

Northumbria Research Link

Citation: Defeyter, Margaret Anne (Greta) (2008) An evaluation of school breakfast clubs: Cognitive and social benefits. In: Nutrition and Health Live Conference, 5 March 2008, Belfast.

URL:

This version was downloaded from Northumbria Research Link:
<http://nrl.northumbria.ac.uk/id/eprint/33234/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

This document may differ from the final, published version of the research and has been made available online in accordance with publisher policies. To read and/or cite from the published version of the research, please visit the publisher's website (a subscription may be required.)



**Northumbria
University**
NEWCASTLE



UniversityLibrary



An Evaluation of School Breakfast Clubs: Cognitive and Social Benefits.

*Greta Defeyter, Riccardo Russo, &
Jeanet Ingwersen.*



Background (1)

- Helps Weight control (Timlin et al., 2008).
- Improved cognitive performance & behaviour (Pollitt & Matthews, 1998; Wesnes et al., 2003).
- Attendance and punctuality (Harrop & Palmer, 2002; Haras, 2005).
- Many children not consuming breakfast (Rampersaud et al., 2005; Moore et al., 2007).

Background (2)

- Breakfast consumption has no effect on cognitive performance (e.g. Cromer et al. 1990).
- No effect of habitually skipping breakfast (Dickie & Bender, 1982).
- No association between consuming breakfast and STM, problem solving, or attention (Lopez et al., 1993)

Aim of Present Study

Evaluate the impact of breakfast club attendance on children's cognitive performance and social behaviours.

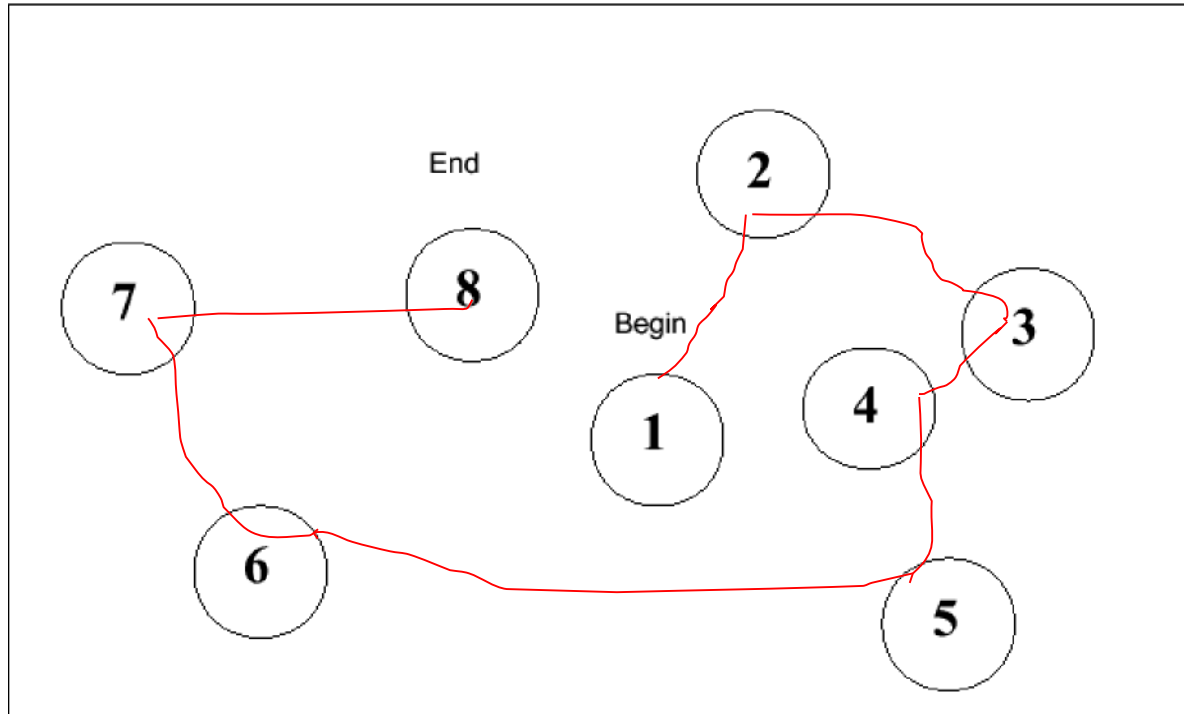


“Many of them have failed to have measures of outcome variables before the introduction of breakfast, and they have failed to have appropriate control groups” (Ani & Grantham-McGregor, 1999).

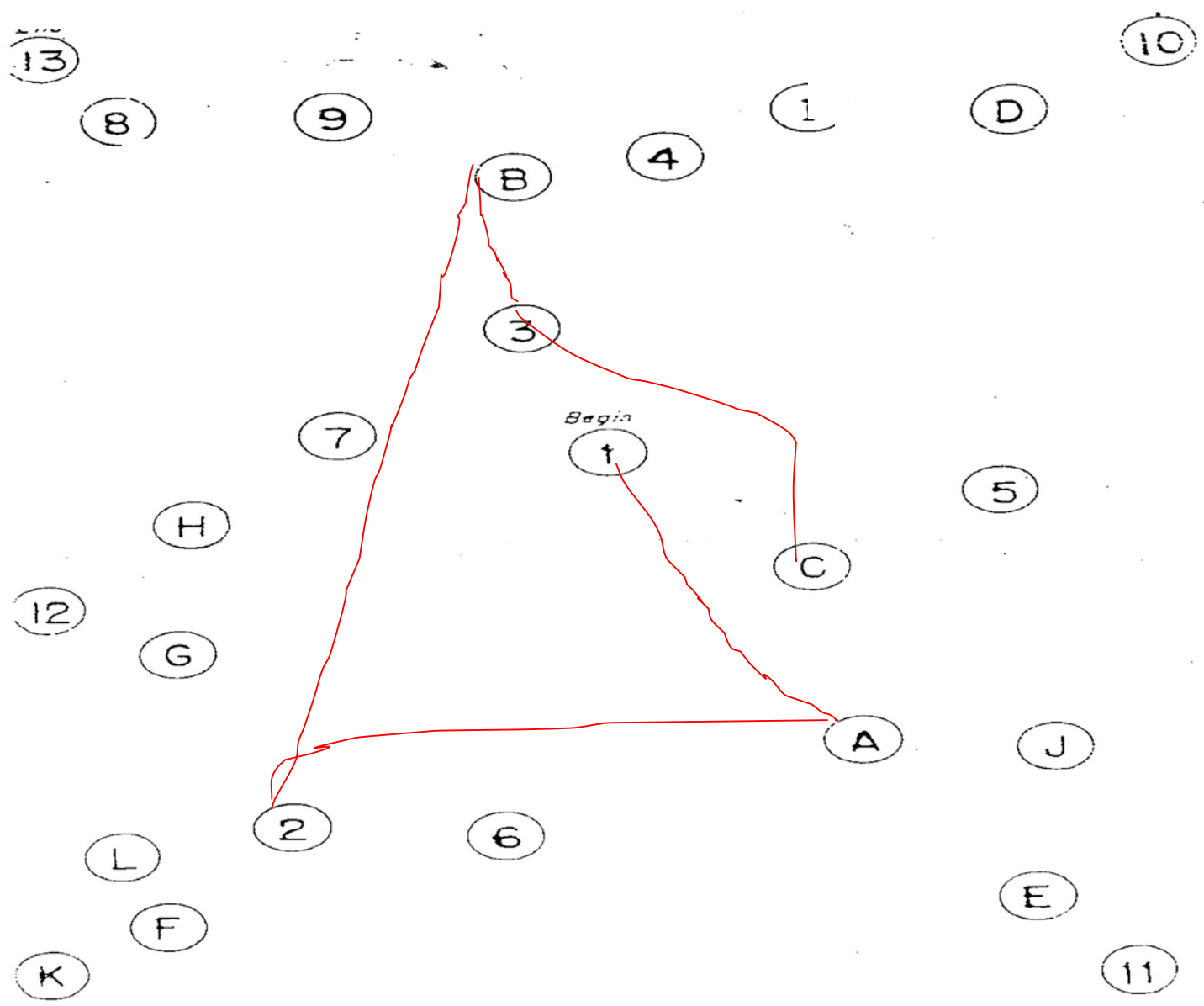
Method

- Phase 1: Start of academic year (2007-8).
 - Cognitive tests (Primary School Children).
 - Social Behavioural Questionnaires (Pupils).
 - Focus Groups (Teachers, Parents, & Pupils).
-
- Phase 2: Six months later

Cognitive task: Trail Making A — Children aged 7 years+ (Reitan, 1956)



END



Cognitive task: Number search task (Rogers et al., 1995)

Please circle each pair of even numbers in a row going across the page from left to right.

For example 3 6 4 5 8 7 4 5 6 8 5 4 7 2 1 7 4 9 3 2 4 3 9 8 1

3	8	9	9	2	7	2	6	9	5	2	7	1	2	8	1	8	5	8	2	1	3	1	7	2	1	4	3	8	4	5	3	4	6	1	1	3	5	3	6
9	6	4	7	4	5	4	7	7	4	6	9	3	6	7	6	9	6	5	1	2	1	7	5	2	5	1	8	2	1	3	8	4	9	9	7	6	7	8	1
1	1	4	7	8	1	5	7	1	8	6	7	1	2	5	4	3	8	2	9	2	8	9	6	9	4	5	7	2	1	6	9	3	1	3	3	1	1	4	1
4	3	9	4	3	2	8	7	4	7	5	3	6	5	6	5	4	7	3	5	4	7	9	3	8	9	8	3	6	7	7	8	6	3	5	1	7	9	1	7
2	8	3	7	6	3	6	6	1	8	9	5	7	5	7	2	9	1	9	8	3	7	8	8	9	2	9	8	1	9	7	3	8	3	5	1	6	2	1	6
6	3	8	8	3	5	2	5	8	5	1	2	3	2	1	4	2	7	8	5	8	3	6	7	6	2	3	9	4	3	1	6	4	3	2	1	5	2	9	4
7	6	3	5	9	7	1	6	1	3	3	9	7	9	6	7	5	1	3	7	6	5	3	9	3	4	9	2	8	7	1	6	7	7	7	1	5	6	8	1
3	4	2	3	4	7	3	7	8	2	9	9	7	3	5	1	9	6	4	1	6	3	2	9	1	7	6	9	6	7	9	5	3	4	8	7	1	6	7	3
4	9	3	7	4	2	1	9	9	3	2	2	1	1	5	2	4	3	2	6	1	9	2	8	3	1	5	4	9	9	5	9	8	7	1	9	1	5	5	8
1	4	4	1	3	1	6	2	1	9	8	7	9	9	5	1	4	7	2	4	7	7	1	9	2	5	2	4	7	5	4	1	8	3	5	8	4	9	4	9
4	2	9	5	1	2	1	7	9	1	3	1	1	2	7	5	2	6	3	4	9	9	6	5	6	2	9	8	7	4	5	9	7	7	8	9	1	1	7	6
9	6	9	4	6	9	2	5	9	7	4	9	5	7	8	2	9	9	4	7	5	2	4	9	5	1	2	3	6	7	8	3	9	7	1	8	9	2	8	3
2	7	5	3	6	5	5	5	9	9	8	9	2	1	8	7	9	8	9	3	2	9	4	1	3	9	8	6	1	9	7	7	6	1	6	6	7	7	2	8
3	5	3	9	4	6	9	3	7	2	4	5	1	2	9	3	4	7	9	3	4	4	3	3	8	3	3	9	6	8	5	6	9	5	9	2	7	4	9	3
5	3	7	8	4	7	5	4	3	4	7	8	7	2	3	7	4	1	6	8	5	9	9	1	4	8	9	2	1	4	7	2	8	3	9	3	2	1	4	6
8	3	1	7	6	4	5	7	4	9	2	7	9	2	6	1	3	2	9	5	1	7	9	4	6	5	2	7	2	2	3	4	3	7	1	2	7	3	5	5
3	9	8	6	7	3	9	2	4	3	4	9	3	5	1	9	1	4	1	4	2	7	2	7	4	9	3	3	8	9	7	9	1	2	4	3	4	8	7	8
6	1	1	6	6	7	5	6	7	6	3	5	3	1	1	2	8	9	4	1	1	4	1	4	3	6	7	7	9	9	4	4	5	3	6	4	1	9	1	7
8	2	7	1	6	3	8	6	3	4	3	2	4	1	8	1	9	6	7	4	2	9	2	1	3	3	3	5	8	3	9	1	3	8	5	9	7	3	6	8
1	6	5	7	1	8	4	3	7	1	3	5	1	4	6	7	5	2	7	7	9	5	6	5	2	4	5	7	8	6	7	4	9	4	1	6	7	2	9	5
9	5	4	2	5	6	3	5	7	6	1	3	6	5	9	2	9	1	1	3	5	7	9	9	6	5	5	1	6	1	8	1	7	5	4	8	5	3	4	7
3	4	8	9	9	5	6	9	8	1	3	8	7	2	6	5	8	4	3	7	7	1	3	2	9	4	3	8	7	2	3	7	3	3	2	7	2	4	5	
6	5	4	7	8	5	1	7	6	8	3	5	8	5	3	3	2	9	4	6	5	9	3	4	9	7	3	7	9	6	1	2	5	7	1	6	3	9	7	3
9	3	4	7	8	6	3	1	4	7	3	7	8	7	3	6	3	5	2	6	1	1	7	8	3	4	3	8	1	8	4	7	1	8	1	1	7	6	1	1



Friendship Questionnaire (adapted from Bukowski et al., 1994).

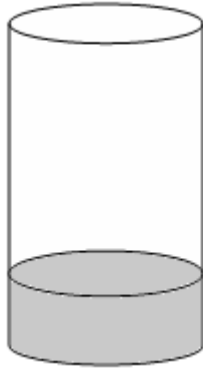
Q. If something is bothering me, I can tell my friend about it even if it is something I cannot tell to other people.

Q. If I have a problem at school or at home, I can talk to my friend about it.

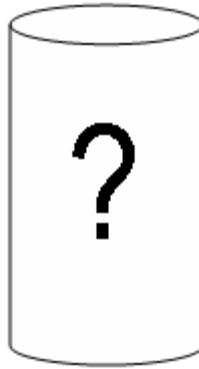
Pupils Response Card



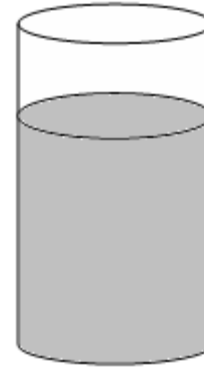
Not at all True



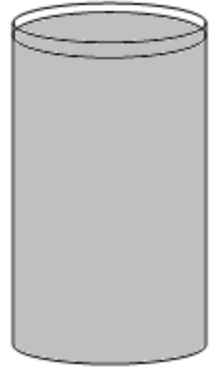
Partly True



Don't Know



Quite True



Very True



Teacher Questionnaire

Q. If I have a problem at school or at home, I can talk to my teacher about it.

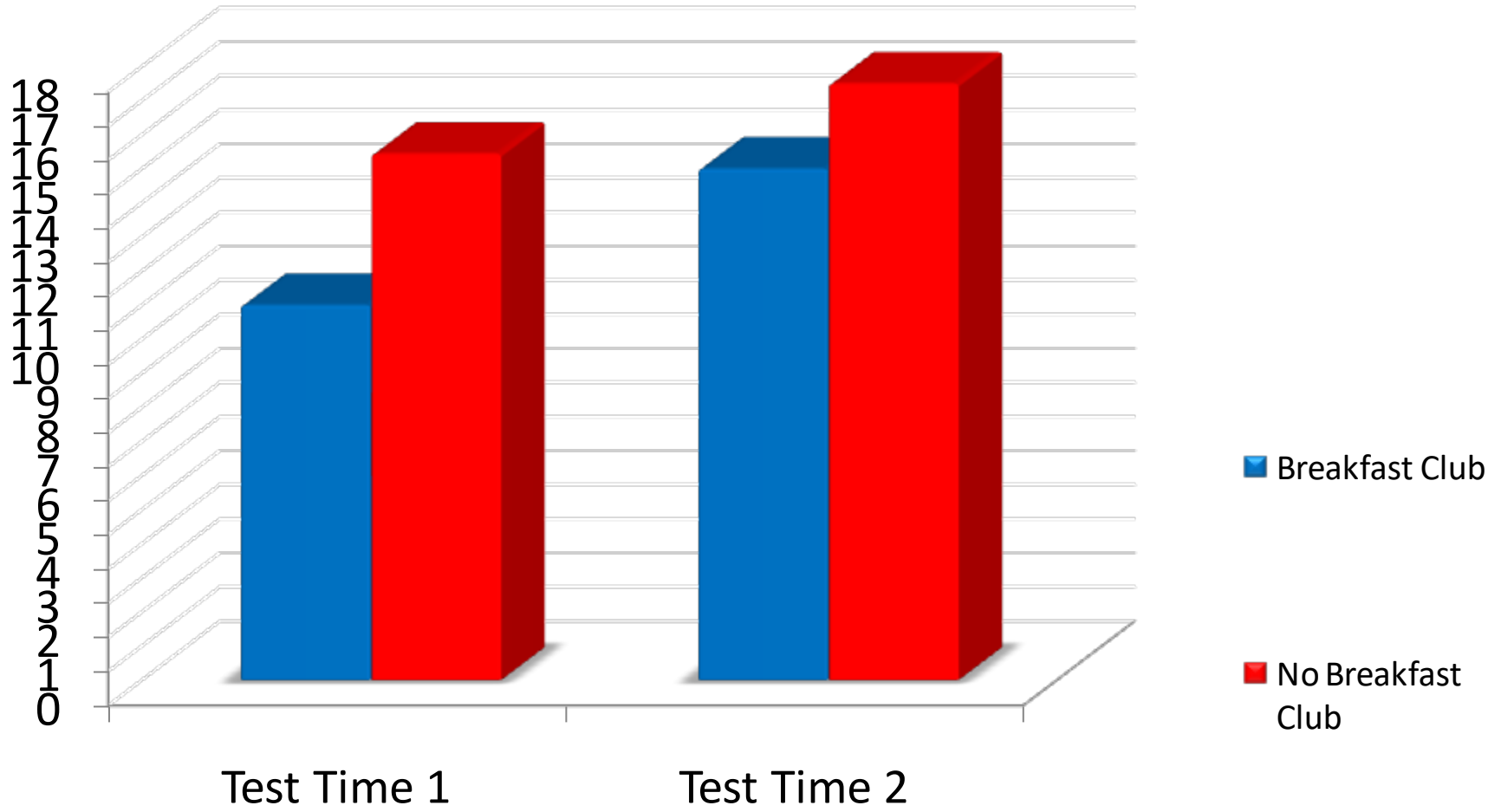
Q. My teacher would help me if I needed it.



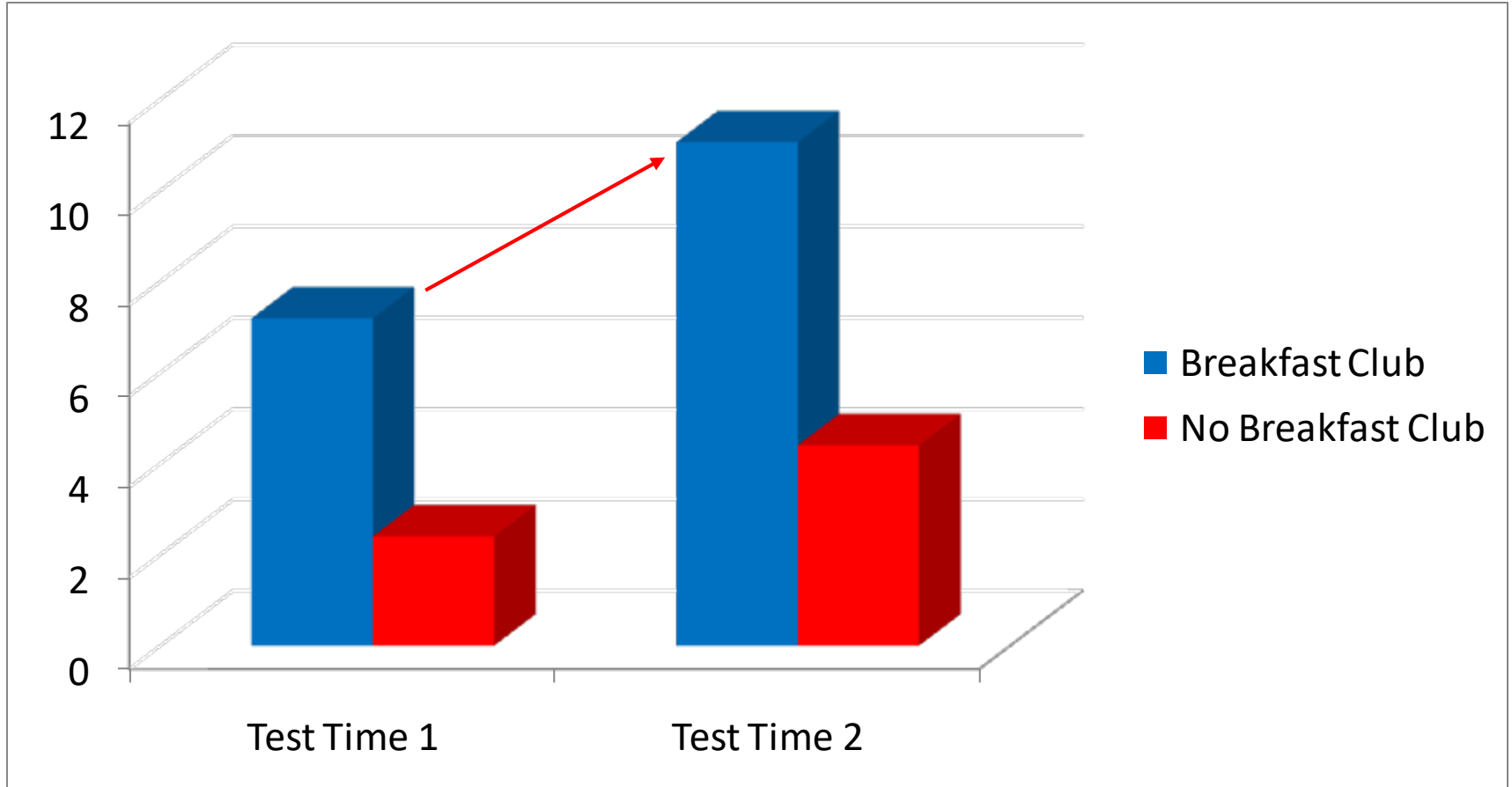
Focus Groups

Sub-sample of school: Parents, Teachers and Pupils

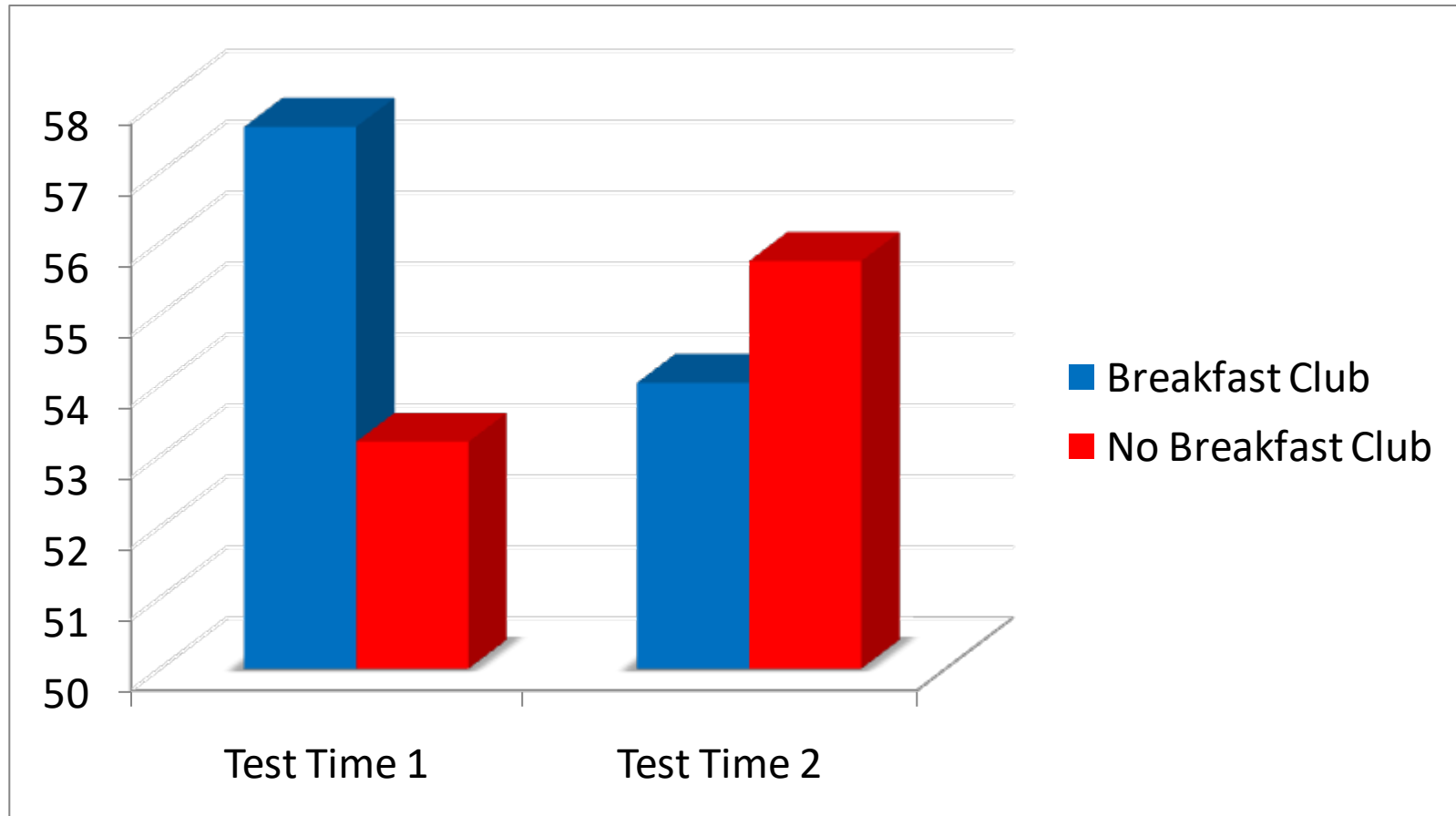
Trails A



Trails B



Number Search Task



Pupil Friendship Questionnaire

Measure	Condition	Difference Score	Significant
Companionship	Breakfast Club	0.02 (0.22)	$t(24) = 2.02, p = 0.028$
	No Breakfast Club	-0.55 (0.12)	Lopsided Test Alpha = 0.045
Conflict	Breakfast Club	-0.22 (0.32)	$t(26) = -0.076, p = 0.47$
	No Breakfast Club	-0.19 (0.21)	Lopsided Test Alpha = 0.045
Help	Breakfast Club	-0.13 (0.14)	$t(23) = -0.749, p = 0.230$
	No Breakfast Club	0.05 (0.19)	Lopsided Test Alpha = 0.045
Security	Breakfast Club	0.02 (0.20)	$t(26) = -0.680, p = 0.251$
	No Breakfast Club	0.21 (0.19)	Lopsided Test Alpha = 0.045
Closeness	Breakfast Club	0.30 (0.21)	$t(26) = 1.050, p = 0.152$
	No Breakfast Club	-0.21(0.20)	Lopsided Test Alpha = 0.045.

Teacher Relationship Questionnaire.

Measure	Condition	Difference Score	Significance
Conflict	Breakfast Club	-0.43 (0.23)	$t(23) = -.883, p = 0.193$
	No Breakfast Club	-0.18 (0.12)	Lopsided Test Alpha = 0.045
Help	Breakfast Club	0.00 (0.00)	$t(19) = 3.678, p = 0.001$
	No Breakfast Club	-0.55 (0.16)	Lopsided Test Alpha = 0.045
Security	Breakfast Club	0.60 (0.21)	$t(24) = 3.115, p = 0.0025$
	No Breakfast Club	-0.32 (0.18)	Lopsided Test Alpha = 0.045
Approachableness	Breakfast Club	0.43 (0.16)	$t(24) = 1.913, p = 0.034$
	No Breakfast Club	-0.13 (0.25)	Lopsided Test Alpha = 0.045
Communication	Breakfast Club	0.53 (0.38)	$t(25) = 1.470, p = 0.077$
	No Breakfast Club	-0.18 (0.19)	Lopsided Test Alpha = 0.045



“I like it because I just get to meet all my friends before I go to class.” (94%)



“It’s good to see mixed age groups playing together. It is good in helping them make friendships.” (58%)

Parent Focus Group

- *“...And cause the teachers are in early, kids have a chat with the teachers and I think if the kids have got something on their mind or concerned about something they’ve got the chance to address it. Interact with the teachers.”*
- *“...Ehm, and I think for them to integrate with their peers and the older children as well as on a smaller scale. I think it increases their confidence as well”.*

Conclusions

- No effect of breakfast club attendance on cognitive task performance in Trails A and Number Search Task.
- Children attending breakfast clubs showed a greater gain in their performance across time on Trails B.

Social Outcomes

- The data from the Friendship Questionnaire revealed that while the level of companionship remained stable for those children attending breakfast club.
- The data from the Teacher Questionnaire revealed significant differences between groups in terms of helpfulness, security, and approachableness.

More than just a Meal

- Social Environment.
- Social integration into the school community.
- Lower absenteeism
- Provide a positive link between the school and local community

