A dialectical method for researching everyday practice in Australia

Monash University
Marilyn Fleer, with Avis Ridgway and Gloria Quiñones
Introduction

• Acknowledgments

• Theoretical perspective

• Research Orientation - wholeness approach

• Study Design

• Findings: What the wholeness approach allowed
The overall study sought to examine the reciprocity between everyday thinking and scientific thinking during playful encounters in early childhood centres with a view to better understanding how concept formation for four and five-year-old children is supported during play.
Theoretical orientation

- Vygotsky (1987) argued that much of what we know about concept formation has tended to use research methods which focus on the ‘completed process of concept formation with the ready-made product of the process’ (p. 121)

- Studying the dynamic process as opposed to the child’s definitions of a particular concept (‘end product), offers a new direction for science education.
Research Orientation:

We sought to determine if a wholeness approach would allow for the dialectical study of concept formation during playful events in preschools.
A wholeness approach: *Analysis*

Child’s project
Family’s project
Institution’s project

Children develop through different institutional collectives: home, school, community, each framed by different practice traditions including participant’s values and motives.

*A dialectical method* for childhood research provides us with a dynamic context for understanding the social situation of children’s development.
Cultural-historical framework

Hedegaard (2005)
Study design

Sample:
3 research sites:
  coastal
  urban
  Jewish city centre

Procedure:
• Video recordings of classroom practice
• Family photographic and video recordings
• Family interview
• Staff interviews
Sample

23 children with permission. (13 boys and 10 girls)
Group average age: 3.8yrs
Age Range: 13 months.

Focus group ages at June 2006

Three girls:
Rikki K 18.6.02 & Britney K (twins) 4 years
Jaime 10.11.02 3.7yrs

Three boys:
Toby 7.3.02 4.3yrs
Damien 3.5.02 4.1yrs
Matthew 10.12.02 3.6yrs

Visits over 12 month period = Total 33

Avis: 19 hours of video
Five focus families explain home photos,
Eleven children’s participation in play, routines and special sessions of music/art.
Three on teacher interviews and comments, Introduction and PD session.

Gloria: 17 hours of video
Interviewing children around home photos,
Play times, routines and staff
Final PD 2hrs
Two hours of Home family videos: (4 x approx 30 minutes each)
Final Field Project: Avis 1hr and Gloria 1 hr. Children and Julie explaining “footy” project 2 hours.

• Total video hours 40 (36 hours plus family home video 2 hours plus final “footy” project 2 hours.)
• Digital photos: 2,210.
• Audio tapes: 3.
Procedure

• Disposable cameras were given to five families at each research site.

• Families were asked to photograph important science events in their lives at home with their children. The families were interviewed about their photos.

• In 2007 follow-up: In the Jewish Centre 4 families were given video cameras and tripods and were asked to videotape a minimum of three everyday examples of science that their children engaged in at home.
Researcher’s perspective

Introduction to Vygotsky’s work.
Everyday and Scientific concepts.
## Example One: Staff perspective

<table>
<thead>
<tr>
<th>Lead Teacher’s project (from video protocol transcript and context)</th>
<th>The Assistant Teacher’s project (from video protocol transcript and context)</th>
<th>Example</th>
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<tbody>
<tr>
<td>The Lead Teacher wants to have a ‘free flow’ program where the environment is not set up. Mediation is planned through provided unstructured contexts and everyday materials.</td>
<td>The Assistant Teacher wants a program where scientific knowledge is mediated through staff interactions with children as they engage with the set up environment.</td>
<td>Assistant: “extend their thinking absolutely. I think really the children who hypothesise the best are the ones who have had some input... it’s not like... you will learn... this is what I’m teaching you... but doing something together, looking something up together, adding some information... that’s really important part of the process.”</td>
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<td>The Lead Teacher is not focused on concepts, but rather on processes.</td>
<td>The Assistant Teacher believes it is important for a teacher to have in mind the concepts they wish to actively explore with children so to make conscious through play and with interactions with staff.</td>
<td>Teacher: “Only basic things are out... the children have been using their own devices...”</td>
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Assistant’s perspective
Example One Child’s perspective

Molly takes an oil bottle over to her teacher and asks her to close the lid.

- Teacher: Ah that is hard to shut isn’t it? (Molly tries to push lid down)
- Molly: Hard to shut
- Teacher: So what are you going to do with it?
- Molly: Shake it
- _Child is mixing ingredients in a bowl._
- Lana: I’m going to mix this (Teacher: hm-hm) all the way to the bottom, to the end.
- Teacher: What does it smell like?
- Lana: Um, cause I’m making meat
- Teacher: You’re making?
- Lana: Meat
- Teacher: Meat okay (Lana stops mixing and pours oil in) More oil
- Teacher: What’s this at the top? (Molly looking) Can you see how something’s at the top and there’s other stuff at the bottom and then
- Molly: There’s oil (points to top) there’s um water (points in middle) (TA-yep) and there’s sand (points to bottom)
- Teacher: Why do you think it does that?
- Molly: Cause I put it in there I put them all in there.
- Teacher: Yeah but why do they all stay layered I thought you shook it? (Molly starts shaking)
- Molly: I couldn’t shake it properly
- Teacher: You can’t shake it properly well how about we shake it together (shaking together) here we go. We’re doing really well together aren’t we?
- Lana: Yeah we make some more different oil
- Teacher: Okay let’s have a look at it
- Lana: I make some more different oil
- Teacher: See we shook that didn’t we Molly but it’s still the same
- Lana: I make some more (comes over to Molly and TA and observes)
- Molly: Yeah but it ? (pushes on lid)
- Lana: I make some different oil
- Teacher: Okay you made some different oil (Lana pours oil into bowl and Molly looks on)
- Teacher: How come there’s all these spots of it? (pointing in bowl Lana leans forward and looks into bowl)
- Lana: _Oh cause that’s my meat_ (stands up and walks away with oil)
Example 2: child-family-centre interlacing
Example Three: an institutional perspective
Institutional project: leaf explorations
“...if we talk about our culture as well, um, from a *religious* point of view, there’s always been, a lot of *discussion*, and a lot of perhaps you’ve heard of the *Talmud* which is you know part of our, our heritage, where various aspects are written and there are *sages* and there are people that *revisit* certain situations and *continue*, it’s not set in stone, whereas there might be some aspects it’s always challenged and revisited and so there might be scholars at this moment, who are *sitting* and *studying* texts and *looking* at this in relation to what happens today” (Pedagogista).
Studying Leaves as Text

“Well I guess from my perspective with the documentation – in some ways it’s – it’s looking, for, a deeper – a deeper understanding and a deeper meaning of what, the children, are doing um how they, are perceiving something and when – um, when you, when you’ve actually, whether it’s a photograph a video or something written, or just, you know, something that you’ve observed”
Cultural-Historical context

“We’ve got a festival coming up, this week and the festival really talks about, how the Jews under the Romans were refused to, they were not allowed to study, and so they use to go into the, up into the mountains, into the caves with their bows and arrows pretending that they were, going to hunt for animals but actually they would have their candles and they would be studying so, it’s always been something and it’s always been there”.

Cultural-historical perspective
Cultural-Historical Context

“…many of our families come from Holocaust survivors…..you know that they blocked out a whole lot in their lives and their short term memories, now more and more stories are coming about and it is causing a lot of trauma…”
Conclusion

• Cultural-Historical approach to research, allows for a dynamic, rather than a static process.

• The dialectic between the researchers, the families, the staff and the children generated better understandings.

• The wholeness approach encouraged us to examine the institutional perspective.

• Knowing about the different perspectives gave us greater insights into the learning.

• Through the researchers’ interacting dialectically with participants, high levels of analysis were achieved.