

APPENDIX 6: 1993/94 PEACE EDUCATION PROGRAMME

FLOC PRE SCHOOL PROJECT
November 1993

EDUCATION FOR PEACE

WHY?

*What's
happened
to our
children?*



■ In South Africa our
kids see real-life
horror day after day
and it's showing



body count ... The body of one of the many victims of racial hatred coverage lies in the yard of a township
Photographer: GUY ADAMS

"We are a nation at war
with its future, for we have
turned our children into a
generation of fighters -- bat-
tle-hardened soldiers who
will never know the carefree
joy of childhood," wrote
newspaper editor Percy Qo-
boza in the mid-'80s.
"What we are witnessing

is the growth of a genera-
tion which has the courage
to reject the cowardice of
its parents.

"There is a dark, terrible
beauty in that courage ... a
source of great pride, but
it is also a source of great
shame that this is our heri-
tage to our children: the
knowledge of how to die and
how to kill."

WHAT?

Education for peace, broadly speaking, is aimed at equipping children to contribute to the building and maintenance of a peaceful, just, free society.

HOW?

Education for peace involves programming educational experiences in at least nine inter-related areas. A list of these areas, with brief details of the issues to be covered under each, follows:

1. Self-esteem – self awareness, building a positive self-image, affirmation, appreciation of our bodies;
2. Acceptance of difference – people differ in appearance, in needs, interests, reaction to things, etc., people have a right to be different, diversity adds variety and richness,; challenging images of 'the enemy', empathy, understanding, mutual respect;
3. Getting along with others – personal friendships and friendship skills (kindness, helping, fairness), connections between us, other peoples, community and global relations;
4. Effective communication – identifying and expressing feelings, listening skills, discussion, decision making, leaning to disagree, non-verbal communication;
5. Co-operation – working together to achieve a common goal;
6. Conflict resolution – identifying causes of conflict, reflecting on consequences of various forms of conflict resolution, developing creative alternatives to aggression and violence, learning about non-violent role-models;
7. Caring for the environment – appreciation of nature, conservation, environmental role models, understanding and living out our role to care for the earth;
8. What is peace? – exploring understandings of peace; imagining and sharing visions for the future;
9. Healing the wounds – trust and security, helping children deal with the violence they have already been exposed to, dealing with fears about violence and death.

To be maximally effective, education for peace requires that the school environment be set up to promote these as well. I.e. through:

- Discipline
- Decision-making processes
- Relating to children generally

APPENDIX 7: TEACHER DEVELOPMENT WORKSHOPS

Peace Education in Pre-schools (Workshop 1)

Johannesburg - 29 August 1998

Klerksdorp - 24 October 1998

(Vryburg - 17 January 2000)*

*Vryburg teachers initially attended Klerksdorp workshops.

Gather for tea and registration Devotions	10:00	Sue
Begin Session Introductions - ice breaker <i>What is your name and say something about it</i> <i>What do you like most about your job?</i> <i>What do you like least about your job?</i> <i>What would be your dream holiday?</i> <i>What are your expectations of this workshop?</i> Peace Education overview Hear expectations Discuss agenda	10:30	Anne-Marie count off 1-2 inside circle moves right outside circle moves right inside circle moves right outside circle moves right Kathy to scribe
Break into small groups - then plenary (random groupings - say five per group) What is peace? How does it feel when there is peace? How does it feel when there isn't peace? <i>For myself? For the children?</i> plenary report back Break into small groups according to schools What are the specific issues / needs in my area? plenary report back	11:00 11:10 - 11:30 11:30 - 11:45 11:45 - 12:10 12:10 - 12:30	Kathy give each group flip chart paper and a koki, and ask them to report back to group give each group flip chart paper and a koki, and ask them to report back to group
Lunch - 12:30		

Content Areas Sample Activity (10 or 15 minutes) Generating more ideas for own contexts - random groupings - 5 per group Report back - each group will be asked to demonstrate or explain one activity their group thought of. <i>(Tea will be available during this session. Please help yourselves)</i>	1:30 1:45 2:30	Anne-Marie give each group sample activities for one content area only - planning sheets and parent hand-outs
Summing up Plans for programme Establishment of Working Group Evaluation - Thank you for coming!	3:00 3:10	Kathy ask for people to sign up on sheet Ask for group feedback - positives and negatives. If not enough time, ask folk to go around circle and say one positive (and one negative, if they wish) thing about the workshop. Ask for people to fill in evaluation sheet before leaving.
Conclude - Safe Journey	3:30	

Self Esteem (Workshop 2)
Johannesburg - 14 November 1998
Klerksdorp - 21 November 1998
(Vryburg - 18 January 2000)*

***Vryburg teachers initially attended Klerksdorp workshops.**

Welcome	9:00	Sue
Ice breaker	9:10	Kathy
Introduction and agenda	9:30	Anne-Marie
Healing of memories	9:50	Sue
Beloved Charter	10:20	
Self-esteem	10:50	
Cradling	11:00	Anne-Marie
About Me collage	12:00	Kathy
Lunch – 1:30		
Reflection on self-esteem activities	2:15	Kathy
Introduction to Discipline – logical consequences	2:45	Anne-Marie
Summing up	3:15	Anne-Marie
Evaluation	3:30	Kathy

Discipline (Workshop 3)
Klerksdorp - 13 March 1999
Johannesburg - 20 March 1999
(Vryburg - 19 January 2000)*

*Vryburg teachers initially attended Klerksdorp workshops

Time	Activity	Facilitator
9:00	Devotion and registration	Sue
9:30	Introduction - Icebreaker - Talking Circle • Most difficult discipline situation for you in your work? • While growing up, who helped to form your idea of how discipline should be? How? • What was the naughtiest thing you ever did as a child?	Kathy
10:00	Notes on Discipline	A & K
10:30	Questions / Clarity (not scenarios) / Concerns	Anne-Marie
10:50	Role Play preparation (including tea time)	Kathy
11:00 – Tea		
11:20	Role Play sharing - • What behaviour were you hoping to achieve? • Do you feel your choice of discipline would be effective? • Why did you choose that discipline? • How did you feel in the roles?	Kathy
11:50	Role Play Discussion	Anne-Marie
12:15	Concerns / Current Scenarios	Kathy
1:00	Evaluation - one good thing	Anne-Marie
1:15	Close - Evaluation squares	

Conflict handling (Workshop 4)

Johannesburg - September 1999

Klerksdorp - 9 October 1999

Vryburg - 28 June 2000

8:30	Devotion	Sue
9:00	Icebreaker – adjective names	A-M
9:15	Introduction / agenda review	Kathy
9:30	Revisit discipline • <i>Review ideas from last workshop</i> • <i>Group sharing: what worked? What didn't?</i> • <i>Who can help (group to generate ideas)?</i>	A-M (In three groups?)
10:30	Conflict – what thoughts and feelings does it evoke? Brainstorm and write up.	A-M
10:45	Conflict handling style – which animal are you? Introduce animals; give each person a copy of handout; “in groups of five, share what animal you think you are and why – give an example of a time you acted like this”.	Kathy
11:15	Light and lively – Sing <i>Every Morning when I wake up</i> – with actions	A-M
11:25	Introduction to conflict management – conflict as opportunity.	A-M
11:35	Introduction to the language of conflict management	Kathy
• I statements	e.g. To colleague (say to Sue) “ <i>you are always interrupting me! You are such a rude person!</i> ”– Ask for reactions. Word differently: “ <i>I feel put down when you start talking before I finish my sentence, because it seems like what I have to say is not important to you.</i> ” – discuss reactions. Introduction to I statements – (already written up on flip chart). <i>I feel... when... because... (or and what I would like is...) give handout. ***Remember that an I statement is an opener, not a resolver.</i>	
12:00 – 12:45	Lunch	
12:45	• Active listening	A-M

	<i>It is one thing to be able to express yourself in a way that promotes positive conflict management. It is also necessary to be able to <u>listen</u> in that kind of way. Broken telephone. Explore communication blockers (written up on flip chart). Communication circle – e.g. Topics – who do you think should do the housework at home?; Who is someone you really respect and why?</i>	
1:15 pm	Mapping the conflict –	Kathy
	<i>“Going up in a helicopter and hovering above the situation.” Introduction and example done together – ask for conflict scenario from group. Break into school groups – each group maps own conflict (either actual staff or personal conflict, or fabricated one). Report back – how did you find the process? What did you learn? Give handouts on designing options.</i>	
2:40	Close – “the flower I will take from this workshop to the world is...”	Kathy
2:55	Evaluation – written forms	A-M

Healing the Wounds (Workshop 5)

Johannesburg - 16 October 1999

Klerksdorp - 29 July 2000

Vryburg - 27 June 2000

09:00	Devotions	<i>Sue</i>
09:30	Welcome and Opening • Nature of workshop • Agenda review; Suggestions on times of breaks • Icebreaker – Each person receives a copy of “Find someone who...” handout. Group has about 10 minutes to complete the handout. Feedback to larger group on how many names people have on their lists.	<i>Anne-Marie</i> Aim: To meet as many people as possible!
10:00	Listen! • We all need someone to listen to us • Very small children are skilled in demanding that we listen to them! We seem to loose this ability as we get older and it becomes no longer acceptable to shout ‘listen to me!’ • Listening is an active process/skill • What it means to listen: listen for feelings; listen for feelings; listen for themes • Poem about listening • <u>Exercise</u>: Divide into groups of about 10. Ask members to form pairs with the person next to them and to talk to their partner for 5 minutes on any topic they like – e.g. A difficult issue in their life, some good news, etc. At the end of the five minutes, the role is reversed and the listener gets the opportunity to talk. Members then share with their subgroup their experiences of ‘being listened to’ and ‘listening to others’. Prompts for the facilitators: What was the most difficult part of listening? Did you feel you were being listened to? How did it feel to be listened to?	<i>Kathy</i>
10:45	How does my life fit together? • How many of us ever take the opportunity to slow down and reflect on how our lives fit together? • Do we take time to look at the whole picture? • Where do we come from? Where do our beliefs come from? • Our beliefs form our attitudes! • <u>Exercise</u>: Divide the group into three subgroups. Each person is given a copy of the handout “How does my life fit together?” Give each person 15 minutes to complete the handout. Each person then shares with the other members of their	<i>Anne-Marie</i> Aim: To gain some insight into how we developed some of our

	subgroup. Prompts for facilitators: What was the most difficult / easiest question for you to answer? How does it feel to be reflecting on your life? Is it difficult / easy for you to share your answers with other people? Remember – encourage group members to share but offer an opt out clause!	beliefs.
12:00	LUNCH	
1:00	The river of my life • We often see our lives as a series of stages – some happy, some sad, some difficult, some angry, some filled with depression, some fearful, some hopeful, some peaceful. • It is important for us to reflect on and acknowledge the stages in our lives. • Often, reflecting on our lives as occurring in ‘stages’ helps us to identify our coping strategies, i.e. what it is that we did, thought, felt that aided us in moving from a difficult stage to one where we struggles less. • Equally as important is reflecting on what triggered our move from a ‘happy’ or ‘peaceful’ stage to a ‘sad’ or ‘difficult’ stage. • Being aware of these coping strategies and these ‘triggers’ can empower us in our lives. • <u>Exercise:</u> Working again in the same subgroups, give each member a copy of the ‘River of my life’ handouts. Read through the instructions and then give group members 20 minutes to complete the task of drawing their river of life. Ask each person to share with the subgroup their experience of drawing the river, and of identifying stages in their lives. Encourage individuals to be aware of ‘coping strategies’ and ‘triggers’. Some group members may wish to share these – some may not. It is important to acknowledge how difficult and painful this task may be for people.	<i>Kathy</i> Aim: To reflect on stages of our lives and to identify ‘triggers’ and ‘coping strategies’
2:00	Closing • Call the whole group back together • Ask for a volunteer to read the poem “I feel your pain” • Ask each person to say in one sentence what they liked or didn’t like about the workshop. • Close in prayer	<i>Anne-Marie</i>

Launching the Curriculum (Workshop 6)

Vryburg - 17 January & 26 June 2000

Klerksdorp - 11 March 2000

Johannesburg - 18 March 2000

Objectives: Launching curriculum, familiarise teachers with material - how to use, activities in schools, adaptations, feedback from teachers

Activity	Facilitator	Time
Icebreaker	K	9:00
Devotion	A	9:25
Introduction / Objectives	A	9:30
Introduce Curriculum	K	9:40
Small (by school) groups - make week's plan around assigned theme	A	10:00
TEA (to be taken while working)		
Each school facilitates a sample ring from their plan.	K	11:30
Appreciations / regrets/ unfinished business / Evaluation & curriculum title suggestions	A	1:00

Lunch 1:30

Healing the Wounds II (Workshop 7)

Johannesburg - 22 July 2000

Klerksdorp - 7 October 2000

Vryburg - 9 & 10 October 2000

Facilitators: Kathy Lane, Anne-Marie Maxwell

Time	Action & Aims	Resources	Facil.
9:00 (30 min)	Devotions - revisit our call to peace?		Kathy
9:30 (10 min)	Welcome Everyone Recap previous sessions (Trauma 1 & Conflict Handling) • Where do our beliefs and attitudes come from? • Life Stages (River of life / Snake – emotions evoked) • Listening skills – listen for feelings and content	• Name Tags • Overhead projector & blank wall • Pens • Prestik • Tape • Pen & paper for ea. Teacher • Agenda	A-M
9:40 (5 min)	Introduction to Today's Workshop • We are our tools Emotion and Intellect • Skills Applied	• Bell • Speaking / not	A-M
9:45 (15 min)	Warm up / Ice breaker	Divide into 3 groups of +/- 15	Kathy
10:00 (10 min) (5 min) (5 min) (10 min)	<i>(in plenary)</i> Emotions – Introduction • What emotions do we have? • What emotions do we show? • Why is it important to understand our emotions? Baggage!	Feelings posters Flip chart paper Koki pens Flow chart 1 As If Emotional baggage	A-M

10:30 (5 min) (15 min) (10 min – 5 min each)	<i>(in 2 groups)</i> Introduce exercise: Past teacher Fill in paper Share with a partner	Hand out Pencils Bell	Kathy
11:00 (30 min)	<i>(in 2 groups)</i> Talk and reflect on teacher exercise • What was learnt? • What do we teach? • Propose Children's needs	What we learned Shame (?) Children Need	Kathy
11:30	<i>(extra time to take up slack, or to start questionnaires?)</i>		
12:00 LUNCH!			
12:45 (20 min)	Revisit Education for Peace - brainstorming • What would a peaceful classroom / school feel like? What would its characteristics be? • How can we build such a classroom / school?	Flip chart Khokis	A-M
1:05 (55 min)	Making parent or classroom posters • Brainstorm possible phrases. • Each person makes a poster.	Cardboard Magazines Scissors Glue Paint	Kathy
2:00 (15 min)	Closing Reflection - affirmations		A-M
2:15 (45 min)	Questionnaires	Questionnaires	A-M

APPENDIX 8: SUPPLEMENTARY RESULTS OF DATA ANALYSIS RELATING TO NATURALISTIC OBSERVATIONS

Chi² tests

Chi² tests undertaken to explore possible relationships between independent variables indicated further differences between the group of study schools and the group of control schools:

- There were no category 4 play types (free play including tidy-up time) in the control group. (There were only 4 category 4 observations in the study group. The majority of observations in both groups were category 1 – free play.)
- All control group observations were undertaken in the late morning, whereas the study group had some observations undertaken at other times. (The vast majority of study group observations were late morning also.)
- More control group observations were undertaken outdoors, whereas study group observations took place both indoors and outdoors, with the majority being indoors.
- The bulk of control group observations had 2 adults present, while the study group had mostly 1 adult present, and less frequently had 0, 2, 3 or 4.
- A bigger proportion of observations in the study group involved children aged 4 and over than that in the control group. Observations in both groups, however, predominantly involved mixed age groups.
- The control group contained proportionally more boys than did the study group.

Correlation matrix – Figure 1: Correlation matrixes for study and control groups

Study Group Pearson Correlations Section (Pair-Wise Deletion)

	ic	sub	twm	is	rt	B/A	em	ea	la	fp	a	b	Chn.	Boys	4-	4+	Ad's	Obs	Loc
ic	1.00																		
sub	-0.20	1.00																	
twm	-0.21	-0.28	1.00																
is	-0.11	-0.13	-0.14	1.00															
rt	-0.14	-0.17	-0.17	-0.09	1.00														
Bef/aft	-0.02	0.00	0.02	0.00	0.00	1.00													
em	-0.08	-0.09	-0.10	-0.05	-0.06	0.09	1.00												
ea	-0.06	-0.10	-0.11	-0.06	-0.07	0.04	-0.04	1.00											
la	-0.12	-0.14	-0.15	-0.08	0.85	-0.09	-0.05	-0.06	1.00										
fp	0.23	0.29	-0.13	0.00	0.13	-0.04	0.00	-0.07	0.16	1.00									
a	-0.14	-0.17	0.24	-0.09	-0.11	-0.06	0.09	0.21	-0.09	-0.58	1.00								
b	-0.14	-0.17	-0.05	0.01	-0.12	0.03	-0.06	-0.07	-0.10	-0.80	-0.12	1.00							
Chn.	0.30	-0.21	-0.14	-0.23	-0.32	0.15	0.08	-0.12	-0.33	-0.20	0.00	0.24	1.00						
Boys	0.24	-0.12	-0.13	-0.22	-0.22	0.10	0.00	-0.14	-0.24	-0.17	0.09	0.08	0.92	1.00					
4-	-0.10	-0.12	-0.23	0.10	0.62	0.14	0.01	-0.01	0.53	0.03	-0.05	-0.12	-0.26	-0.18	1.00				
4+	-0.16	0.08	-0.28	-0.06	-0.18	0.02	0.23	-0.11	-0.15	-0.29	-0.05	0.45	0.25	0.11	-0.29	1.00			
Adults	0.51	-0.10	0.02	-0.29	-0.18	0.02	-0.25	-0.20	-0.19	0.07	-0.04	-0.11	0.59	0.80	-0.17	-0.23	1.00		
Obs	-0.12	0.20	0.20	-0.29	-0.03	0.05	-0.34	-0.29	-0.07	-0.23	0.13	0.14	0.12	0.16	-0.02	0.04	0.37	1.00	
Location	-0.33	0.50	0.22	-0.15	-0.21	-0.02	-0.15	-0.17	-0.23	0.42	-0.27	-0.22	-0.09	-0.03	-0.35	0.02	0.10	0.31	1.00
Aggr	0.02	-0.08	-0.03	-0.01	-0.04	0.5	0.15	0.11	-0.11	0.03	-0.15	0.10	0.33	0.26	0.05	0.07	-0.03	-0.13	-0.07

Cronbachs Alpha = 0.508780 Standardized Cronbachs Alpha = 0.679217

Control Group Pearson Correlations Section (Pair-Wise Deletion)

	ic	sub	B/A	fp	Chn.	Boys	Ad's	Loc	Agg
ic	1								
sub	-0.43	1							
Bef/aft	0.00	0.04	1						
fp	0.43	-0.51	-0.2	1					
Chn.	0.59	-0.6	-0.06	0.41	1				
Boys	0.52	-0.41	0.25	0.24	0.87	1			
Adults	0.22	0.43	0.41	-0.05	-0.03	0.24	1		
Location	-0.29	-0.31	0.00	0.31	0.34	0.22	-0.49	1	
Aggr	0.33	-0.35	-0.12	0.09	0.48	0.34	-0.37	0.27	1

Cronbachs Alpha = 0.575873 Standardized Cronbachs Alpha = 0.432276

Figure 1 contains correlations between all variables explored for inclusion in the study group and control group regression models. Relatively high correlations between some of the variables are not surprising, particularly when they involve

dummy variables. For example, if the activity is not free play ("fp") then it must be an organised activity ("a") or both ("b"), and therefore a negative correlation between these variables would be expected. Correlations in the study group that could not be explained in that way, and were therefore of interest to us, have been highlighted in red on the matrix. They include the following:

- There is a relatively high positive correlation between the number of adults (teachers) observing play and the inner-city location (i.e. more teachers in the inner-city pre-schools). But there is also a high positive correlation between the inner-city pre-schools and the number of children. It is not surprising that there should be more teachers present when there are more children in the group.**
- A very strong positive correlation exists between the number of boys and the number of children. This indicates that it could be problematic to use boys and adults and children as predictors of aggression in the regression model.**
- There is a strong positive correlation between aggression ("Aggr") and the before/after variable ("B/A") in the study group. In the data, "before" was indicated by the number 1, and "after" by the number 0. Therefore this strong positive correlation indicates that numbers of aggressive incidents were higher before the intervention than after it. While we are not yet controlling for the possible influence of other variables, and this result cannot prove that the intervention caused this drop in aggression, it is encouraging that this analysis indicates that this is a possibility.**

The smaller control group sample included fewer variables that could be tested for correlation, as some of the variables did not have sufficient observations falling into their categories to enable them to be tested. Some high correlations in the control group that are similar to the study group are as follows:

- There is a high positive correlation between the inner-city location and the number of children.**
- There is a high positive correlation between the number of children and the number of boys.**

The control group differs from the study group in the following interesting ways:

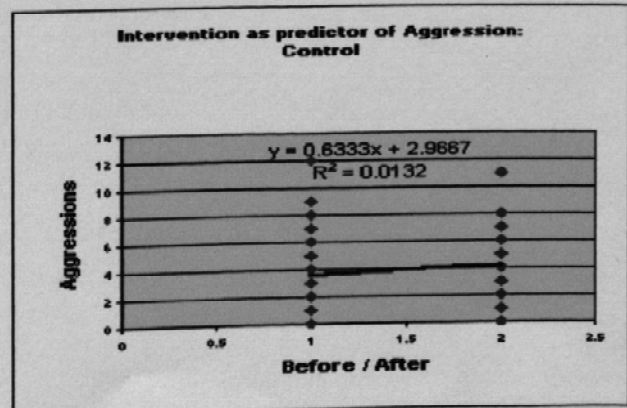
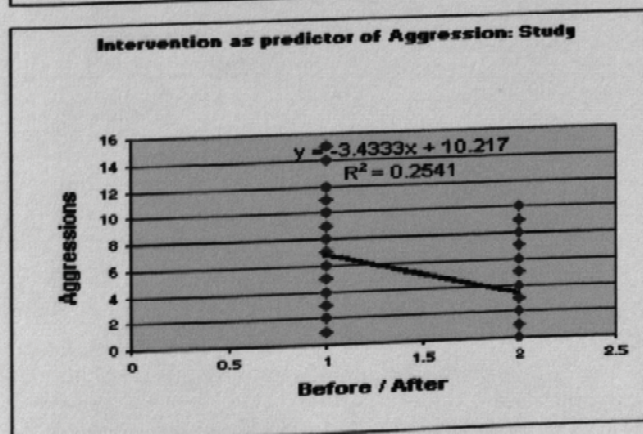
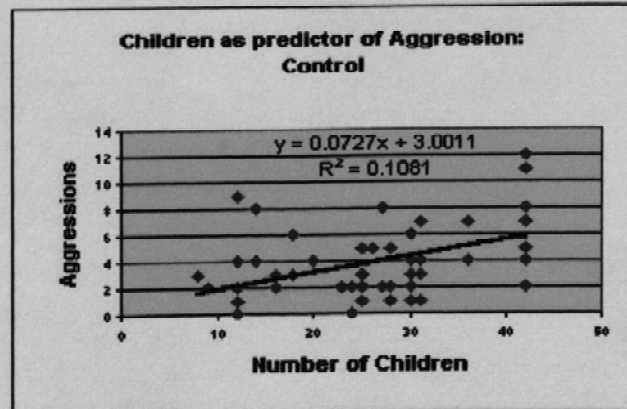
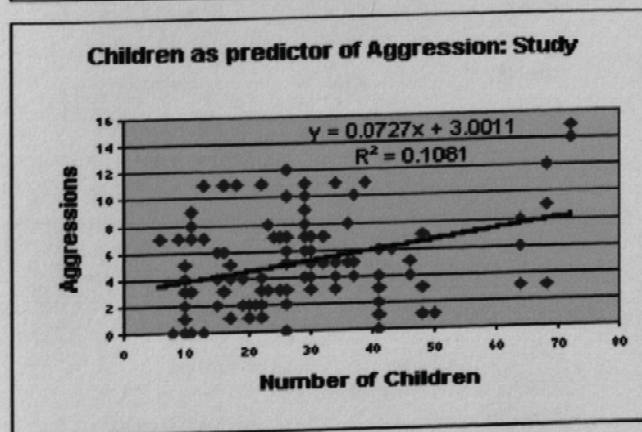
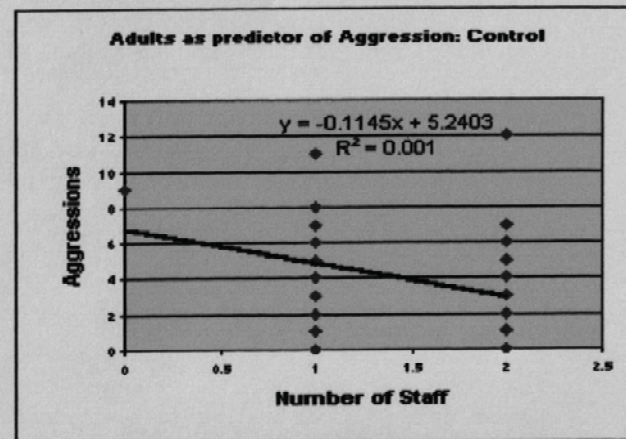
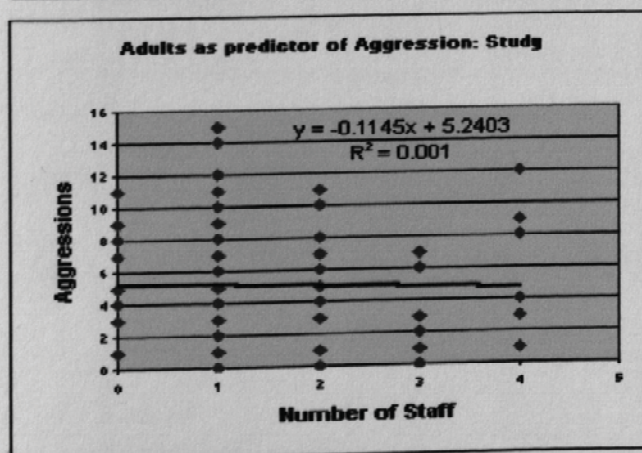
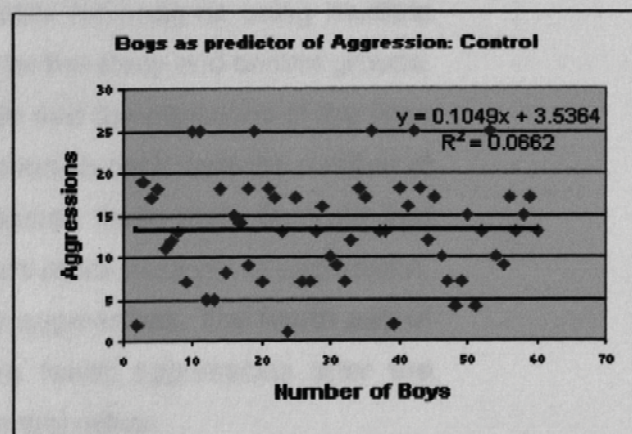
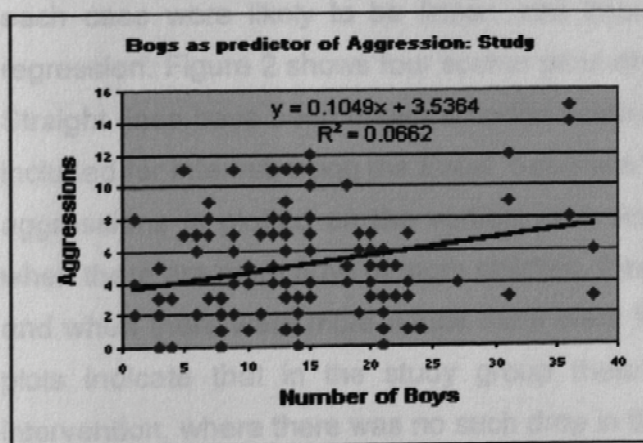
- There is a strong positive correlation between the suburban location and the number of adults (teachers) observing the children's play – much stronger**

than the inner-city location and the number of adults (which is by far the stronger of the two in the study group).

- A strong positive correlation exists between the number of adults (teachers) observing the children's play and the before and after variable. The correlation between these two in the study group is extremely weak.
- A weak negative correlation exists between aggression and before and after. This again supports the possibility that it is the intervention that causes the strong positive correlation in the study group.

The main information gained from generating the correlation matrix was an indication of which variables probably should not be combined in the regression model. Again, the differences between the correlations seen in the study group compared with the control group are interesting, but do not affect the comparability of the data, as regression allows for such variance in predictor variables.

Scatter plots - Figure 2: Scatter plots for study and control groups



Scatter plots drawn for the study and control groups indicated that the relationships in each case were likely to be linear, and thus suitable for analysis using multiple regression. Figure 2 shows four scatter plots drawn for the study and control groups. Straight lines have been drawn onto the scatter plots and the equations of the lines included for interest, using the Excel "trend-line" function. In each case the number of aggressions is plotted on the vertical axis. As expected these plots illustrate that when there are more boys or more children, there were more incidents of aggression, and when there were more adults there were fewer aggressions. The fourth pair of plots indicate that in the study group there were fewer aggressions after the intervention, where there was no such drop in the control group.

Stepwise regression - Figure 3: Results of stepwise regression for study and control groups

Study Group

Iteration Detail Section

Aggression: Study group

Iter. No.	Action	Variable	R-Squared	Sqrt(MSE)	Max R-Squared Other X's
0	Unchanged		0.000	3.420	0.000
1	Added	Bef/aft	0.254	2.966	0.000
2	Unchanged		0.254	2.966	0.000
3	Added	Chn.	0.321	2.842	0.021
4	Unchanged		0.321	2.842	0.021
5	Added	Adults	0.380	2.727	0.370
6	Unchanged		0.380	2.727	0.370
7	Added	fp	0.406	2.680	0.425
8	Unchanged		0.406	2.680	0.425

Iteration Detail Section

Aggression less fantasy play: Study group

Iter. No.	Action	Variable	R-Squared	Sqrt(MSE)	Max R-Squared Other X's
0	Unchanged		0.000	3.048	0.000
1	Added	Bef/aft	0.281	2.596	0.000
2	Unchanged		0.281	2.596	0.000
3	Added	Adults	0.354	2.471	0.000
4	Unchanged		0.354	2.471	0.000
5	Added	Chn.	0.476	2.235	0.370
6	Unchanged		0.476	2.235	0.370
7	Added	twm	0.494	2.205	0.395
8	Unchanged		0.494	2.205	0.395

Iteration Detail Section

Pro-social behaviour: Study group

Iter. No.	Action	Variable	R-Squared	Sqrt(MSE)	Max R-Squared Other X's
0	Unchanged		0.000	2.307	0.000
1	Added	Bef/aft	0.063	2.243	0.000
2	Unchanged		0.063	2.243	0.000
3	Added	la	0.107	2.199	0.009
4	Unchanged		0.107	2.199	0.009
5	Added	4-	0.138	2.169	0.316
6	Unchanged		0.138	2.169	0.316

Control Group**Iteration Detail Section****Aggressions: Control Group**

Iter. No.	Action	Variable	R-Squared	Sqrt(MSE)	Max R-Squared Other X's
0	Unchanged		0.000	2.776	0.000
1	Added	Chn.	0.232	2.453	0.000
2	Unchanged		0.232	2.453	0.000
3	Added	Adults	0.358	2.262	0.001
4	Unchanged		0.358	2.262	0.001

Iteration Detail Section**Aggression less fantasy play: Control**

Iter. No.	Action	Variable	R-Squared	Sqrt(MSE)	Max R-Squared Other X's
0	Unchanged		0.000	2.192	0.000
1	Added	sub	0.179	2.003	0.000
2	Unchanged		0.179	2.003	0.000
3	Added	fp	0.244	1.938	0.259
4	Unchanged		0.244	1.938	0.259

Iteration Detail Section**Pro-social behaviour: Control**

Iter. No.	Action	Variable	R-Squared	Sqrt(MSE)	Max R-Squared Other X's
0	Unchanged		0.000	2.936	0.000
1	Added	fp	0.132	2.760	0.000
2	Unchanged		0.132	2.760	0.000

The results of the stepwise regression analysis, illustrated in Figure 3, indicate which independent variables from the total number of variables available should be included in the multiple regression model to predict aggression, aggression minus fantasy play and pro-social behaviour for the study and control groups respectively. In the case of the study group, the following variables were identified:

- As predictors of aggression:
 - Before / after
 - Number of children
 - Number of adults
 - Free play
- As predictors of aggression minus fantasy play:
 - Before / after

- Number of adults
- Number of children
- Township
- As predictors of pro-social behaviour:
 - Before / after
 - Late afternoon
 - Children younger than 4

In each of the first two cases, before/after emerges as a strongly predictive variable, indicating a 25% and a 28% improvement, respectively, in the prediction of the value of the dependent variable if the prediction variable is used as a predictor instead of using the simple average of past values of the dependent variable. The other three variables that emerge in each of the first two cases each indicate considerably less improvement that could be obtained in the prediction of the dependent variable, but are still significant predictors. In terms of the exploration of predictors of pro-social behaviour, the percentage improvements indicated for each of the independent variables chosen by the model are much lower than those involved in predicting the other two dependent variables, but the before/after variable nonetheless is included as a significant predictor.

In the case of the control group, the following variables were identified:

- As predictors of aggression:
 - Number of children
 - Number of adults
- As predictors of aggression minus fantasy play:
 - Suburban location
 - Free play
- As predictors of pro-social behaviour:
 - Free play

In the control group, number of children and number of adults emerge as strong predictors of aggression, with percentage improvements of 23% and 13%

respectively. Suburban location and free play emerge as predictors of aggression minus fantasy play, with percentage improvements of about 17% each. Free play emerges as the only predictor of pro-social behaviour in the case of the control group.

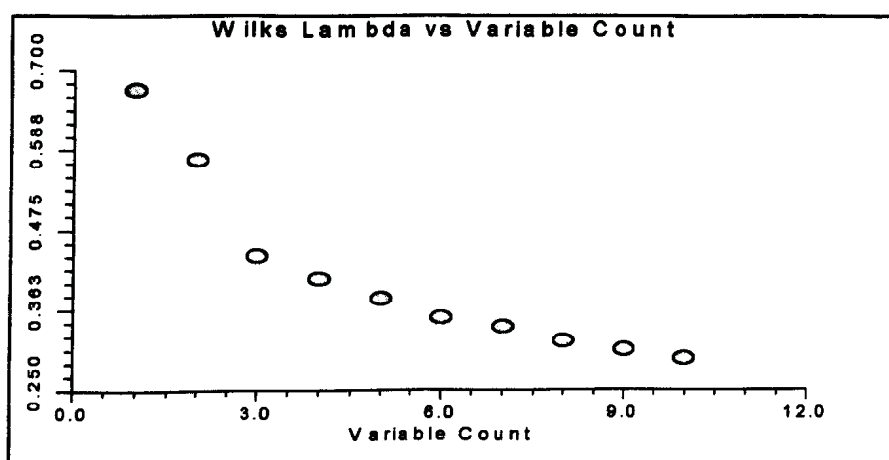
The fact that before/after emerges as a predictive variable in the study group and not the control group is a strong indication that the intervention has had a significant impact on the test variables.

Multivariate variable selection - Figure 4: Multivariate variable selection for study and control group

Study Group

Predictors of Aggression less fantasy, Fantasy Play, & Pro-social behaviour

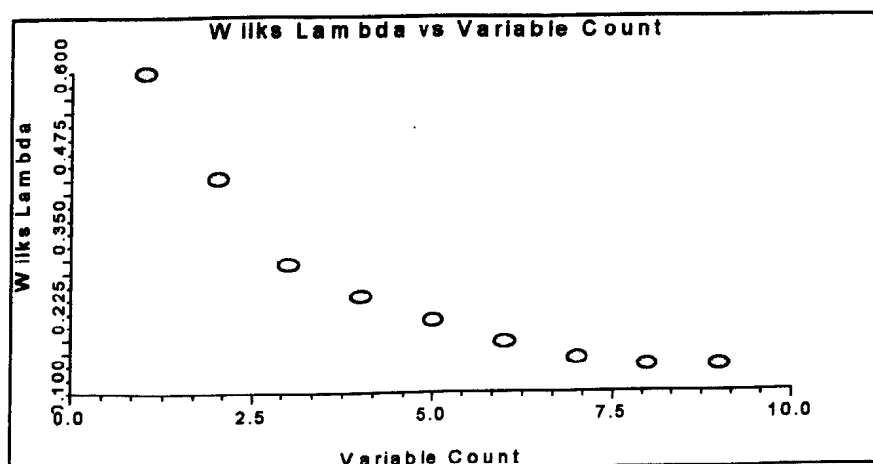
Size	Wilks Lambda								
1	0.672	Bef/aft							
2	0.574	Bef/aft	Adults						
3	0.439	Bef/aft	Chn.	Adults					
4	0.407	tw	Bef/aft	Chn.	Adults				
5	0.378	tw	Bef/aft	fp	Chn.	Adults			
6	0.352	tw	Bef/aft	ea	fp	Chn.	Adults		
7	0.338	tw	Bef/aft	ea	la	fp	Chn.	Adults	



Control Group

Predictors of Aggression less fantasy, Fantasy Play, & Pro-social behaviour

Size	Wilks Lambda								
1	0.598	Chn.							
2	0.434	Chn.	Boys						
3	0.299	sub	Chn.	Boys					
4	0.249	sub	Chn.	Boys	Adults				
5	0.212	ic	sub	Chn.	Boys	Adults			
6	0.177	ic	sub	Chn.	Boys	Adults	Location		
7	0.153	ic	sub	fp	Chn.	Boys	Adults	Location	



Stepwise regression is able to consider only one dependent variable at a time. To determine an optimal set of variables for the estimation of more than one dependent variable (aggression minus fantasy play, fantasy play and pro-social behaviour) simultaneously, a multivariate variable selection technique was used. The result shown in Figure 4 indicates that the three best predictors of the set of dependent variables in the case of the study group were the intervention (before/after), the number of adults present and the number of children present. The next predictor to be included, but for very much less improvement in the overall value of the model (as indicated by the shallow gradient between the third and fourth points in the plot), is whether or not the school was in a township.

In the control group, the three best predictors of the set of dependent variables were the number of children, the number of boys, and whether or not the school was in a suburb. The before/after variable again does not occur at all as a predictor in the control group, whereas it is the strongest predictor in the study group. This strengthens again the argument that the intervention has significantly affected the study group results.

The results of the multivariate variable selection technique, together with those for stepwise regression, give a strong indication of which variables should be included in the multiple regression analysis.

Multiple regression - Figure 5: Results of multiple regression for study and control group

Study Group

Dependent Variable: Aggression

Regression Equation Section

Independent Variable	Regression Coefficient	Standard Error	T-Value (Ho: B=0)	Prob Level	Decision -5%	Power -5%
Intercept	1.306	0.758	1.724	0.087	Accept Ho	0.401
Bel/alt	3.020	0.496	6.082	0.000	Reject Ho	1.000
fp	1.338	0.593	2.254	0.028	Reject Ho	0.609
Chn.	0.112	0.021	5.351	0.000	Reject Ho	1.000
Adults	-1.278	0.334	-3.821	0.000	Reject Ho	0.966
R-Squared	0.406					

Analysis of Variance Section

Source	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Power -5%
Intercept	1	3080.533	3080.533			
Model	4	565.242	141.310	19.669	0.000	0.953
Error	115	826.225	7.185			
Total(Adjusted)	119	1391.467	11.693			

Root Mean Square Error	2.680	R-Squared	0.406
Mean of Dependent	5.067	Adj R-Squared	0.386
Coefficient of Variation	0.529	Press Value	909.391

Normality Tests Section

Assumption	Value	Probability	Decision(5%)
Skewness	1.422	0.155	Accepted
Kurtosis	-0.758	0.449	Accepted
Omnibus	2.597	0.273	Accepted
Durbin-Watson Value		2.1164	

Multicollinearity is NOT a problem.

Dependent Variable: Aggression less fantasy

Regression Equation Section

Independent Variable	Regression Coefficient	Standard Error	T-Value (Ho: B=0)	Prob Level	Decision -5%	Power -5%
Intercept	2.402	0.488	4.918	0.000	Reject Ho	0.998
twm	-1.027	0.506	-2.030	0.045	Reject Ho	0.521
Bef/aft	2.931	0.409	7.166	0.000	Reject Ho	1.000
Chn.	0.080	0.017	4.765	0.000	Reject Ho	0.997
Adults	-1.639	0.270	-6.078	0.000	Reject Ho	1.000
R-Squared	0.494					

Analysis of Variance Section

Source	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Power -5%
Intercept	1	1421.408	1421.408			
Model	4	546.433	136.608	28.096	0.000	0.994
Error	115	559.159	4.862			
Total(Adjusted)	119	1105.592	9.291			

Root Mean Square Error	2.205	R-Squared	0.494
Mean of Dependent	3.442	Adj R-Squared	0.477
Coefficient of Variation	0.641	Press Value	620.370

Normality Tests Section

Assumption	Value	Probability	Decision(5%)
Skewness	1.611	0.107	Accepted
Kurtosis	0.180	0.857	Accepted
Omnibus	2.629	0.269	Accepted
Durbin-Watson Value		1.9599	

All Condition Numbers less than 100. Multicollinearity is NOT a problem.

Study Group

Dependent Variable: Pro Social

Regression Equation Section

Independent Variable	Regression Coefficient	Standard Error	T-Value (Ho: B=0)	Prob Level	Decision -5%	Power -5%
Intercept	3.489	0.294	11.882	0.000	Reject Ho	1.000
Bef/aft	-1.430	0.408	-3.503	0.001	Reject Ho	0.935
la	-2.858	0.904	-3.161	0.002	Reject Ho	0.880
4-	1.179	0.573	2.056	0.042	Reject Ho	0.532
R-Squared	0.138					

Analysis of Variance Section

Source	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Power -5%
Intercept	1	957.675	957.675			
Model	3	87.394	29.131	6.190	0.001	0.517
Error	116	545.932	4.706			
Total(Adjusted)	119	633.325	5.322			
Root Mean Square Error	2.169	R-Squared	0.138			
Mean of Dependent	2.825	Adj R-Squared	0.116			
Coefficient of Variation	0.768	Press Value	579.436			

Normality Tests Section

Assumption	Value	Probability	Decision(5%)
Skewness	2.952	0.003	Rejected
Kurtosis	1.082	0.279	Accepted
Omnibus	9.886	0.007	Rejected
Durbin-Watson Value		1.904	

All Condition Numbers less than 100. Multicollinearity is NOT a problem.

Control Group
Dependent Variable: Aggression

Regression Equation Section

Independent Variable	Regression Coefficient	Standard Error	T-Value (Ho: B=0)	Prob Level	Decision -5%
Intercept	3.365	1.156	2.910	0.005	Reject Ho
Chn.	0.124	0.028	4.428	0.000	Reject Ho
Adults	-1.638	0.549	-3.346	0.001	Reject Ho
R-Squared	0.358				

Analysis of Variance Section

Source	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level
Intercept	1	920.417	920.417		
Model	2	162.858	81.429	15.910	0.000
Error	57	291.725	5.118		
Total(Adjusted)	59	454.583	7.705		
Root Mean Square Error	2.262	R-Squared	0.358		
Mean of Dependent	3.917	Adj R-Squared	0.336		
Coefficient of Variation	0.578	Press Value	329.209		

Normality Tests Section

Assumption	Value	Probability	Decision(5%)
Skewness	2.230	0.026	Rejected
Kurtosis	1.570	0.116	Accepted
Omnibus	7.438	0.024	Rejected
Durbin-Watson Value		1.9607	

All Condition Numbers less than 100. Multicollinearity is NOT a problem.

Control Group**Dependent variable: Aggression less fantasy****Regression Equation Section**

Independent Variable	Regression Coefficient	Standard Error	T-Value (Ho: B=0)	Prob Level	Decision
Intercept	4.787	0.691	6.927	0.000	Reject Ho
sub	-3.029	0.706	-4.292	0.000	Reject Ho
fp	-1.571	0.706	-2.226	0.030	Reject Ho
R-Squared	0.244				

Analysis of Variance Section

Source	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level
Intercept	1	504.600	504.600		
Model	2	69.226	34.613	9.212	0.000
Error	57	214.174	3.757		
Total(Adjusted)	59	283.400	4.803		

Root Mean Square Error	1.938	R-Squared	0.244
Mean of Dependent	2.900	Adj R-Squared	0.218
Coefficient of Variation	0.668	Press Value	236.620

Normality Tests Section

	Value	Probability	Decision(5%)
Assumption	2.068	0.039	Rejected
Skewness	0.408	0.683	Accepted
Kurtosis	4.443	0.108	Accepted
Omnibus		2.1023	
Durbin-Watson Value			

All Condition Numbers less than 100. Multicollinearity is NOT a problem.

Control Group

Dependent variable: Pro-social behaviour

Regression Equation Section

Independent Variable	Regression Coefficient	Standard Error	T-Value (Ho: B=0)	Prob Level	Decision -5%
Intercept	0.692	0.765	0.905	0.369	Accept Ho
fp	2.663	0.865	2.964	0.004	Reject Ho
R-Squared	0.132				

Analysis of Variance Section

Source	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level
Intercept	1	437.400	437.400		
Model	1	66.895	66.895	8.784	0.004
Error	58	441.705	7.616		
Total(Adjusted)	59	508.600	8.620		
Root Mean Square Error	2.760	R-Squared	0.132		
Mean of Dependent	2.700	Adj R-Squared	0.117		
Coefficient of Variation	1.022	Press Value	461.996		

Normality Tests Section

Assumption	Value	Probability	Decision(5%)
Skewness	4.268	0.000	Rejected
Kurtosis	2.970	0.003	Rejected
Omnibus	27.035	0.000	Rejected
Durbin-Watson Value		1.8767	

All Condition Numbers less than 100. Multicollinearity is NOT a problem.

Each output illustrated in Figure 5 records the value of the regression coefficients in the model in the first column.