believe that it is important that we allow boys to express themselves in ways that are
important to them and not try to stifle their creativity by making them create what we as adults see as appropriate.

The third category was talking about their work. The actions of the children in taking their finished work to both myself and the teachers who participated in the study gave some interesting insights into the interactions that exist between the children and adults in the kindergarten. According to Tarr (1995) the physical act of children showing the teacher their finished work is the most clearly ritualised interaction that occurs between the child and the adult in the process of art making. The boys and girls in the study did this for a number of different reasons. It enabled them to seek recognition for what they had made and validation that it was acceptable and worthwhile. Particularly for the boys it was also a time when they could explain to me how their item worked: *Matthew said to me as he brought his crash gear over to where I was sitting “This is a crash gear. It goes on a slippery piece like this and it flies and it spins.”* (obs 6, 3/5/04) Watching the acceptance that other children received for their pieces of work may have also given some children the confidence to make the same item for themselves. This was the case with Sarah, whom after seeing Grace make a head band and the recognition that I gave her, also made one.

I interpreted the boys’ persistence about their play as boys being usually more careful about what they did. They generally had an idea at the beginning and did not change this while they were working. In this study my reading of what the boys did showed more intent about what they were doing while the girls took direction from me. This was a notable difference in the ways boys and girls played with the resources available.

The communicating that the children engaged in throughout this study gave some interesting insights into the socialisation of girls and boys. The girls waited to be
asked what they were making, in contrast to the boys who would independently state before beginning what they were intending on creating with the different resources. I think that in society girls are often taught that this is acceptable, while we expect boys to be more definitive.

However, it may be that we condition boys to have an idea and that this consequently means that they cannot change their mind as they work. The girls on the other hand by not announcing what they intend to make are able to change their minds and turn their creations into anything. The boys got tied into repeating their objects and I wonder if this is due to the fact that they felt that they had to explain to me what they were making and that they felt that this was unchangeable once it had been stated. As a teacher I would want to be attuned to my part in keeping children’s play moving in particular directions or opening up ways for them to play in ways that they wouldn’t normally do.

The final category was the resources used. In this study the children used a variety of different resources in their creations. While many of the same ones were used by both boys and girls, for example plastic containers and lids, what they ultimately did and made with the resources was quite different. Through study of Tables 1 and 2 it can be seen that there is a direct correlation between the large number of TV influenced items that were made by the boys and the number of sticks that were used. This is because the crash gears that were made were usually made out of sticks and only when there were none available would the boys resort to using other resources. They were also able to cut the sticks into smaller pieces if they did not have enough. This indicates good problem solving skills and a willingness to try to do and make things in different ways. In table 1 it can be seen that the girls most preferred item to make was presents. This also correlates to Table 2 and the large number of boxes and sheets of wallpaper that were used by the girls.
The results from this study highlight the importance of providing additional resources, particularly for the boys. The observation data strongly showed that the boys were more willing to risk take and produce items that may not have received adult approval, for example a dangerous Frisbee. The girls were more content with utilising items such as boxes and sheets of paper, that are always readily available in a kindergarten, and made items that were ‘safe’ (i.e. what they knew the teachers would like and what they may have previously received positive attention for). “Girls generally underestimate their own abilities” (Smith and De Felice, 2003, p12) and this may have impacted on their unwillingness to try out new ways of doing things.

While it is important that children are exposed to non-stereotypical role models and are given the opportunity to participate in a variety of different activities we as teachers also need to understand the differences that exist between girls and boys. “Failure to ‘make sense’ of the behaviour of boys and girls in terms of their experiences, social and cultural situation, access to power etc. can have the effect of implicitly blaming the girls for being feminine and directing programmes to ‘fixing up’ the girls or blaming the boys for being violent and attempting to ‘fix up’ the boys” (Clark, 1990, p30).

According to Smith (1985) girls and boys can both benefit from involving themselves in a wide variety of activities -not just those that are seen as traditionally male or traditionally female. “The arts make a contribution to children’s lives because “growth in the ways persons know the world and themselves is, after all, the point and purpose of schooling and education” (Reimer and Smith, 1992, pxi -xiii as cited in Jalongo and Stamp, 1997, p49). It is important that boys as well as girls are able to express themselves through art because the arts serve an important function in today’s society. “In many ways picture-making and object forming can be thought of as a language in the broad sense of that word -as a means of communication” (Jalango and
Stamp, 1997, p39) and this study has shown that boys are also able to use visual arts as a mechanism for interpreting and making sense of the world around them.

Lewis (1991) noted the need to determine what is actually happening within the different play activities as children participate. Therefore simply seeing that some boys are participating in an area such as visual arts that has previously been determined as an area where girls dominate, is not enough. We need to directly observe what is actually physically happening with both boys and girls. Also, as “positive adult interaction which can lead to less stereo-typed play and behaviour is vital if all children are to gain substantial benefits within any programme” (Lewis, 1991, p259). Further research could focus on the quality of the interactions that occur between the teachers and the children.

**Play choices**

The preliminary findings of this study reflect a tendency for both boys and girls to engage in stereotypical play in relation to both the use of resources and the final products that they made. “Gender itself is not a determinant of learning” (Department of Education, 1989, p15) however, children’s experiences are influenced by their gender as much as their gender affects their experiences in both society and in the education system that begins in early childhood. This was reflected in the results of the study with girls predominantly making presents to give to other people and boys influenced by television and the danger element of both the resources and their final creations. As a teacher of young children this means I need to be aware of not only children’s interests but also of ways to encourage children into extending their play in ways that they may not have normally done so. Ultimately it is this that will help ensure that gender equity is achieved within the kindergarten environment.

While there were categories under which children of both genders created I was not surprised that there were differences in some of the items made. These reflect the
different interests of the children and may have been affected by what they had previously observed other children making.

Analysis of the data also showed that boys can be helped to realise ways of being creative in the curriculum area of visual arts. While previous research states that girls dominate areas such as collage (Hendrick, 2001; Bee and Boyd, 2002), this study shows that by providing new and varied resources that are of interest to boys and enable them to risk take that they will participate in creating items and will also return on consecutive days in order to continue to do so. The study raises the possibility of shifting the notions of where girls should play and where boys should play, with two boys choosing to participate in the collage/construction area for the majority of the time that the study took place and consequently spending more time there than any of the girls.

“Part of what is ‘obvious and known to everybody’ is that people are either male or female. In learning the discursive practices of their society children learn that they must be socially identifiable as one or the other, even though there is very little if any observable physical difference in most social situations” (Davies, 1989, p1-2). The kindergarten environment is, for many children, the first education experience that they will receive outside of the family home and therefore an important opportunity for young children to make sense of who they are. Gender is a significant part of this identity and it is important that teachers are aware of the issues that surround young children and the choices that they make. They also need to consider the effect on these choices so that all children are able to reach their full potential creatively, artistically and personally in the society that they will ultimately lead.
Limitations and considerations of the study

The research topic selected in this study was done so because of my interests in young children and the way in which they construct reality within visual arts. There are a number of factors which contribute to children's experiences in this curriculum area and because of the holistic way that I believe that children learn and grow within an early childhood setting such as a kindergarten I chose to employ qualitative research methods.

This research looked at the similarities and differences between boys and girls in the visual art area of collage/construction, however there are a number of different ways of interpreting the observation data that was obtained. My own teaching background and viewpoint affected both the collection and the analysis of the data and as previously stated I was aware that just my being there had some effect on the children's participation -especially at the beginning of the study when larger numbers of children participated. However, the purpose of observing the children in the collage/construction area was to see them in their natural environment rather than in an unnatural setting and the observations themselves were also natural to this setting.

Because only one kindergarten was used, the findings may reflect aspects and influences that are unique to this kindergarten and also to the specific children that were attending at this time. For this reason it is not possible to generalise the findings for all early childhood settings or even all kindergartens.

Despite the limitations, this research reveals important information on the visual art experiences of children attending a sessional kindergarten and the similarities and differences that exist between their play in collage/construction.
Conclusion

This study set out to discover the differences and/or similarities that exist between boys and girls in the visual art area of collage/construction. It has provided evidence that both boys and girls tend to engage in stereotypical play in relation to both the use of resources and the final products that they made.

A critical finding of this study was the different nature of the items made. The risk taking scripts were only activated by the boys and also enabled them to utilise ‘dangerous’ resources such as the metal clips. In contrast, the girls were more content with utilizing items that are readily available in a kindergarten, and made items that were safe (i.e. what they knew the teachers would like). This was a major point of difference for me in interpreting children’s play in the collage area.

This study is important because it identifies ways in which boys can also be helped to realise ways of being creative in collage/construction. The study tells us that by providing new and varied resources that are of interest to boys and enable them to risk take they will participate in creating items and will also return on consecutive days to do so. Teachers should therefore, be pro-active in identifying ways to ensure that gender equity occurs within the early childhood setting.
Bibliography


Smith, I., and De Felice, H. (2003). *Boys are different....or are they?* Victoria: Hawker Brownlow Education.


Appendices

Appendix 1: Sample Observation Sheet

Date:
Setting:
Time Start: Time Finish:
Number of children present: Boys Girls

<table>
<thead>
<tr>
<th>Observation</th>
<th>Interpretation</th>
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Appendix 2: Letter to Kidsfirst Kindergartens Head Office

Justine Martin-Mckenzie
53 Glenmore Ave
Christchurch 5
Ph (03) 3594902
Email: juscot@paradise.net.nz

Dear (Name)

I am a student in the Master of Teaching and Learning degree at the Christchurch College of Education. I am currently undertaking the research component of the degree and I am seeking your consent to conduct this research at Kidsfirst Kindergartens (name).

My project is called: *An investigation of gender difference in four year old children's visual art experience at kindergarten*. The general aim of the research is to discover whether gender has any direct correlation on what children construct within a visual arts programme, which I hope, will enable teachers to identify how to ensure gender equity in the visual art component of the curriculum.

The research will be an observational study and will focus on the work that is carried out by children of both genders in the visual art component of the kindergarten programme. More specifically, the children and their teachers will be formally observed daily during a one hour time period over two weeks as they complete art work at a designated area.

All of the data that is collected through the observations will be confidential and anonymity is assured. The information that is obtained will not identify the kindergarten, the teachers or any of the individual children who are involved.

Participation in the research project is, of course, entirely voluntary. Should a parent ask that their child not be included in the study no information regarding their child will be recorded. Children who do not participate in the study will not be penalised or disadvantaged in any way.

Parents will be able to withdraw their child from the study at any time. In addition all teachers who elect to participate will also be able to withdraw at any time throughout the duration of the study.

*The Christchurch College of Education Ethics Committee has reviewed and approved this study.*

The information gathered throughout the study will be stored in a secure location, available only to my College supervisor/examiner and myself. A copy of the final report will be made available to you at your request.
Complaints Procedure
The College requires that all participants be informed that if they have any complaint concerning the manner in which a research project is conducted, it may be given to the researcher, or, if an independent person is preferred, to:

The Chair
Ethical Clearance Committee
Christchurch College of Education
P O Box 31-065
Christchurch
Phone: (03) 348 2059

My supervisor is Alex Gunn (ph. (03) 3667001) and she may be contacted regarding any aspect of the project.

Would you please sign and return the letter of agreement. Thank-you.

Yours faithfully

Justine Martin-McKenzie
Appendix 3: Letter to the Head Teacher

Justine Martin-Mckenzie  
53 Glenmore Ave  
Christchurch 5  
Ph (03) 3594902  
Email: juscot@paradise.net.nz

Dear (name),

I am a student in the Master of Teaching and Learning degree at the Christchurch College of Education. I am currently undertaking the research component of the degree and I am seeking your consent to conduct this research at Kidsfirst Kindergarten (name).

My project is called: An investigation of gender difference in four year old children's visual art experience at kindergarten. The general aim of the research is to discover whether gender has any direct correlation on what children construct within a visual arts programme, which I hope, will enable teachers to identify how to ensure gender equity in the visual art component of the curriculum.

The research will be an observational study and will focus on the work that is carried out by children of both genders in the visual art component of the kindergarten programme. More specifically, the children and their teachers will be formally observed daily during a one hour time period over two weeks as they complete art work at a designated area.

All of the data that is collected through the observations will be confidential and anonymity is assured. The information that is obtained will not identify the kindergarten, the teachers or any of the individual children who are involved.

Participation in the research project is, of course, entirely voluntary. Should a parent ask that their child not be included in the study no information regarding their child will be recorded. Children who do not participate in the study will not be penalised or disadvantaged in any way.

Parents will be able to withdraw their child from the study at any time. In addition all teachers who elect to participate will also be able to withdraw at any time throughout the duration of the study.

The Christchurch College of Education Ethics Committee has reviewed and approved this study.

The information gathered throughout the study will be stored in a secure location, available only to my College supervisor/examiner and myself. A copy of the final report will be made available to you at your request.
Complaints Procedure
The College requires that all participants be informed that if they have any complaint concerning the manner in which a research project is conducted, it may be given to the researcher, or, if an independent person is preferred, to:

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Phone: (03) 348 2059

My supervisor is Alex Gunn (ph. (03) 3667001) and she may be contacted regarding any aspect of the project.

Would you please sign and return the letter of agreement. Thank-you.

Yours faithfully

Justine Martin-Mckenzie
Appendix 4: Information for Teachers

Information for teachers

Dear Participant

I am a student in the Master of Teaching and Learning degree at the Christchurch College of Education. I am currently undertaking the research component of the degree and I am seeking your consent to be observed as part of the study.

My project is called: *An investigation of gender difference in four year old children’s visual art experience at kindergarten*. The general aim of the research is to discover whether gender has any direct correlation on what children construct within a visual arts programme, which I hope, will enable teachers to identify how to ensure gender equity in the visual art component of the curriculum.

The research will be an observational study and will focus on the work that is carried out by children of both genders in the visual art component of the kindergarten programme. More specifically, the children and their teachers will be formally observed daily during a one hour time period over two weeks as they complete art work at a designated area.

All of the data that is collected through the observations will be confidential and anonymity is assured. The information that is obtained will not identify the kindergarten, the teachers or any of the individual children who are involved. Participation in the research project is, of course, entirely voluntary. Should you wish to withdraw from the study you may do so at any time.

The Christchurch College of Education Ethics Committee has reviewed and approved this study.

The information gathered throughout the study will be stored in a secure location, available only to my College supervisor/examiner and myself. A copy of the final report will be made available to you at your request.

Complaints Procedure
The College requires that all participants be informed that if they have any complaint concerning the manner in which a research project is conducted, it may be given to the researcher, or, if an independent person is preferred, to:

The Chair  
Ethical Clearance Committee  
Christchurch College of Education  
P O Box 31-065  
Christchurch  
Phone: (03) 348 2059
My supervisor is Alex Gunn (ph. (03) 3667001) and she may be contacted regarding any aspect of the project.

Please contact me if you have any other queries or concerns about the project. I can be reached by phone on: (03) 3594902 or by email juscot@paradise.net.nz

Would you please sign and return the letter of agreement. Thank-you.

Yours faithfully

Justine Martin-McKenzie
Appendix 5: Information for Parents/Caregivers

Information for Parents/Caregivers of Participants

My name is Justine Martin-McKenzie and I am a student in the Master of Teaching and Learning degree at the Christchurch College of Education. I am currently undertaking the research component of the degree and I am seeking your consent to allow your child to be observed as part of the study.

My project is called: *An investigation of gender difference in four year old children’s visual art experience at kindergarten.*

The general aim of the research is to discover whether gender has any direct correlation on what children construct within a visual arts programme, which I hope, will enable teachers to identify how to ensure gender equity in the visual art component of the curriculum.

The research will be an observational study and will focus on the work that is carried out by children of both genders in the visual art component of the kindergarten programme. More specifically, the children and their teachers will be formally observed daily during a one hour time period over two weeks as they complete art work at a designated area.

Confidentiality and Anonymity

All of the data that is collected through the observations will be confidential and anonymity is assured. The information that is obtained will not identify the kindergarten, the teachers or any of the individual children who are involved.

Participation

Participation in the research project is, of course, entirely voluntary. Should you ask that your child not be included in the study no information regarding your child will be recorded. Children who do not participate in the study will not be penalised or disadvantaged in any way.

You may withdraw your child from the study at any time.

The Christchurch College of Education Ethics Committee has reviewed and approved this study.

The information gathered throughout the study will be stored in a secure location, available only to my College supervisor/examiner and myself. A copy of the final report will be made available to you at your request.
Complaints Procedure
The College requires that all participants be informed that if they have any complaint concerning the manner in which a research project is conducted, it may be given to the researcher, or, if an independent person is preferred, to:
The Chair
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P O Box 31-065
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Phone: (03) 348 2059

My supervisor is Alex Gunn (ph. (03) 3667001) and she may be contacted regarding any aspect of the project.

Please contact me if you have any other queries or concerns about the project. I can be reached by phone on: (03) 3594902 or by email juscot@paradise.net.nz

Would you please sign and return the letter of agreement.

Thank-you

Justine Martin-Mckenzie
Appendix 6: Informed Consent Agreement (Head Office and Head Teacher)

Research Project: An investigation of gender difference in four year old children’s visual art experiences at kindergarten.

Informed Consent Agreement - (1)

I have read and understand the information provided to me concerning the research project and agree to allow Justine Martin-McKenzie to conduct the observations at Kidsfirst Kindergartens (name).

I understand that all of the data that is collected through the study will be kept confidential and that no individual teachers or children will be identified.

I understand that participation in the project is entirely voluntary and that teachers and parents may withdraw from the project at any time without incurring any penalty.

A copy of the research project will be made available to me if required.

Name: __________________________

Signature: _________________________

Date: __________
Appendix 7: Informed Consent Agreement (Teachers)

Research Project: *An investigation of gender difference in four year old children’s visual art experiences at kindergarten.*

**Informed Consent Agreement - (2)**

I consent to participate in the project, *An investigation of gender difference in four year old children’s visual art experiences at kindergarten.*

I have read and understand the information provided to me concerning the research project and what will be required of me if I participate in the project.

I understand that all of the data that is collected through the study will be kept confidential and that no individual teachers or children will be identified.

I understand that my participation in the project is entirely voluntary and that I may withdraw from the project at any time without incurring any penalty.

Name: ____________________________

Signature: _________________________

Date: __________
Appendix 8: Informed Consent Agreement (Parents/Caregivers)

Research Project: *An investigation of gender difference in four year old children’s visual art experiences at kindergarten.*

**Informed Consent Agreement - (3)**

I consent to allow my child to participate in the project, *An investigation of gender difference in four year old children’s visual art experiences at kindergarten.*

I have read and understand the information provided to me concerning the research project and what will be required if my child participates in the project.

I understand that all of the data that is collected through the study will be kept confidential and that no individual teachers or children will be identified.

I understand that my child’s participation in the project is entirely voluntary and that I may withdraw my child from the project at any time without incurring any penalty.

Child’s name: ________________________

Parent/Caregivers name: ________________________

Parent/Caregivers Signature: ________________________

Date: __________