Figure 8: Tia (aged 5 years 7 months): “It’s a caterpillar!”

“It’s a caterpillar!
Up the top is the head.
Those are the legs.”
(The artist indicates perpendicular lines emanating from each side)
“The dots are the hairs.”
Tia is recording what she knows about caterpillars, developing an ’equivalence of form’ to represent her knowledge.
Introduction

This chapter focuses on the methodology used in the research study and the rationale for the choices I made to employ visual ethnography. I describe the features of ethnography and why it was a suitable choice for my research. The rationale for using visual ethnography is discussed along with the advantages of using video recordings to collect data in the field. I explain my methods of working with the children and how I recorded data as a participant observer. The participants are described and their involvement in the study is outlined. Ethical issues are discussed as are the methods employed for insuring that the children's participation was voluntary and that they gave their assent to be recorded. Finally, I describe the rationale for the choices I made to select specific events as data for analysis.

Methodology

To choose a methodology for this study, I wanted one that would capture the complexity of the context in which children discovered, discussed and drew, along with the interactions and intra-actions of the participants. It had to assist me with recording subtle and fleeting actions, reactions, nuances of language and meaning as children explored and learned together with their peers and myself as researcher/teacher in the study context. To achieve this, the methodology had to include 'thick' description (Geertz, 1973, as cited in Denzin & Lincoln, 2000, p. 15) and data collection methods that were appropriate to use with young children. The methodology had to support my interpretations on a number of levels, and help me link findings to theory. Ethnography was an appropriate
methodology from an epistemological point of view. Using visual ethnographic data collection methods allowed me to act as participant researcher during the course of the study.

**Ethnography**

Ethnography was a logical choice as the methodology for my study because it gave me, as researcher, the freedom to record in a relatively unstructured way what was happening in the context of the children’s nature study sessions (Hammersley, 1999). I was able to interpret my data continually as the study progressed. Developed in the early twentieth century by anthropologists to study different ethnic groups, ethnography has become widely used in the social sciences to study many people defined in ways other than by ethnicity (Liamputong & Ezzy, 2005, p. 162). In recent years it has been used in studies with children and in educational settings (Atkinson & Hammersley, 1998, p. 121; Siraj-Blatchford & Siraj-Blatchford, 2001, pp. 193-194). In contemporary research, the objectivity of ethnography is being challenged by the argument that ethnography does not enable people to be studied objectively and scientifically, but research, at best, is a construction of the researcher's experiences (Atkinson & Hammersley, 1998, p. 118; Spencer, 2001). Pink (2007, p. 18) discussed the post-modernist approach to ethnography as:

'(r)ather than being a method for the collection of 'data', ethnography is a process of creating and representing knowledge (about society, culture and individuals) that is based on the ethnographer's own experiences. It does not claim to produce an objective or 'truthful' account of reality, but should aim to offer versions of the ethnographers' experiences of reality
that are as loyal as possible to the context, negotiations and
intersubjectivities through which the knowledge was produced.

As the children in this study were constructing knowledge about the natural
world in our nature study group times, so I was also constructing knowledge
about their learning. Hence, my thesis is not an objective account of children's
learning, but my documentation, interpretation and construction of what the
children were experiencing.

Hammersley (1999) summarised the main features of ethnography:

- People's behaviour is studied in everyday contexts
- Data are gathered from a range of sources, but observation and/or
  relatively informal conversations are usually the main sources
- The approach to data collection is 'unstructured'
- The focus is usually a single setting or group; and
- The analysis of data involves interpretation.

Each of these criteria correlated well with my study. I studied the children in
their everyday setting of the preschool engaged in the normal program of which
my nature study sessions were a part. Data were collected by several means:
video recordings, scanned drawings, written notes, audio-recorded interviews
and digital photographs. Data collection occurred in an unstructured way mainly
while the children were engaged in conversation with each other or me, during
drawing events, or while collecting specimens from the playground. The
research was conducted with a single group of children, and focused on a sub-
group of five children. The data collected were analysed in an interpretive
manner.
One of the tasks of the ethnographer is to become immersed in the culture of the group being studied; hence, traditionally, ethnographic studies took place over long periods of time. As an educator, I was already familiar with the culture of preschool education, and had some familiarity with this particular centre, the staff and several families involved in the study. I understood the emergent curriculum and underlying philosophy and pedagogy of child-centred learning of the preschool (see chapter 1) as I was also engaged in early years education in a similar centre implementing the *The NSW curriculum framework* (Stonehouse, 2001). I had been employed at this particular centre two years previously as teacher/director, and had also worked there for six weeks in the previous year. This familiarity was an advantage from an ethnographer's point of view; however, Siraj-Blatchford and Siraj-Blatchford (2001) warn of the problems of having insider perspective of the institutions they study and the need to "make the familiar 'strange'" (p. 197) in order to question practices and identify hidden assumptions.

**Visual ethnography**

A more recent development in social research is the expanding use of visual ethnography, involving visual recording techniques rather than the traditional written description and field notes (Heath et al., 2010; O'Reilly, 2009, p. 220; Pink, 2007). Visual recording techniques in the social sciences were used as early as the mid eighteen hundreds to take still photographs of human facial expressions (Duchenne de Boulogne, 1862, cited in Heath et al., 2010, p. 3) and film documentation of ethnographic studies in New Guinea, the Torres Strait and of Australian Aborigines around the turn of the nineteenth century (Heath et al.,
2010, pp. 3-4). Despite the great advantages of photographing and filming ethnographic subjects in the field as championed by Mead and Bateson in their anthropological work in Bali in the 1930s (Bateson & Mead, 1942), visual recording has not been taken up as a serious data collection tool in the social sciences until the last two decades (Heath et al., 2010, pp. 2-5).

Visual ethnography can be considered both as a methodology (the study of visual artefacts such as objects, photographs and video) and a method (the use of visual recording techniques which allow researchers to record visually in the field)(Pink, 2007). Conventional ethnography entails much note-taking and ‘thick’ description of events that are occurring in the cultural context that the researcher is observing (Geertz, 1973, as cited in Denzin & Lincoln, 2000, p. 15). However, acting as both participant observer and ‘researcher/teacher’ precluded my detailed note-taking of all that was happening within the group of children as they explored nature and engaged in drawing. Consequently the method I chose employed a video camera to record the children’s drawing processes and their interactions with nature and living things. This approach allowed me to interact with the children while simultaneously recording their behaviour and dialogue. In support of this method, Brooks (2002, p. 4) observed: "Video has the ability to represent things like gesture, expressions, sense of emotion, dialogue, and contexts in ways that written notes would not allow me as a busy teacher." Video recordings can act as visual note-taking and subsequently be reviewed and revisited many times to allow the researcher to analyse and construct understanding of the various learning processes that occurred (Heath et al., 2010; Pink, 2007). This process is supported by Heath et al. (2010, p. 2) who
state that video recordings allow data to be "subject to detailed scrutiny... (and) repeatedly analysed and they enable access to the fine details of conduct and interaction that are unavailable to more traditional social science methods". The use of video was also advocated by Goldman-Segall (1998) for recording subtleties and fleeting moments that might be missed in creating written notes after an interaction.

Video captures and records a huge amount of information that would be impossible to record in written form (Walsh et al., 2007). With the delay incurred in note-taking, a researcher is likely to miss many details as the children move on to further conversations. Furthermore, recording rapid conversations between children in written form would be almost impossible, and time spent writing dialogue would not allow the researcher to add details of body movement, gestures or voice tones. Reviewing video footage over time allows the researcher to focus on specific issues at different times - for instance, dialogue during one viewing, and then focusing on gesture or facial expressions in a second viewing (Heath et al., 2010, p. 62). The video camera is also able to capture activity and dialogue outside the focus area of recording. Thus I found video recordings of the children's nature explorations, discussions and drawing events captured a wealth of information that included dialogue, gesture, facial expressions, body movement, voice tone as well as the background environment. I was able to revisit the recordings many times using different lenses to elicit multiple layers of understanding and analysis.

Visual ethnography can also include visual objects as data, so in this study the
children's drawings formed a major part of the data bank. After collecting and scanning over one hundred drawings from fifteen children, I narrowed my focus to six drawing events involving five children, identifying "critical episodes" (Siraj-Blatchford & Siraj-Blatchford, 2001, p. 201) for further analysis of meaning-making (see chapters 5 and 6). I chose these particular drawing events because they were examples showing different drawing repertoires (Wolf & Perry, 1988), or because the dialogue that accompanied them demonstrated learning in the social context. Video recordings of each of these episodes allowed me to analyse the drawing event in the social and dialogic context, thus allowing the child's voice and those of his/her peers and me as the researcher/teacher to give greater contextual meaning to the process of drawing.

Consequently, I designed my research as a visual ethnographic study, which gave me the methodological tools to observe, record and analyse the children's learning processes as they occurred. Much of my study concerned the visual: collecting and analysing the children's drawings as visual data; using visual recording techniques to capture and analyse the children's interactions and drawing processes; and exploring how the children made their learning visual. The children's drawings formed concrete visible artifacts that recorded their observations (Sylvie's moth, figure 22, p. 127) and thought processes (Cody's magnifying glass, figure 23, p. 133) but also allowed them to review and develop their thinking further (Sophie's leaves, figure 6, p. 62). As part of the intercontextual learning environment, along with the children's interactions and conversations, the drawings revealed to me the level of the children's thinking.
Participant observer

Throughout the study period with the children I acted as a participant observer, simultaneously engaging the children in dialogue and exploration, whilst observing their responses and recording their actions and discussions with a digital video camera. Engaging in an ethnographic study necessarily entails acting as a participant observer (Liamputtong & Ezzy, 2005, pp. 169-171). As Siraj-Blatchford and Siraj-Blatchford (2001, p. 198) note, the researcher usually engages in the lived experience of the children whilst simultaneously recording what is taking place. In traditional ethnography the researcher aims to participate in the culture being studied and to be accepted as if they were one of the group, whilst observing and documenting the behaviour of the participants. In studies with children, some researchers even attempt to act as "least-adult" as possible to gain access to the group (Freeman & Mathison, 2009, pp. 59-62). In contrast, my role within the research context remained as an adult teacher; I was often acting as an 'outsider' by initiating discussions or explorations, providing provocations that the children then developed into dialogue amongst themselves.

On reviewing my recordings, I discovered that I sometimes asked the children too many questions, often leading them to a certain viewpoint, a practice which, on reflection, did not always allow the children to develop their own line of thinking. The importance of listening to children and using open questioning is further explored in chapter 7. Learning to listen to children can take a lifetime of practice but if we allow children to tell us what they know, our teaching will be much better informed (Cadwell & Fyfe, 1997). Consequently, I have included the
children's voices to an extent greater than is normal in most studies. This also encourages the reader to examine much of the data and make their own interpretations.

I believe that learning is a qualitative change that is impossible to see and difficult to measure. The very act of learning is not able to be recorded - all we can record is the after-effect that a change has taken place and a child is now able to communicate a new understanding to others, as demonstrated by Sophie's new understanding of leaves described in the previous chapter (figure 7, p. 73). My aim was to study the context in which learning was taking place and gain some insight into the way children constructed knowledge. In some of the longer and more complex dialogues, it is possible to discern that children are developing their ideas and understandings in dialogue with their peers (for instance, in the description of drawing event 1a in chapter 5, p. 106). To find a methodology sensitive enough to be able to record these subtle changes required a qualitative approach with a mixture of data gathering methods and analytical tools.

**Methods**

**Context**

The preschool where the study took place has been described earlier in chapter 1. The premises consist of one large classroom opening onto a wide, covered veranda, which is used for a number of activities across the day and throughout the year. Beyond the veranda is a large outdoor play area comprising open grassed areas, established trees both native and exotic, gardens of flowers, herbs,
strawberries and occasionally vegetables. The playground has views of open farmland beyond and is adjacent to a small park containing plantings of native trees and shrubs. The parents, staff and children all participate in planting and maintaining the outdoor area, with a paid worker mowing the grass when needed. The children have a period of 1½ hours daily to play outside. They use all of the outdoor space for active and imaginative play, engaging with the natural elements, playing around and on the trees, picking flowers and strawberries, investigating gardens. The playground also includes a sandpit, bike track, artificial creek, and play equipment comprising platforms, slides and ladders.

I was fortunate that the preschool offered a suitable space in which to engage with the children, having enough area for groups of children to work in and display our materials, texts and specimens with little interference from children engaged in other activities (Freeman & Mathison, 2009, p. 54). This was conducive to developing a learning space in which children could work together, but also allowed easy access to both the outdoor and indoor areas. The environmental choices I made about setting up my study area reflected my belief that children would work and interact together, and learn from each other in a social context. The importance of the learning environment is reflected by Brooks (2009a):

   The choices we give children about where to work, who to work with and how to formulate their ideas reflects our beliefs that children already know a great deal about the world in which they live and have the capacity and motivation to share this with others (p. 328-9).
It is important to consider the environment as "the third educator," a concept derived from the philosophy of the Reggio Emilia schools (Gandini, 1998, p. 177). The choices we, as educators and adults, make about the environments in which learning takes place can either support or detract from children's learning. To foster learning in a social context we need to provide a physical environment that allows social intercourse and gives children choices and agency in their pursuit of knowledge.

In designing my study, I also wanted the children to have access to the natural outdoor environment of the playground and to be able to come and go freely between the study table and the garden. In this way, discussions and drawing events at the study table could be linked to their explorations of the outdoor space. A large 'outdoor' style table with bench seating along each side was situated on the veranda between the garden and the main preschool room. This became our 'study table' and functioned as the base for observing nature specimens, engaging in discussions and personal drawing. The size of the table allowed space for drawing materials, specimens and reference books. Five children could sit along each side and talk, observe or draw, although there was rarely this number together. Smaller groups would form around a particular discussion theme, or observation of specimens, often concurrently. The children could sit close together, which allowed them to observe each other's drawings. Indoors, a large tank containing tadpoles also formed part of our observations and was the subject of many discussions and drawings.
Participants

The preschool caters for up to twenty children aged between three and five years old, who are grouped together with one university trained early childhood teacher and two assistants. The participants for this study were the twenty children attending the preschool on the study day, their parents/caregivers and three staff members – that is, their teaching director and two preschool educators. The children were actively engaged in outdoor activities at the preschool including gardening, and were encouraged to observe both plant and animal life occurring in the outdoor playspace. Many of the children attending this preschool came from rural areas and experienced the outdoor environment as part of their everyday life. As the preschool is located in an open, semi-rural area of the village, natural surroundings are a part of every child’s experience to some degree. However, the children do not necessarily have an affinity for, or understanding of this natural world. My sample consisted of the children who were willing to participate in the study and whose parents had consented to their involvement.

In order to establish a rapport with the children, their parents and the staff at the centre, I undertook a number of pre-study visits. I used this time to inform parents and organise the distribution of information sheets (appendix 6) and return of written consent forms (appendices 7 and 8). I also ran a small pilot study with the children to ascertain the best way to approach the research with them and to trial video and audio recording. In this way I established relationships with the informants and ‘gate-keepers’ to pave the way for more effective interactions during the research study (Minichiello, Madison, Hays, &
Parmenter, 2004). I visited the preschool for ten consecutive weeks for the duration of the study and on each visit spent about an hour with the children engaging with them in exploring the playground, collecting specimens, observing, drawing and discussing ideas. I usually stayed on at the preschool after my research session had finished and participated in the normal daily programme; this allowed me to deepen my rapport and relationship with the children and to contribute some extra time to the centre. Over the course of the study, I had informal discussions with the staff members and some parents during each visit. I also conducted and recorded open-ended interviews with two staff and four mothers of children in my focus group who were most involved in the research sessions.

I expected that some children would act as "key informants" (O'Reilly, 2009, pp. 133-134) in that they showed more evidence of learning or were more able to engage in dialogue with their peers or adults about their drawings and experiences. In her doctoral study, Brooks (2002) found that some children's classroom experiences were more appropriate to include in her study and thus received greater focus and analysis. On reviewing my data, I decided that the most effective way to analyse it was to select specific drawing events or "critical episodes" (Siraj-Blatchford & Siraj-Blatchford, 2001, p. 201) focusing on the learning of a few children rather than the whole group. In the following chapter, a short introduction of each of the key informants is given.
Researching with children

Before the study commenced, I decided to equip children with their own drawing books in order to keep each child’s work together and later enable me to easily see and review the development occurring over time in their drawings. I supplied the children with their own spiral bound A5 art journals, inscribed with their names. I chose to give each child their own journal for several reasons - to encourage ownership of the project, to ensure that drawings for each child were kept together, and to eliminate the need to name each drawing, which also helped to ensure confidentiality in the final publishing process. This allowed both me and the children to revisit and review their drawings (Brooks (2003, p. 6). The collection of each child’s drawings represented a range of drawing ideas and repertoires (Wolf & Perry, 1988).

The journals were kept in a large box that I took back and forth with me between the preschool and my home so that I could examine and scan the drawings between sessions. This avoided the problem of negotiating ownership of the originals as encountered by Coates and Coates (2006, p. 226) and allowed children to keep their drawings at the conclusion of the study. After a few weeks, the children were familiar with this system and were able to access their own books when needed during my nature study sessions from the box on the veranda.

Other materials provided to the children for the study included: several magnifiers of different powers of resolution; containers for safely and carefully holding small creatures; black lead pencils of varying grades; a range of felt
tipped black pens (finest 0.4mm); black biros; and a box of thirty-six artist grade coloured pencils.

Initially in the pilot sessions, coloured felt pens, oil pastels and charcoal were also provided. After observing the children using these media for several sessions, I decided to remove them from the array of drawing implements because I felt they were not appropriate for this study. The children had great difficulty using the charcoal without incurring much mess on their hands, clothes and their drawing paper. I realised that in order to succeed with this medium, the children needed more experience with it, and the time constraints of the study did not allow for this. The coloured felt pens and pastels were used more expertly by the children, but I felt after looking at their drawings from the pilot sessions, that these media were being used more for the experience of colour than to record the children’s observations and ideas. Steele (2011) had made a similar observation, that children “get caught-up in the colouring-in process” and advocated that ”line - not tone, not texture, not color, but line - is the drawing technique most conducive to language expression”. Likewise, Brooks (2002), in her doctoral study, chose materials for her students that enabled them to draw detail and have more control over their drawing tools. My strategy of restricting the drawing media to black with limited use of coloured pencils resulted in children producing drawings that were rich in detail. The children tended to add colour to further enhance the meaning of the drawing, rather than for its own sake. Brooks (2003b, p. 6) recommends for ‘clarity, responsiveness and simplicity’ that children use plain white paper, graphite pencils and erasers.
**Researcher tools**

A video camera, digital audio recorder and digital camera were used to record the children's drawing events, discussions and interactions as well as the interviews with adults. Initially the children were very interested in using the technology (Goldman-Segall, 1998). Several children were fascinated with the digital audio recorder and decided to record interviews with other children - however, due to their lack of expertise in recording, interviewing and being interviewed, these were not very successful. After several weeks of my recording them, the children became very used to the video recorder. Occasionally children asked me to record something special for them and often I volunteered to record their drawing events or nature specimens. After the first few weeks, I did not encounter the problems of some researchers who have found video cameras to be intrusive and distracting (Walsh et al., 2007). I took digital photos to complement the videos of the children, and used these photos to make display boards for the preschool classroom. These displays explained what we studied each week and what the children were learning. In this way I hoped to connect with the children's families and inform them of the children's involvement in my research. The staff commented that the children often revisited the display boards during the week and discussed the drawings and photos displayed. At the 'Bug Party' finale, held to celebrate the completion of the study, I exhibited all the display boards for the benefit of parents who had been invited to our afternoon tea party and display. Their interest was evident and their response to the study enthusiastic.
Recording the data

Our weekly nature study sessions occurred as part of the normal programmed outside play session, during which the children were free to engage in a range of outdoor activities for a period of one and a half hours. The children's responses to the nature study sessions were enthusiastic, and each day I had a group of at least four children engaged in hunting for 'bugs', drawing or discussing their finds.

Each study day I set up the table with drawing materials, small collecting containers with magnifying lids, a selection of magnifying glasses, the children's own drawing books, reference books relevant to our study and any items of interest for the children to observe and draw. The children developed a routine of spending time in the garden searching for living things of interest, so that many of the observations and discussions took place 'in the field'. Many of the creatures found were carefully transferred to a specimen container and brought back to the study table for further examination, discussion and representation by drawing. The children were encouraged to treat their specimens carefully and to release them back into the garden afterwards. Initially during the pilot study, I brought natural items (for example: rocks, flowers, beetles, items found on a beach) to preschool for the children to explore. I soon realised that the children were much more interested in finding their own subjects to investigate, either brought from home or collected in the playground.

As mentioned previously, I participated in the children's collecting, observing and discussions as a facilitator, provocateur and observer. I often initiated
discussions with the children, or facilitated dialogue by prompting children’s thinking through open-ended questions (Littledyke & McCrea, 2009, p. 46). The children’s journals were accessible to them each study day, and they were free to draw whatever they wanted, although I strongly encouraged drawing connected with our nature study focus for the day. At each session, I attempted to video the children engaged in their drawings and conversations that I considered to be of most interest to my study. At times I discussed individual drawings with their creators, and scribed labels, stories and explanations onto the drawings. I also took separate notes to further my understanding of a child’s representation. In scanning children’s drawings, I selected those drawings with images that had most relevance to my study. Some drawings were produced without my knowledge and were impossible to decipher later on, so these were not included in the scanned selection.

The children’s explorations, discussions and activities in the garden were often videoed. Initial audio recording of children’s discussions were discontinued as they proved unsatisfactory compared to the video recordings, which were so much richer in contextual detail, capturing the interactions between children, their gestures, facial expressions and the physicality of their drawing (Brooks, 2002; Heath et al., 2010). In contrast, the adults preferred their interviews to be recorded as audio only. I took notes occasionally during the sessions with the children, and wrote in more detail immediately after each session. I found that note-taking, compared to recording with the video camera, was clumsy, too slow and not detailed enough to capture the very rich interactions that were occurring. I was unable to adequately record conversation between the children.
in written form; but the video recordings generally allowed me to replay interactions and conversations and then transcribe conversations in full detail. A few conversations were not very clear (for example, Sylvie's story of the storm) due to either my inexpert recording techniques of some children's softer voices or to the fact the sound recording quality for video cameras is poor (Heath et al., 2010, p. 55). This meant that some of the conversations between children were not able to be transcribed and thus reduced the meaning discernable in the exchange.

Children in my study became accustomed to the presence of the video camera, much as they became used to digital photos being taken in the everyday course of preschool life as documentation of their learning (DEEWR, 2010; Lubawy, 2006; Walters, 2006). At times several children talked at the same time, and the video recording was unable to capture both conversations clearly enough to allow transcription. Even the technology of the digital video recorder was limited in what could be recorded clearly (Heath et al., 2010, p. 55). In a situation in which several children were interacting, talking, observing bugs and drawing at the same time, I had to make choices about who and what to record. The children proved to be unpredictable subjects, and often I found on reviewing the video footage that an interesting discussion occurred on the periphery of my focused recording which I was not aware of while recording.

I also took still photographs during the study, mainly to use in weekly displays for the classroom, as an act of reciprocity (Ochsner, 2001) and to connect other staff and families to the study. The children were particularly interested in taking
photos of the 'bugs' that they collected and also of their own drawings. This
preschool uses digital photography all the time as a way to record the children’s
development, interests and engagements; so the children were very familiar with
it as a way to document their work. Over the past fifteen years or so, digital
technology has become cheaper and more accessible, as documentation in early
childhood education in Australia has become more encompassing, more
demanding and more individualised. Consequently, the majority of early
childhood services in Australia now use digital technology, particularly
photography, to document children's learning (DEEWR, 2010; Lubawy, 2006;
Walters, 2006).

Immediately after each research session at the preschool, I wrote notes about the
children's participation, discussions and drawings. Later I reviewed the day's
drawings and scanned them, with the exception of those that I had not observed
being produced and whose intent I could not decipher. I also reviewed the video
recordings from each day's nature study, whilst looking at the completed
drawings in the context of the recording of their creation. As highlighted above, I
created an information board most weeks as a research sharing and reporting
gesture, demonstrating the children's investigations and their developing
thinking processes. These boards were posted at preschool in my absence for the
preschool staff and families, as well as the children to revisit their previous
drawings and images of their thinking.

**Ethical issues**

Research with young children arouses many ethical issues. Informing children
and seeking their assent to participate in research is a relatively new perspective reflected in contemporary studies involving children (Danby & Farrell, 2004; Dockett & Perry, 2011; Freeman & Mathison, 2009). The children were given the opportunity to agree to participate in, or withdraw from, the project at any time. Legally, consent must be obtained from parents or legal guardians for children to participate in research (Coady, 2001, p. 66). In keeping with ethical requirements for research (refer to UNE ethics approval, Appendix 1) and also to respect the rights of the children involved, I obtained both informed parental consent (refer to Appendix 6: Participant information sheet for adults; and Appendix 7: Parent consent form) and informed assent from the children in the study (refer to Appendix 9: Children’s assent form). Informed parental consent was sought after communication with them about the project, ensuring that they understood what the project was about and how their children would participate including any possible ramifications. Consent from parents was sought to observe, videotape and audio-record the children, reproduce their drawings, and allow children to visit adjoining parkland for exploration purposes.

Parents were able to discuss the project with me and were invited to participate in our sessions at preschool. The children were also informed about the project and were asked to give their assent to being involved in the study, being videoed and photographed, and having their drawings reproduced. They were free to be involved in or withdraw their participation from each session for the duration of the study (Dockett & Perry, 2011). Several parents withheld consent to having data collected about their child’s participation, or only gave partial consent; for instance, they did not consent to their children being videotaped although they
agreed to their children being involved in the nature study research tasks, and having their ideas and drawings recorded in other ways. As my study sessions were part of the everyday preschool programme, all the children were free to choose to participate in the exploration, discussions and drawing sessions, as long as I remained mindful of avoiding recording those few children whose parents had not given full consent to data collection.

Confidentiality was ensured in this study by changing the children’s names for reporting with this thesis. As each child had his/her own journal, their drawings did not need to be named individually. I used scanned copies of their drawings in my thesis (with the children’s and their parents’ permission). Discussions have been transcribed and names changed or deleted. Any video footage and photos have been used solely for observation purposes and will not be published here, with the exception of photos used as introductions to the title page, chapters 1, 4b, 5, 7 and Reference section, in which children are not identifiable.

The concept of reciprocity is important in ethnographic research (Freeman & Mathison, 2009, p. 82-84; Ochsner, 2001); that is, that the informants or participants in the research are given something in return for their time and participation. The nature study sessions in my research provided children with meaningful learning experiences and supported their drawing development. The children were given their journals to keep after I scanned the drawings for data collection. I purchased appropriate resources for my project, which I then donated to the preschool to enable them to continue nature study work after the completion of this research. I also spent extra time after my study sessions had
finished for the day engaging with the children and assisting staff. Minichiello et al. (2004) advocate that institutions that participate in research be given feedback on research findings. A simplified version of my findings will be made available to the preschool staff and the children’s parents. An illustrated journal of the children’s journey was made and presented to the centre for children to revisit and review their drawings and learning.

Towards analysis

In contrast to my earlier undergraduate study of Sophie’s drawings (refer to Figure 7: Analysis of Sophie’s leaf drawings earlier in chapter 4a), no clear pattern of drawing development emerged from my data for individual children or the group of participants. Instead the children had produced a great range of different types of drawing which included:

- a few realistic depictions of specimens;
- many drawings combining elements of realism and imagination;
- drawings that expressed movement and sound;
- drawings that were intimately bound up with dialogue.
- drawings that were part of a spoken narrative
- drawings that attempted to make meaning or express ideas

The importance of context emerged as an over-riding factor here; that is, without the particular setting (space and place) with the children’s interactions and conversations, the drawings alone did not convey the depth and richness of their learning or understandings. Choosing to use video as a data gathering method was a vital decision; it allowed me multiple revisits to the children’s experiences
within the communal learning space. Each time, this deepened my understandings of what the children were expressing.

At the end of the study and data collection process, I had 114 scanned drawings and 60 segments of video recording varying in length from 11 seconds to 14 minutes. Rather than attempting to analyse all these data, I decided to focus on selected events that:

• were rich in detail,
• showed different ways that children used drawing, and
• contrasted drawings from the same children.

I identified what Siraj-Blatchford and Siraj-Blatchford (2001) refer to as "critical episodes" (p. 201). These examples are significant drawing events which characterise different drawing repertoires or ways in which drawing has been used by the children. I aimed at including contrasting drawings from the same children showing the use of different repertoires (Kindler, 1999).

The following chapter gives detailed descriptions of six drawing events with transcriptions of the children's dialogue and reproductions of the children's drawings.