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Evaluation of the Northumberland Raising Aspirations In Society (NRAIS) Project

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Glossary

BRAIS	Berwick Raising Aspirations in Society Project
CoE	Community of Enquiry
CPD	Continued Professional Development
DfES	Department for Education and Skills
GONE	Government Office North East
IACEP	International Association of Cognitive Education and Psychology
INSET	In-service Education and Training
ITT	Initial Teacher Training
KS1/KS2	Key Stage 1/Key Stage 2
LEA	Local Education Authority
NLP	Neuro Linguistic Programming
NQT	Newly Qualified Teacher
NRAIS	Northumberland Raising Aspirations in Society Project
NSP	Northumberland Strategic Partnership
OFSTED	Office for Standards in Education
P4C	Philosophy for Children
SATs	Standard Assessment Tests
SCITT	School Centred Initial Teacher Training
SEN	Special Educational Needs
TROOM	Thinking Room
UNN	University of Northumbria at Newcastle

Preface

This is the Final Evaluation Report for Northumberland's Raising Aspirations in Society Project (NRAIS). A key concern in writing this document has been clarity of presentation and balance of argument. In seeking to make the report accessible and of interest to the widest possible audience we have framed our presentation of the data through a series of case studies of NRAIS schools. Through these case studies we illustrate themes from both qualitative and quantitative data strands of the evaluation. Although this is the Final Evaluation Report it is important to note that it is presented as part of a process of illumination in the light of data we have collected over the past three years. An important aspect of this process is that it aims to enable those who funded the NRAIS Project and those who participated in it an opportunity to use progressively the findings of this report to inform their work. We are aware that in any evaluation there are likely to be competing claims for any gains or losses identified and we have sought to utilise approaches and methods that will provide rich insights and understandings of the data we have collected, to identify the impact of the NRAIS Project.

In undertaking this evaluation:

1. We designed methods that incorporated quantitative and qualitative data streams and endeavoured to compare the messages derived from each at key points in the evaluation.
2. We progressively structured the sample of case study schools to include those with high, moderate and low NRAIS involvement.
3. We progressively focused our research instruments upon the claims made by Headteachers, teachers and parents who had been supported by the NRAIS projects in terms of gains they attributed exclusively to NRAIS.
4. We shared and tested emerging findings from the evaluation during all three phases of the research with all of those who participated in the research.
5. We considered and drew upon OFSTED reports for each of the case study schools.
6. We commissioned additional research where returns from quantitative research instruments were less than optimal.
7. We invited NSP and the NRAIS Steering Group to comment upon the first draft of the final report. We also asked them to respond to our Report-and-Respond survey, requiring their reactions to a series of statements listing the tentative findings of this evaluation.
8. We invited all participants from the case study schools to complete the Report-and-Respond survey and to comment upon our description and analysis of their school.

We asked schools who had only participated in the first phase of this evaluation to complete the Report-and-Respond survey.

9. We have drawn upon a range of research literature in relation to, 'formative evaluation', 'illuminative evaluation' and education research, to explore ways in which inquiry and feedback might be combined to provide sponsors with greater confidence in the wider validity of the tentative findings of this evaluation.

Acknowledgements

The Northumberland Strategic Partnership (NSP) provided us with helpful feedback, advice and encouragement in relation to the conduct and progress of this evaluation and the production of this Final Report.

Professor Julian Elliott from Durham University provided useful and constructive comments and advice upon earlier drafts of the report.

Members of the NRAIS Steering and Advisory Group similarly provided useful guidance and support in refining the selection of the research sample and instruments and in making sense of emerging themes and findings.

Hanneke Jones generously provided David Moseley access to her questionnaire data and gave permission for extracts to be used to support the quantitative data strand of this study.

Finally, we'd like to give a special thanks to Killian McCartney who has acted as editor for this NRAIS publication and has been invaluable in bringing it to publication.

Executive Summary

Rationale for this evaluation:

- As a result of the NRAIS project, thinking skills interventions are being increasingly used in schools across Northumberland.
- Little is known although much is claimed about the potential of thinking skills interventions for helping to raise aspirations and educational attainment.
- There is currently no other means of evaluating the impact of the respective thinking skills interventions being promoted and used in the NRAIS project.

Aims:

The aims of the evaluation were to identify the impact of the NRAIS project and its approach to the Continuing Professional Development (CPD) of teachers upon:

1. The perceptions, attitudes and classroom practices of teachers in Northumberland schools who had undergone programmes of CPD with NRAIS consultants.
2. The aspirations, attitudes, dispositions and achievements of pupils in Northumberland schools where measures of achievement included evidence of the development of pupils' higher order thinking skills and dispositions, as well as their national test scores including, SATs, GCSEs and NVQs.
3. The attitudes and aspirations of parents, governors and community groups who had participated in NRAIS programmes and activities.

We decided to:

- Adopt a formative, multi-method approach to evaluation, which aimed to inform and improve the quality of the NRAIS project as well as measure its impact.
- Employ qualitative and quantitative data in the evaluation.
- Apply data from the quantitative strand to qualitative data collected in the case study schools and vice versa to develop deeper understandings of both.

From the quantitative data collected and analysed, we found:

- In both 2004 and 2005, when NRAIS-supported first schools were compared with schools where no systematic thinking skills training had been received, there were no differences in SATs outcomes for Reading, Writing or Mathematics.
- Evidence of improvement in Mathematics in first schools which had been supported through Berwick Raising Aspirations in Society Programme (BRAIS) and then NRAIS for more than three years by the time the children took the 2004 SATs.
- Schools making more frequent use of Community of Enquiry (CoE) and cognitive mapping in 2003–4 performed better in Maths.
- Schools making less frequent use of philosophy approaches in 2003–4 performed better in Writing.
- There was no link between reported usage of thinking skills strategies and approaches in 2003–4 and Reading performance.
- Teachers who believed in the value of metacognition for pupils tended to use both thinking and philosophy approaches more often in 2003–4, but their beliefs did not generally translate into better SATs scores, unless they made frequent use of CoE and cognitive mapping.
- In 2005 it was found that good SATs outcomes in Year 2 were linked with moderate (rather than with high or low) use of four, thinking-for-learning strategies.
- In 2004, when 11 NRAIS-supported middle schools were compared with 12 schools where no systematic thinking skills training had been received from NRAIS, there were no differences in SATs outcomes for English, Mathematics and Science. This also applied both when the four BRAIS schools were added to the sample and when those four schools were compared with the 12 control schools.
- In 2005, when 10 schools which received NRAIS support in both 2004 and 2005 were compared with 11 control schools, they were found to have done better than expected in terms of overall performance in KS2 SATs.
- Schools making more frequent use of CoE and cognitive mapping in 2003–4 performed better in English.
- At KS2, when 11 NRAIS-supported middle schools were compared with 12 schools where no systematic thinking skills training had been received from NRAIS, there were no significant differences in SATs outcomes for English, Mathematics and Science. This also applied both when the four BRAIS schools were added to the sample and when those four schools were compared with the 12 control schools.
- In 2004, the number of 5 A–C GCSE passes in four NRAIS supported high schools was 11% higher than predicted on the basis of past trajectories and in 2005 the corresponding figure was 17%. In the county's 10 non-RAIS high schools the actual number of 5 or more A–C passes was only 1% higher than predicted in both 2004 and 2005. However, these important differences cannot be unequivocally attributed to NRAIS support.
- No evidence to suggest that NRAIS made a difference to pupil attendance in first schools, but there was some evidence of improved attendance in a small number of middle and high schools supported by NRAIS.

From the qualitative data we found:

- Local consultants with local knowledge who understood the context of Northumberland schools were consistently cited by teachers across the period of the evaluation as strengths in the NRAIS approach to teachers' professional development.
- The non-inspectorial remit of NRAIS was particularly important to head teachers and teachers and enabled the development of positive professional relationships and critical friendships based on mutual respect and trust.
- Joint accountability for the effective implementation of teacher-chosen interventions was crucial to the success of the NRAIS model of teachers' professional development
- 'Whole school' approaches to the development of thinking skills interventions and the focus of NRAIS activity upon inclusion and social democracy, rather than upon SATs results, were frequently cited by teachers as a key factor in the success of NRAIS.
- The focus upon:
 - joint planning;
 - joint development/adaptation of thinking skills interventions;
 - modelling of the intervention in practice and
 - the infusion of the intervention across the curriculum in the contexts of teachers' everyday classroom practice,
 were seen as being *as*, if not *more*, important than the thinking skills intervention itself.
- Philosophy for Children (P4C) intervention in the form of 'Community of Enquiry' had significant positive impact upon teacher and pupil creativity, and increased teacher and pupil confidence.
- P4C was seen by teachers and inspectors to encourage and develop children's capacity for independent and critical thinking and powers of reasoning.
- P4C was particularly powerful in developing teachers' planning for use of questions and in encouraging teachers to critically and constructively revisit their practice.¹

¹ Over the period of the evaluation the school system in Northumberland moved away from three tiers to two. The funding for NRAIS was dramatically reduced leading to some NRAIS consultants being made redundant. Those consultants who remained with NRAIS no longer worked in specific geographical areas and covered schools and communities across the county. There was a widespread perception towards the end of the evaluation among teachers that NRAIS had 'gone'. NRAIS is still working to maintain and extend its original philosophy.

Section One

Introduction to BRAIS and NRAIS Projects and Overview of the Methodology of the Evaluation

1.1. Introduction to BRAIS and NRAIS Projects

The BRAIS and NRAIS projects form part of a range of initiatives taken by Northumberland Strategic Partnership (NSP) as part of a plan for raising aspirations and achievement in schools and communities across Northumberland. This plan was influenced by an Ofsted Inspection Report of Northumberland LEA. Among other things the inspection report drew attention to a number of developmental issues related to raising pupil aspiration and achievement. Government Office North East (GONE) committed funds to the NRAIS project from 2003–2006 at a cost of £2.5 million. A core aim of the project was to promote collaboration and the sharing of good practice between NRAIS consultants and teachers, pupils, parents, in schools and between schools across the county. The NRAIS project also extended this work to community groups and businesses. An explicit objective of BRAIS and NRAIS was to improve teaching and learning through the introduction and development of thinking skills interventions in schools and with families, local community groups and businesses and thereby improve aspirations and attainment. Organisations and people participating in the initiative included teachers and pupils in first, middle, special and high schools, parents, community groups and businesses throughout Northumberland.

Both BRAIS and NRAIS operated on an elective basis where institutions and individuals were invited to participate in the project. There was no pressure or obligation upon schools, parents, community groups or businesses to become involved and any institution or individual was able to elect to opt in or out of the project at any time. This elective aspect of involvement is important, as it is an expression of the inclusive and democratic core values which guide the mission statement activities of the NRAIS project team. The success of the BRAIS project in Berwick led to the extension of the initiative across Northumberland at which point BRAIS became part of NRAIS.

The NRAIS project was managed through NSP by a Steering and Advisory Group from July 2003 to September 2006. This Group worked closely with both Directors of NRAIS and eight NRAIS

Consultants. Each NRAIS consultant worked with a geographical case-load of schools, parents, community groups and businesses. Their role was to improve teaching and learning by helping embed thinking skills initiatives in school, family and everyday life through a collaborative model of consultancy, coaching and action planning. The NRAIS project was multi-stranded and consisted of a substantial programme of professional training and personal development for head teachers, teachers, parents, community organisations and businesses. The NSP Steering Group have given valuable advice and support to the evaluation team by commenting upon emerging findings and suggesting future action in relation to the structure of the research sample, the design and development of the research, the refinement of research instruments and by providing feedback on current perceptions of impact in the first and second phases of the evaluation.

1.2 Overview of the Evaluation of NRAIS

As part of the external evaluation of NRAIS, researchers from the universities of Sunderland and Newcastle were asked in the summer of 2003 to evaluate the work and impact of the NRAIS project (including the original Berwick-RAIS (BRAIS) project, later subsumed by NRAIS). This final evaluation report of the NRAIS Project was jointly produced by teams from both universities. This is the tenth in a series of public outputs from our research. It follows six progress reports, which were produced and presented to the NRAIS Steering and Advisory Group once per term in the academic years 2003–4 and 2003–4. In addition, members of the evaluation team attended a regional event in Berwick in April 2005 to present a first draft of the findings of the NRAIS Interim Evaluation Report to teachers from schools across Northumberland and other education researchers interested in ‘thinking skills’ research in education.

1.3 Framework for the Evaluation

Both the BRAIS and the NRAIS projects are complex and multi-faceted and it was a major task for the research team to build a flexible, coherent and enabling framework to evaluate the influence of the range of thinking skills interventions used in both projects upon head teachers, teachers, support staff, pupils parents, governors and other stakeholders in Northumberland. The breadth of membership of the evaluation team from the Universities of Sunderland and Newcastle ensured strong expertise across a range of research methodologies. Research methods and perspectives were triangulated on an ongoing basis to address the range and impact of the NRAIS project. In order to address the complexity of the project and to ensure that impact was measured in a way that was consistent with the original aims, the evaluation had two interwoven strands. The first was quantitative and sought to provide robust or ‘hard’ evidence of impact on attainment and other quantifiable measures. Here, summative evaluation was used to measure improvements in pupil performance on standardised tests. Data collected for summative purposes was aggregated and statistically and thematically analysed to identify significance, achievements and aspirations across all three phases of the evaluation. The evaluation team used SATs results, Ofsted reports and other standardised measures of performance alongside qualitative data from NRAIS schools to point to important aspects of the NRAIS project. Despite our best efforts, returns from some quantitative research instruments were disappointing. We also experienced real problems in obtaining data from high schools. The evaluation team had to undertake additional work and commit considerable additional resources in an attempt to compensate for this.

The qualitative strand of the evaluation aimed to identify evidence of more subtle, but equally important changes. An important feature of both strands of evaluation is the focus upon the perceptions and aspirations of pupils, teachers, parents, the NRAIS project team and other stakeholders; the model of CPD embodied in the project and the role and potential of an approach to the development and improvement of teaching and learning and the raising of aspiration based

upon thinking skills interventions. Capturing data on teacher, pupil, parent and consultant thinking and classroom and community practice was central throughout the evaluation process.

Formative evaluation was employed throughout all three phases of the research to collect, analyse, compare and, wherever possible, weave both strands of the data together. Our aim here was to help head teachers, teachers, parents, the NRAIS project team, curriculum planners and policy makers involved or interested in the project to recognise and improve what they did. Data collected for formative purposes was aggregated and thematically analysed to identify the experiences, perspectives, achievements and aspirations of pupils, teachers and parents at key points in the project. This dual emphasis required the development of research tools for collecting, synthesising and testing the warrant for evaluative data from both strands of the research and the identification and refinement of processes for data analysis and sense making.

Each member of the NRAIS team originally agreed to work with three schools to mirror the approach to data collection used by the evaluation team so that each consultant would construct a 'Learning Journey' of their experiences of the evaluation of NRAIS. This proved to be impracticable in Phase 1 and although we explored the possibility of incorporating the collection of this additional data set by consultants this also proved impossible in Phase 2. From the outset the research members of the NRAIS team introduced the principles underlying the formative nature of this evaluation and its research instruments to their geographical cluster of teachers, pupils and parents and community groups. The evaluation team began their study of NRAIS interventions in Northumberland schools as soon as possible thereafter.

1.4 Design of the NRAIS Evaluation: Scope and Process

This evaluation study explored the proposition that pedagogical interventions, which aim to improve the quality of pupil thinking, can raise standards of teaching and improve pupil attainment and aspiration. It had two main aims. The first was to identify the different ways in which the BRAIS–NRAIS projects may have impacted upon teachers, pupils, parents and communities across Northumberland. A further aspect of the study was to suggest ways in which the findings of this evaluation may be used to guide the future development of the NRAIS Project. We attempted to identify what an effective educational intervention focused on the development of thinking skills and the raising of aspiration might look like in practice and how it might be developed. One of our key assumptions was that, if the promise of formative evaluation to improve practice as well as to measure its effectiveness was to be realised, then traditional research designs in which the project team and participating teachers are informed of the findings of the research at the end of the study, would not be appropriate. An iterative process of research and consultation was essential to the effectiveness of the evaluation. For these reasons at key points in the research, stakeholders and participants were invited to respond, through focus groups, illuminative evaluation seminars, and a Report-and-Respond survey to the emerging themes and tentative findings of this evaluation. These were used to further triangulate data and findings and refocus each phase of the evaluation. We analysed in detail the aims, content and processes of the thinking skills interventions used in the BRAIS and NRAIS. We looked for key characteristics of the NRIAS model of CPD and themes and trends in the thinking skills interventions we examined. We have attempted to express and present these in the simplest possible language in this report. It was agreed that the evaluation would be confined to:

- Interviews with directors and consultants involved in both projects.
- Interviews with head teachers and teachers who participated in one or both projects.
- Interviews with pupils and parents currently participating in the NRAIS project.
- Classroom observations.
- Focus group interviews with all of the above.

- Survey data.
- Data from national standardised tests.
- School data.
- Consultative meetings and seminars.

The Evaluation team examined:

1. SATs results, Ofsted reports and other standardised measures of aspiration and achievement.
2. The influence of the NRAIS project upon head teacher and teacher thinking and practice, pupil attainment, pupil thinking and attitudes, teacher pupil and parent aspirations and pupil attendance in both the quantitative and qualitative strands of the evaluation.
3. The identification and testing out of the intentions and individual understandings of the role, function, effectiveness and efficiency of the NRAIS approach to teachers' CPD was also explored. Collection of this data began in Phase 1 through interviews with NRAIS consultants and directors and was carried forward into Phase 2 through 'evidence of impact' interviews where NRAIS consultants presenting the evaluation team with 'pictures of practice' in schools where they thought their work had had a positive impact upon the school. Indicators of impact were derived from these interviews. We then looked for evidence of these indicators in case study schools. This sample of case study schools was structured to include schools with low, medium and high involvement in NRAIS.
4. The warrant for the tentative findings of Phases 1 and 2 was tested through a Report-and-Respond survey. Responses from this survey were used in Phase 3 to inform the claims, recommendations and conclusions of the final report.

1.5 Internal Evaluation

As part of their own project monitoring processes NRAIS project directors and consultants reviewed awareness and training day evaluation questionnaires at regular team meetings and through written monitoring reports to the Steering and Advisory Group. Thus internally evaluating the programme and assisting in monitoring progress towards the targets and outcomes of the project. These evaluations were used to inform Phase 3 of this study.

1.6 NRAIS Model of Continuing Professional Development (CPD)

1. NRAIS consultants organise awareness events where teachers, parents and community groups are introduced to the thinking skills interventions offered by the NRAIS team.
2. NRAIS consultants model thinking skills intervention(s) during training days. These take place following NRAIS awareness days in schools and other community settings. During these sessions NRAIS consultants demonstrate the thinking skills interventions in action with teachers, pupils, parents and governors from the school or in other relevant institutions in the context of every day lessons or events with parents etc. in the community.
3. In-school continuing professional development (CPD), coaching sessions, follow the above. These focus upon joint consultant–teacher planning. The aim here is to help teachers embed and improve their use of thinking skills and to support the teacher in embedding and infusing the thinking skills intervention across the curriculum in

the specific contexts of their own classrooms. The NRAIS CPD programme is focused upon a number of thinking skills interventions. The most popular interventions chosen by teachers included, Matthew Lipman's 'Philosophy for Children' (P4C) based on a specific pedagogical intervention called 'Community of Enquiry' (CoE), Cognitive Mapping, Mysteries, 'Top ten Thinking Tactics', Neurolinguistic Programming (NLP), Edward De Bono's 'Thinking Caps', and Brain Gym.

4. In addition the NRAIS project team offer a series of 'taster' thinking skills developmental programmes for parents, community groups, school governors, and businesses.

1.7 The Three Phases of the Evaluation

The evaluation was phased as follows:

Phase 1: September 2003 to April 2004

Phase 2: April 2004 to March 2006

Phase 3: April 2006 to September 2006

Section Two

Phase 1 of the Evaluation: September 2003 to April 2004

2.1 Introduction

In Phase 1, in order to explain the ethos of the evaluation and introduce, involve and secure the commitment of the NRAIS directors and consultants to the processes and practices of this formative evaluation, we began by consulting the team about the way the evaluation would be conducted and the role and approach the evaluation team would take. Three focus group meetings were held with the NRAIS Team in July, September and December 2003. The purpose of these meetings was to discuss the design and ethos of the research in detail, select case study schools and refine the research instruments. During these meetings the aims, principles and processes underlying formative evaluation were discussed and agreed, sources of baseline and summative assessment data were identified and the qualitative and quantitative strands of the evaluation were discussed and refined. Specific dates for school visits for each case study school in the sample were also agreed. These took place between January 2004 and April 2004. Further focus group meetings were held in April 2004 and July 2004 where the current perceptions and emerging findings from Phase 1 of the evaluation were discussed in some depth. At the same focus group meetings it was agreed that NRAIS directors and consultants, who already worked regularly and directly with teachers in improving teaching and learning and were familiar with the staff in the respective schools for which they were responsible, would act as liaison points to enable both the qualitative and quantitative strands of the research to access data from each research site. In selecting our research sample the evaluation team were not concerned with finding 'typical' schools but schools that could provide 'existence proofs of good practice and living examples...for use in further dissemination' (Black & Wiliam, 2003, p.630). In Phase 1 the qualitative strand of the evaluation team worked with nine schools in the NRAIS project. NRAIS consultants were invited by the evaluation team to select a school for study from their 'caseload' of schools. All of the schools selected by the consultants for study by the evaluation team were first or middle schools. Nine visits were scheduled to take place in Phase 1, in the event only eight did due to the difficulties one consultant had in securing access to their chosen site. This visit was carried forward into Phase 2 of this study. During school visits the evaluation team introduced teachers to first principles of formative evaluation.

At least two members of the qualitative strand of the evaluation team interviewed NRAIS directors and consultants using a structured interview schedule (Appendix 1). The same team also observed and recorded classroom practice using an agreed structured observation pro-forma (Appendix 2) and conducted a series of post observation interviews with teachers, pupils, parents and head teachers (Appendix 3). The content and format of each interview schedule used was established and agreed at the focus group meetings with NRAIS directors and consultants. Three focus group interviews were held with parents in Phase 1. Focus group interviews were conducted on an opportunistic basis, as and when consultants and head teachers could if they wished arrange them to coincide with evaluation team visits. In Phase 1 one focus group interview was carried out at Widdrington, one at Alnwick and another at Berwick. During these interviews, parents were asked to describe their experiences of being involved with NRAIS and any courses they had attended. They were also asked about how their children had been involved in the project and what if any changes they had noticed in their child's behaviour, attitudes etc. One focus group meeting with pupils from a first school who had been involved in the Philosophy for Children 'thinking skills' intervention was also conducted at Berwick during Phase 1.

For the first five months of the Project (September 2003 to January 2004) the NRAIS Project Team encouraged teachers to experiment with some thinking skills strategies and techniques including Community of Enquiry, Cognitive Mapping, Mysteries, Top Ten Thinking Tactics', Neuro Linguistic Programming, (NLP), De Bono's Thinking Hats, Brain Gym etc. NRAIS consultants selected the range of thinking skills components they considered to be most appropriate in the context of each school. They did not suggest that any one of these interventions was better than another rather they sought to raise teachers' awareness of a range of thinking skills interventions available and encouraged them to choose one which they might like to try out in their teaching. Once a teacher identified an intervention they wanted to use consultants then worked with each teacher to help them develop/adapt the intervention in the contexts of their own classrooms. Each teacher was free to decide which class to experiment with and which thinking skill intervention to use.

We found standard experimental design was not appropriate for use in this evaluation nor have we attempted to standardise outcome measures, as we cannot rely on having the same 'input' measures for each school/class. Phase 1 and 2 data identified what counted as 'impact' for NRAIS consultants, head teachers and teachers (indicators of impact). We then looked for evidence of that impact in Phase 2 the case study schools and further tested our understanding of these in Phase 3. Phase 1 of the evaluation focused primarily on the development and refinement of the research instruments through meetings with NRAIS directors and consultants.

In order to secure quantitative evidence in Phase 1 we used an approach to the analysis which Black and Wiliam (2003) have termed 'local design' in the sense that we made use of whatever data was available in the school in the normal course of events. In most cases these were the results on the National Curriculum tests or GCSE but we also made use of scores from school assessments and other data sources. In addition we aimed to collect other quantitative data using two research instruments which had previously been successfully used by Newcastle University colleagues, one in the form of an online questionnaire in relation to teachers personal constructs to elicit their beliefs about teaching and learning and to track any changes in those beliefs, the other in the form of a 'What Have I done in My Lesson Today', which aimed to show how pupils perceive the cognitive demands of learning. Response to both of these instruments was disappointing across all three phases of the evaluation. Despite an original agreement that NRAIS consultants would encourage schools to collect data using these instruments both have proven to be problematic in practice. The evaluation team held meetings with the full NRAIS team at least once per term. In the first instance our central focus was upon the design of the research instruments and identifying the research sample. Thereafter each consultant took part in an in-depth interview immediately prior to the visit to their chosen school. In Phase 1, eight consultants were interviewed. The remaining consultant interview and site visit took place in Phase 2 of the evaluation.

2.2 Phase 1 Schools

The Qualitative Evaluation team visited the following schools:

- Middle School 2²
- First School 7
- First School 8
- First School 6
- First School 9
- Special School 1³
- First School 3²
- First School 10

2.3 Data Collection

In the course of the above visits interview data was collected from:

- 8 Head teachers
- 13 Teachers
- 4 School Support Staff
- 10 Parents
- 10 Pupils through a Focus Group Interview

In addition to these interviews we observed 15 classes, which included 350 children in total.

2.4 Data from Phase 1 Interviews with NRAIS Consultants, Teachers, Pupils and Parents

The period to which these data refer is July 2003 to April 2004. The interview and observation schedules for use with consultants, teachers and parents were drawn up in conjunction with NRAIS directors and consultants. (Examples of each can be found at Appendices 2–4).

NRAIS Consultants

All NRAIS directors and consultants described the values and aims of the project as inclusive, collaborative and democratic with an evidently strong and mutually supportive team spirit. All consultants reported that work with NRAIS schools had begun and was progressing well. When asked to comment upon the aspirations of the project as it became scaled up from Berwick-RAIS many talked about the importance of continuing to live up to the value base underpinning the project, its inclusive and elective nature and the model used for the continuing professional development of teachers. There were a wide range of responses with no clear consensus from consultants and directors in relation to questions about the nature of an aspiration and how aspirations are formed and changed.

²This school also received support from the Northumberland Thinking Room team during both phases of the NRAIS evaluation.

³These schools had been involved in the Berwick RAIS project for the previous two years.

Typically however NRAIS consultants made some reference to social and cultural factors influencing aspiration and achievement. Generally consultants described their work in terms of inclusion, collaboration, accessibility to local schools and their joint accountability with teachers in improving teaching, learning, aspiration and achievement. Some expressed concerns regarding the longer term funding and sustainability of the project. Others talked in terms of the 'energy' and confidence that involvement in NRAIS was generating among teachers and parents. The funding of the project was justified by teachers with reference to the positive personal relationships, trust and high levels of social capital which had built up between head teachers, teachers and NRAIS consultants. This was most evident in the way head teachers and teachers reported that they genuinely enjoyed their involvement in the projects and in the ways in which they recognised that they were becoming more disposed to extend and develop their practice. It is of potential significance that almost all of the case study schools selected by consultants were first schools. The reasons given by each consultant was that this was a 'best practice' school in which they thought their interventions had worked best and had had most impact.

Head Teachers and Teachers

All head teachers and teachers interviewed talked of their experiences of the project in highly positive and enthusiastic ways. They also talked of how they enjoyed being involved in the NRAIS project and how valuable and productive this opportunity to focus on the curriculum and pedagogy had been and how this was having a positive influence upon their practice. The modeling of interventions by consultants in teachers' own classrooms and the help given by the consultants in helping teachers adapt, apply and develop their use of their chosen intervention in the contexts of their own classrooms was singled out in particular, as was the dedicated and geographically accessible nature of the consultancy model. While teachers repeatedly reported that they 'knew' the thinking skills interventions they had developed through their involvement in NRAIS were 'working' and having a positive effect upon pupils, when pressed they found it difficult to identify the evidence upon which they were making these claims beyond reference to anecdote and the general feeling that classroom interactions were changing for the better. While the evaluation team acknowledges the importance and authenticity of teachers' anecdotal evidence and in particular the persuasiveness of anecdotal evidence accrued over time, we are also aware of the importance of supporting such claims with more robust data, which may have more credibility and value to those responsible for the development of educational policy. The identification of indicators and evidence of impact formed the main focus of the qualitative strand of the evaluation in Phases 2 and 3. Head teachers and teachers also saw the sharing of ideas and enthusiasm about teaching and learning as being a direct outcome of their involvement and highly beneficial to their practice and to the school in general. The tone of teachers' responses in Phase 1 was overwhelmingly positive.

It was very clear from talking to head teachers and teachers in Phase 1 that they were in no doubt that NRAIS had been extremely valuable. Many teachers gave examples of how more parents had become involved in supporting the learning of their children more at home through their experiences of NRAIS courses for parents.

Parents

All parents interviewed talked of the high quality of the NRAIS courses they had attended and how these had given them greater confidence in helping with homework etc. Many parents talked about how their child had become more confident and thoughtful and how they were more able and willing to talk about what they had done in school and how they seemed to be able to listen better and to be able to see other points of view. Some parents described how *they* were being asked by their children to give reasons for their opinions and actions and how this had led them to rethink their own ideas and opinions.

This data were subjected to further thematic analysis by the evaluation team. The results of this thematic analysis were then used to frame the research questions for data collection in Phase 2 of the evaluation.

2.5 Perceptions of Impact of NRAIS in Phase 1: Summary of Phase 1 Qualitative Analyses

From the qualitative data we collected and analysed in Phase 1 we found that:

- NRAIS consultants are regarded as important mediators of teaching and learning.
- NRAIS consultants are seen as operating as models of good practice.
- Training sessions are considered to be of high quality.
- NRAIS has enabled high levels of social capital to be built up between consultants and teachers.
- Respondents report that something tangible is happening which is having a positive effect upon significant numbers of teachers in Northumberland and is valued by them.
- Teachers repeatedly report that they 'know' thinking skills interventions (particularly Community of Enquiry) are 'working' but when pressed they find it difficult to identify their evidence for making this claim beyond reference to anecdote and the 'feeling' that classroom interactions are getting better. The identification of indicators and evidence of impact will be central to Phase 2 of the evaluation.
- The Consultancy Model of In-service Education and Training (INSET) being used by the BRAIS/ NRAIS projects to help teachers to embed interventions in their practice is valued and enjoyed by teachers, for the way in which consultants share responsibility for improving practice with teachers, rather than merely demonstrating the intervention and leaving the teacher to grapple with the practicalities of making it happen in the classroom.

From this analysis a number of research questions to frame data collection in Phase 2 emerged.

2.6 Phase 2 Research Questions (Qualitative Strand)

Interventions

- What NRAIS interventions do you use in your practice?
- Why do you use this intervention?
- How and how often do you use this intervention?
- Where do you use this intervention in the curriculum (what subjects)?
- What has helped/hindered you to use this intervention?
- What could help you improve your use of it/them?

Evidence

- How do you know that this intervention is working and where is your evidence for saying this?
- Critical pedagogy: is classroom practice really improving and if so how?
- How well are the various thinking skills interventions used in NRAIS supported by empirical research and theories of learning?

Professional Dialogue

- What shared language is being used?
- Critical discourse: how is the consultancy process developing/improving?
- Where and what are the indicators of impact?

Focus Group Meetings

Pupils

Focus Group Meetings with pupils took place during Phase 2 to discuss emerging themes in relation to experiences of classroom and family learning and pupil aspirations.

Parents

Focus Group Meetings with parents took place during Phase 2 to discuss emerging themes in relation to their experiences of classroom and family learning and parent and pupil aspirations.

Teachers

Focus Group Meetings with teachers took place during Phase 2 to discuss emerging themes in relation to experiences of classroom and family learning and teacher aspirations.

Section 3

Phase 1 Quantitative Data and Research Questions

3.1 Summary of Phase 1 Quantitative Analyses:

Produced by David Moseley, with assistance from Hanneke Jones

- No significant differences are found in Reading, Writing or Mathematics when NRAIS first schools are compared with 43 control schools where no systematic thinking skills training has been received from the NRAIS team. In the case of NRAIS, this applies whether or not the 14 BRAIS schools are included in the sample. There is therefore no basis for attributing improvement in literacy in first schools to thinking skills interventions. However, we did find evidence of improvement in Mathematics in schools which had been supported through BRAIS and then NRAIS for more than three years by the time the children took the 2004 SATs.
- There were 14 first schools who were involved in Berwick RAIS and who continued their involvement through NRAIS in 2003–2004. Overall the results for these 14 schools (sample size 196) provide evidence that long-term involvement in the RAIS initiative leads to better than predicted Maths performance on national tests. This conclusion holds whether the predictions are based on a two-year or on a five-year period.
- At Key Stage 1 there appears to be a positive link between the use of Community of Enquiry and Cognitive Mapping thinking skills interventions and maths performance.
- Overall the use of Philosophy approaches is significantly greater in middle schools where English performance at Key Stage 2 SATs exceeds predicted levels.
- At Key Stage 3 in four BRAIS/NRAIS high schools 433 pupils achieved 5 or more A–C GCSEs in 2004 compared with 390 predicted (i.e. 11% more than predicted). This represents a significant improvement for the NRAIS schools.

3.2 Summary of Attainment Findings for Phase 1 Schools

At Middle School 3, performance in English, Maths and Science KS2 SATs was better than predicted in 2004. However, in 2005 this was true only in Maths, with Science being rather lower than predicted. Of the six case study first schools, two performed better than predicted in both 2004 and 2005 and two performed worse than predicted in both years.

The general trend (in six of the seven case study schools) was for a rather weaker performance in 2005 than in the previous year. This suggests that, although the schools had been nominated as examples of effective practice, it proved difficult for them to sustain a high level of school improvement as measured by SATs results.

3.3 Research questions for Phase 2 (Quantitative Strand)

1. Do schools which have received training through NRAIS perform better than expected on national tests? This question will be addressed by looking at KS1 SATs for first schools, at KS2 SATs for middle schools and at GCSE performance in High Schools. Comparisons will be made between appropriate groups of schools as well as with a control group of schools who did not receive training in thinking-for-learning.
2. Do schools which were involved in the Berwick RAIS initiative from 2000–2003 perform better than expected on national tests? This question will be addressed by looking at KS1 SATs for the first schools and at KS2 SATs for the middle schools. GCSE results from the High School will not be used for this purpose.
3. In schools where thinking skills and/or community of enquiry approaches have been in use, is there any relationship between reported practice and school performance on national tests?
4. In schools where thinking skills and/or community of enquiry approaches have been in use, is there a relationship between how strongly teachers believe in the importance of metacognition (thinking about and discussing thought processes) and school performance on national tests?
5. Is there any evidence that in schools which have received training through NRAIS, pupil attendance is better than expected?
6. Is there any evidence that in schools which have received training through NRAIS, pupil have more positive attitudes towards learning and higher aspirations than in other schools?

Section 4

Phase 2 Qualitative Data from Case Study Schools

4.1 Introduction

In view of the disappointing response rates from both the online teachers personal constructs, the 'What Have I done in My Lesson Today' questionnaire and in the interests of balancing both the qualitative and quantitative stands of this evaluation we arranged to meet NRAIS directors and representatives from Northumberland Strategic Partnership to discuss our concerns and to identify a way forward. The outcome of this meeting was an agreement to re-profile dissemination funds from NRAIS and the evaluation of NRAIS research to meet the costs of commissioning an extension of Northumbria University's survey of 'Young People's Attitudes to Education in the North East' at a cost of £12,800. Despite the considerable costs of this survey returns from this instrument have also been disappointing.

In Phase 2 on the advice of the NRAIS Steering and Advisory Group, the evaluation team extended the sample of schools to include high schools. Also on the advice of the Steering and Advisory Group it was agreed that the sample of case study schools in Phase 2 should look beyond the 'high involvement - best practice' schools selected by NRAIS consultants in Phase 1 to include a structured sample of case study schools with the high, medium and low involvement in NRAIS. Visits to schools in the second sample followed a similar format to those in Phase 1 in that they involved interviews with head teacher, teachers and parents and classroom observations. Interviews with directors and consultants continued. One focus group meeting with pupils was carried out in Phase 2 of the evaluation. As part of the International Association of Cognitive Education and Psychology (IACEP) conference held at the University of Durham in July 2005, 38 prominent cognitive psychologists and researchers from Russia, Israel, South Africa, Australia, the Pacific Rim and the USA visited Middle School 3, First School 6 and High School 1 to observe the quality of teaching and learning. Data from these classroom observations are included in the final report.

4.2 NRAIS Evaluation: High Schools

The high schools have tended to be the more elusive partners in the NRAIS evaluation. In the first phase we asked the NRAIS consultants to nominate schools in which they felt we would see the best examples of the impact of their activities as the case study schools. No high schools were selected as exemplars. In the autumn of 2004 the analysis of quantitative data significant gains in achievement at GCSE were identified in high schools that had been involved with NRAIS and these gains were particularly striking in the school that had been working with the NRAIS team for the longest period of time. However, it was not possible to attribute these gains directly to the relationship with NRAIS as the schools had also been working with the Thinking for Learning Unit and schools that had worked with this unit and not with NRAIS also had gains in their GCSE scores. However, high schools that had not worked with either NRAIS nor with the Thinking for Learning Unit did not perform better than predicted on the basis of the previous eight years and Berwick was still the highest performer and so there was merit in probing further the nature of the link and its possible impact.

It was agreed with the NRAIS consultants that telephone interviews would be conducted with named contacts in each of the five high schools with whom they had been working. The consultants provided the names and the contact details of the teachers and the schools were informed that they would be contacted by a member of the evaluation team in order to conduct a ten minute interview focusing on the nature of their involvement with NRAIS. Three of the five schools agreed to participate in the interviews.

Each of the respondents was asked the following questions:

1. What is your involvement with NRAIS?
2. What do you consider to be the benefits of working with NRAIS?
3. Do you have any plans for working with NRAIS in the future? How does NRAIS link with other school activities?
4. Do you have any other points you want to make?

The conversations were not recorded but detailed notes were taken and summaries transcribed:

1. What is your involvement with NRAIS?

The three respondents were all closely involved in setting up the link with NRAIS and their school and two of the schools were on the steering group. The focus of their involvement was co-ordinating CPD in their schools.

2. What do you consider to be the benefits of working with NRAIS?

The main benefits identified derived from the fact that the NRAIS consultants were external to the school but very accessible and available to come in to demonstrate new ideas and strategies to the staff.

3. Do you have any plans for working with NRAIS in the future? How does NRAIS link with other school activities?

One school talked about making links with other new developments in the school such as networked learning community and Leading Edge and using NRAIS to support teacher inquiry. In one school there was a change in staffing imminent and so the respondent wasn't sure what would happen once the new person responsible for staff development was in post. Ofsted were also due in January 2005 and this may impact on future plans. However, as the NRAIS link was in the School Development Plan, the respondent was sanguine about maintaining the connection. The third school envisaged that there would be a continuing need to 'drip feed' ideas from NRAIS to staff and also thought that the new initiatives in secondary education focusing on developing networks could provide a role for NRAIS in helping to bring people together.

4. Do you have any other points you want to make?

One of the respondents endorsed the value of NRAIS as it is but the remaining two suggested that changes in what NRAIS offered to schools might be necessary. It was indicated that there was need to offer a broader range of ideas if they were not to become stuck in a rut and unable to meet the changing needs of schools as new policy directives came into effect.

For the final year of the evaluation, it was agreed that one case study would be of a high school and the school chosen by the consultants in dialogue with the evaluation team. The school selected was one of the schools that did not take part in the telephone interviews reported above. The case study is reported in Section 4.8. In addition, a final round of telephone interviews was planned and the consultants asked to provide access to respondents to be interviewed. However, the final year of the evaluation also proved to be the final year of NRAIS, as funding was not available to continue and this, understandably, placed the consultants under some duress. Changes in personnel in the NRAIS team, as people sought alternative employment, affected lines of communication with the evaluation team and it took some time to get contact details for the schools. It was only in the Summer Term that details for schools to contact and who to speak to in the schools were provided. Unfortunately, it proved impossible to make contact and establish telephone interviews with the high schools selected in the time available to the evaluation team. This need not necessarily be taken as an indication of a falling off of interest on the part of the schools but simply an artifact of the complexity and intensity of activity in large high schools at a particularly hectic time of year. However, we do need to record that it was not possible for the consultants to effect access for the evaluation team, although the extenuating circumstances should also be noted.

Looking back at the situation as revealed in 2004, it is possible to speculate as to what may be issues regarding the relationship of NRAIS with the high schools. It was evident that their input was valued and the quantitative data suggests that it may also have been significant in terms of raising attainment. However, the difficulty of isolating any one factor in the complex world of schools is exacerbated in large schools and there have also been some significant policy developments that have affected secondary schools. Some of these developments, such as Leading Edge partnerships, were alluded to in the interviews but the Specialist Schools Trust have also been active in promoting approaches to personalised learning as well as DfES initiatives to promote Assessment for Learning and thinking skills in KS3; all of these initiatives provide ideas akin to those promoted by NRAIS. The KS3 consultants were also working closely with the schools and there is a network of association and influence between these consultants, the Thinking for Learning Unit and NRAIS. In conclusion, the data from the high schools sampled through telephone interviews does not permit us to form any firm views but we are left with an impression that NRAIS consultants did play an important role in mediating and brokering ideas to some of the high schools and that this was particularly strong at the start of the project. As time went on the picture becomes more blurred and the silence from the schools can be seen to be as much an issue of timing and complexity as anything else. Responses to qualitative research instruments were also disappointing from the same schools on Phase 2.

4.3 NRAIS Pictures of 'Best Practice'

In April 2005 NRAIS consultants participated in two development days to present 'a picture' of what they considered to be their 'best practice' to the evaluation team. These 'pictures of practice' included DVD footage, photographs and other images of NRAIS consultants working with teachers and pupils in schools. Consultants were invited to explain why they had chosen these interactions and to describe what they saw as 'best practice' in these situations. At least two members of the evaluation team were present during each presentation and interviews, detailed notes were taken and summaries transcribed.

Data from these events were analysed and used together with the qualitative strand questions emerging from Phase 1 to identify the following 'Indicators of Impact' identified by NRAIS consultants as measures of the worth and effectiveness of their work.

4.4 Indicators of Impact: NRAIS Model of Continuing Professional Development (CPD)

NRAIS consultants claimed that teachers involved in the NRAIS Project:

1. Have confidence in NRAIS consultants and value and enjoy working in equal professional partnership with them.
2. Deliberately plan to use questioning extensively and effectively in their teaching to extend and develop pupil thinking.
3. Are encouraged by the NRAIS modelling-coaching approach to CPD, to be more confident in their practice and more innovative and creative in their teaching.
4. Are open to questioning their practice in dialogue with NRAIS consultants and to talking about aspects of their teaching they need to improve
5. Are willing to try new things out, prepared to admit when things do not go as well as planned and learn from the experience.
6. Have experience of and value joint planning for learning and share decision making for the implementation of interventions with NRAIS consultants.
7. Own and are prepared to adapt thinking skills interventions in the context of their experience and classroom practice.
8. Help each other and share ideas.
9. Share responsibility for the implementation and improving pedagogical applications of thinking skills interventions with NRAIS consultants.
10. Need to be able to identify with their NRAIS consultant in consistent and accessible professional relationships and develop high levels of trust in them over time.
11. Develop positive professional relationships and high levels of 'social capital' with consultants through the NRAIS model of CPD. (This is important to the success of the model but is expensive and could be difficult to sustain.)
12. Value the inclusive ethos of NRAIS in involving head teachers, teachers, parents, pupils and communities.

The evaluation team noted the highly positive nature of almost all of the indicators of impact of NRAIS upon teachers and their practice. It is understandable that the NRAIS consultants would want to present their work in the best possible light however it is of interest that none of these indicators of impact were expressed in terms of improved SATs scores, increased aspirations or other measurable gains. Also absent from these indicators was any reference to teachers having higher expectations of their pupils. Considering that 'raising aspiration' is a central aim of the NRAIS project this is both significant and puzzling.

4.5 Indicators of Impact: Thinking Skills Interventions

NRAIS consultants claimed that pupils involved in the NRAIS Project:

1. Are able to listen to and respect other points of view.
2. Help each other and share ideas.
3. Are prepared to take responsibility for their own behaviour and encourage and expect others to take responsibility for theirs.

4. Have confidence in themselves and each other.
5. Are able to question and challenge ideas in thoughtful, caring and productive ways.
6. Are confident that their opinions will be valued and taken seriously.
7. Are able to think for themselves can give reasons for the opinions they hold
8. Are able and willing to admit that they have changed their minds.
9. Think deeply and critically and creatively about concepts and ideas.
10. Make thoughtful responses to teachers' questions

Again it is important to note the very positive tone of these indicators of impact upon pupils and once more how none of these were expressed in terms of pupils having raised aspirations or higher expectations of being able to do better in relation to their achievements both inside and outside of school.

In order to begin to examine evidence of the impact of NRAIS the above 'Indicators of Impact' identified by NRAIS consultants were used to inform the focus of visits to a structured sample of schools in Phase 2 from April 2005 to April 2006. While these followed a similar format to those in Phase 1 the sample of schools was structured to include schools with 'high', 'moderate' and 'low' involvement in NRAIS. Schools in the 'high' category were selected from those who had been involved in the NRAIS for the longest period of time through to those in the low category who had only recently become involved in the project.

In this Phase head teachers and teachers were specifically asked to comment upon and interpret the latest SATs data and other data from the quantitative strand of the evaluation for their school. Furthermore they were asked to identify any impact upon their work that they would attribute exclusively to NRAIS and to give reasons for their claims. Although the evaluation team managed to arrange two visits to High School 1 (we have described earlier the significant problems we experienced in obtaining data from both High School 6 and High School 5 throughout this Phase of the study). Eleven visits were arranged. Nine took place. Two were cancelled as one coincided with an Ofsted inspection, the other due to some misunderstanding between the school and NRAIS regarding the date and time of the visit. The former school had moderate NRAIS involvement the latter was only just beginning to work with NRAIS.

4.6 Case Study Schools and Data

From May 2004 to April 2006 the Qualitative Evaluation team visited the following Case Study schools:

- High School 1: (Moderate NRAIS)
- Middle School 1: (Moderate NRAIS)
- First School 1: (Low NRAIS)
- First School 2: (Moderate NRAIS)
- Middle School 2: (High NRAIS)
- First School 3: (High NRAIS)
- First School 4: (Low NRAIS)
- First School 5: (High NRAIS)

Data Collection

In the course of the above visits interview data was collected from:

- 7 Head Teachers
- 1 Deputy Head Teacher
- 21 Teachers

- 4 School Support Staff
- 5 Parents
- 10 Pupils through a Focus Group Interview

In addition to these interviews classroom observations were undertaken with over 300 children in total.

4.7 Phase 2 Case Study Schools

The following section of the report presents data from individual case study schools. The description of each school is taken from the latest Ofsted report for that school. Each case study is informed by the following data sources:

1. Ofsted Reports
2. Field notes
3. Interview transcripts
4. Observations of practice
5. Quantitative data strand (including SATs results etc.)

4.7.1 Case Study: Community High School 1

In our first report to the Steering Committee we noted that all of the Phase 1 schools identified by NRAIS consultants were all either first or middle schools. The Steering Committee suggested that in Phase 2 we might extend our sample of cases to include high schools. It was agreed that one of the evaluation team would take responsibility for arranging visits to high schools in the county. Despite continued efforts during Phase 2 she was unable to access high schools. See general report on high schools above. We were given the opportunity to include a visit to a high school in Phase 2 to interview the deputy head. The case reported below is drawn from data collected during that visit on the 27 February 2006. It was not possible to arrange observation of teaching or interviews with teachers at this time. However in the interests of extending the Phase 2 sample we decided to include this school as a Phase 2 illustrative case study. Consultants identified this school as a case where they had had recent and developing involvement. The same school also hosted classroom observation visits by IACEP delegates in July 2005.

Latest OFSTED Report March 2003

Community High School 1 is an average size 13-18 comprehensive school for boys and girls with 1051 pupils on the roll. The school is housed on two sites within walking distance of each other. It draws its intake from a market town and rural families across a wide area. The percentage of pupils eligible for school meals is below average. However pupils come from a wide range of socio-economic backgrounds. Their attainment on entry ranges from well above average to well below and is broadly average overall. The proportion of pupils having special educational needs (SEN) is below average and those with statements of SEN is average. Almost all pupils are of white British descent and use English as their first language. The school is a Technology College and is also the base for an extensive community education programme. This is a good school. Academic standards are above average but generally higher in Year 9 and in the sixth form than at GCSE. However there are signs of improving attainment in the current Years 10 and 11. This is due to generally good teaching throughout the school and the clear direction being provided by the head teacher. The expectations of staff and very good relationships promote high standards of behaviour and very good attitudes to the school. The school has improved since the last inspection and provides good value for money.

Data from Phase 2 Qualitative Visit: Interviews and Observations

The research questions which emerged from Phase 1 of the qualitative strand were used alongside the indicators of impact identified by NRAIS consultants to collect the following data. An interview was conducted with the deputy head teacher only. The main intervention being used in this school particularly over the last 2 years is P4C.

Evidence of Impact: Data from Interview with High School Deputy Head Teacher

The deputy head talked about the change in approach that the school had adopted through NRAIS training in the use of P4C. Every member of staff had been given the opportunity to gain an NRAIS supported Level 1 qualification in P4C because it was thought that this intervention possessed the potential to encourage students to develop the knowledge and skills they need to function well both socially and academically, by enabling students to engage in discussion in order to explore issues and personal experiences. For example, following NRAIS P4C training a teacher in a Year 9 class on the causes of the Second World-War observed that the conventions of P4C were being used naturally within the history lesson. This provided senior members of staff an opportunity of the potential of this intervention and convinced them that this intervention should be 'rolled out' across the school.

The deputy head accepted, however, that teachers were applying P4C with varying degrees of success. Around 90% were already actively using P4C. He considered P4C to be worthwhile and was working on convincing the others of its merits. The remaining 10% of teachers who had not as yet adopted the intervention were described by the deputy head as a group of teachers who, 'live, eat and breathe' their subject and who have fears about 'letting students fly solo with the pressures of A levels and GCSE's coming up'. In his view their reluctance stemmed from concerns that it might prove detrimental to the central focus upon the development of subject knowledge in their lesson.

The deputy head described P4C as making lessons more relaxed and exciting and that its use had made the school more supportive and inclusive. He gave three examples of members of staff who had gone on to do Level 2 P4C training through NRAIS and described how NRAIS has subsequently provided training for staff in behaviour management and assessment for learning. He praised the NRAIS model of CPD because the consultants were ex-teachers trying to help practising teachers in supportive, non-judgemental non-threatening ways. He referred to a conversation he had had with another member of the teaching staff who had commented that one of the things he had found most enjoyable about NRAIS was that it had helped him to get over a 'hang up' about having to be prepared for anything and everything that might come up in a science lesson and to see that inclusion, process, respect and participation were as important as subject knowledge and well prepared content.

He also referred to the ways in which staff were now talking to each other much more, treating each other with respect and encouraging each other to participate in P4C and to try new things out. The deputy head said he had seen many examples of students using the protocols of P4C across curriculum subjects and thought that these experiences would help them to successfully bridge the gulf into study at university. He compared P4C to his own experiences of school and commented on how students were encouraged to participate more now and to be more open. He gave examples of how P4C has been used to help with revision techniques and pointed to the importance of NRAIS being able to operate in the interface between representatives from the LEA, who come with money for county-wide strategic initiatives and want auditable results in the near future. He pointed to the lack of trust and confidence in teachers inherent in the latter model and compared this to the NRAIS model which in his view helped to take away that threat and encouraged and gave confidence to staff to try out and adapt new interventions (of their own choosing) in order to help to improve their practice.

He referred to two candidates who had recently applied for a science post who said that it was the school's reputation for use of P4C across the curriculum which had attracted them to the post. What was particularly significant for this deputy head teacher was not only that these candidates had heard about the school's use of P4C but that they also knew what it was and why it was so important in the latter stages of GCSE and at A Level. In closing he saw P4C as a kind of model for coaching students in the use of critical and creative thinking across curriculum subjects.

4.7.2 Case Study: Middle School 1

This school was selected for study in Phase 2 as an example of moderate involvement and moderate impact. There was no involvement with this school in Phase 1 of the evaluation. We report in detail below on our Phase 2 visit to the school on 15 February 2006 which included interviews and classroom observations.

Latest Ofsted Report October 2000

Middle School 1 is much smaller than most voluntary aided middle schools with 95 pupils from 9 to 13 years on role; 60 of whom are boys and only 35 girls. Pupils join the school in Year 5 when most of them are nine years old and leave at the end of Year 8 when most are 13 years old. The school serves a wide area stretching out from a market town into the surrounding villages. A significant number of children come from service families at RAF Boulmer and this accounts for the relatively high proportion of pupils who leave or join the school, each year. Pupils join the school with the wide range of attainment normal for their age. Thirty one pupils are on the school's register for special educational need, which is above average for the size of the school; two of these have statements for their special needs which is about average. This is a good and effective school. Standards are good in most subjects. Pupils are well taught, they are keen to succeed and try hard in lessons. Behaviour is very good and pupils grow in maturity. There is a strong sense of purpose in the school as a result of very effective leadership reflecting its Christian nature. As a small school it is relatively expensive to run, nevertheless it provides good value for money.

Data from Phase 2 Qualitative Visit: Interviews and Observations

The research questions which emerged from Phase 1 of the qualitative strand were used alongside the indicators of impact identified by NRAIS consultants to collect the following data. Interviews were conducted with the head teacher, one classroom teacher, one classroom support assistant and a classroom observation of a Year 7 English class on Shakespeare.

Evidence of Impact: Data from Interviews with Head Teacher and Teachers

The main interventions being used in this school are P4C and the suite of Thinking Skills that NRAIS offer. The interventions observed in use on the day of the evaluation team visit were mysteries, diamond ranking and probability lines. The school is a Roman Catholic middle school and is linked to other Catholic Partner Schools in the area and has been involved with the NRAIS project from the outset. Initially links with NRAIS in 2003–04 were informal with consultants coming into the school and outlining the programmes on offer. This early work included engaging staff more fully in reflective practice, awareness raising events for parents, governors and staff from the school, attending a 'Teaching and Learning Day' organised by NRAIS and hosted by a large urban Catholic comprehensive school from a neighbouring LEA. Following these events the school's relationship with NRAIS had become more formal and a whole school staff development event run by NRAIS was organised. This was followed by three twilight sessions and supplemented by an NRAIS training day in Level 1 Thinking Skills. This input in the words of the head teacher 'kept it [these interventions] vibrant in the school'. Not all staff put themselves forward for certification but all of them finished the course. NRAIS then offered a training day for Year 6 pupils; these children left the school in the summer of 2005 and this was the group that worked most with NRAIS. The school has embedded this training methodically into practice.

The head teacher recognised the benefits of their involvement with NRAIS as being a way, 'of getting staff to really think about pedagogy and practice'. In 2004–05 more staff development was done with NRAIS on thinking skills and emotional literacy. This was linked to the county-wide political agenda which required schools to address these initiatives. In 2005–06 part of the school's agenda was to maintain the embedding of these initiatives through more in-house training and to encourage staff to move on and try other thinking skills initiatives as part of the head teacher's vision for 'remodelling the workforce'. A 'Thinking Heads - Talking Heads' workshop delivered by NRAIS had the effect of providing a 'safe environment where head teachers could meet to network and tease out big ideas over the year and to encourage heads to make time for leadership'. The head teacher went on to say that NRAIS 'picks up new agendas and helps teachers to put them into practice' and also that, 'NRAIS are ahead of their time. Northumberland has stayed ahead of the game because of the strategic role NRAIS has taken. NRAIS works with the whole staff, for example one of the unqualified support staff who was trained in thinking skills and P4C by NRAIS felt the value of this and has gone on to do a Classroom Support Assistants degree'. The head commented that the staff had now had enough of the twilight delivery on offer and that some example materials referred to by NRAIS were too primary-school focussed for their needs and insufficiently geared to context and relevancy. The importance of joint planning and team teaching in the NRAIS model was highly valued. This was seen as an effective way of helping staff to get over the hurdle of putting thinking skills initiatives into practice on their own. A comment from this interview that the evaluation team are unsure about is one that refers to NRAIS 'not getting the payback'. The same respondent followed this with:

They have huge energy and vision and keep coming up with offers of demonstrating new ideas. I am completely sold on the idea that they make a difference. I am convinced of the fact that they make a difference. The problem is that the title NRAIS is very ambitious I suspect we won't see the real gains of this for seven years. They have real credibility with classroom teachers. I'm glad the school has had their input. Northumberland Thinking Skills and Thinking Room came in later on and worked its way through the school. We have moved on as a school in terms of the quality of questioning, how much talk time is going on in classrooms, how we are stimulating children's thinking and identifying starting points for individual children and how we could find out what they need. Overall it's opened up a lot of professional dialogue about pedagogy, school based ITE, with student teachers in the school, with people talking about lessons they have seen and planning future lessons together. NRAIS have raised the stakes.

The head teacher talked about other benefits in terms of improved Assessment for Learning, lower staff turnover, teachers talking about pedagogy – 'its part of their make-up to do it now', P4C, in developing emotional literacy and an emotionally safe school. The interview with the head teacher concluded with the remark, 'having NRAIS to "hit on" is helpful'. This we interpreted as meaning, in the context of the English system of education which is highly focussed on curriculum content and outcomes achieved through a stream of initiatives, that it was invaluable to have a CPD educational service which tried to restore some balance for teachers in underscoring the importance of pedagogy.

The interviews with the classroom teacher and the support assistant revealed a number of issues. These included talking about the ways in which they had got involved in the NRAIS training and how this had impacted upon achievement and the ways in which teachers and their pupils have benefited from the NRAIS involvement. A teacher talked about how she had been introduced to some of these ideas before at a county event but that she had felt, 'overwhelmed and couldn't catch on'. This event had planted a seed and she had started to 'dabble with one of the ideas – odd one out – because it was easy to apply'. Through the NRAIS twilight sessions she began to see how ideas can filter into other subjects and began to construct her own package of ideas put together from those learnt from NRAIS and from other colleagues in other subjects. The same teacher noted how English marks had risen particularly in relation to children aiming for Level 5. In

relation to reading tests results it was said, 'Children are willing to have a go. In the past children would have been embarrassed to say in an evaluation activity that they didn't understand but now they will'. This teacher had invested a great deal of thought and time into creative and imaginative assessment and evaluation activities which had been nurtured and developed through NRAIS sessions and the opportunities for networking and sharing ideas with colleagues that this offered. Sometimes this teacher felt that there could be more follow up activities and that her request for adapting interventions to work with maths had not been successful. She pointed to the idea that it was more difficult in a middle school where teachers moved from class to class to fully implement some of the ideas that NRAIS were suggesting. She talked about being inspired by NRAIS but that she needed further help in seeing how to embed some interventions, i.e. Mysteries, 'on the day it was done I didn't get it and I've had no further help'. This teacher had made extensive use of electronic whiteboards in her teaching in relation to both subject knowledge and literacy and commented that this was an area that NRAIS, 'needed to take on board to avoid some of their ideas appearing quite outdated now'.

A classroom assistant in the same school talked about receiving P4C Level1, Thinking skills Level 1 and Mind Mapping training from NRAIS and how this had help her not only to access the ideas but also enabled her to use them comprehensively. She talked about the confidence she had in the NRAIS consultant, how this had enabled her to become more creative and passionate about her teaching and how the children had picked this up. She identified how P4C in particular was very good for children who don't communicate very well or write very well. In particular she talked about how it had improved her use of questions and questioning. The same respondent talked about how the NRAIS training had contributed to her taking a degree in Counselling and Mentoring in terms of 'bringing it all together'.

Evidence of impact: Data from classroom observations

Observation data provided some support for the claim that teachers questioning skills were of a high standard which in turn encouraged active participation by pupils in sessions, challenging and extending pupils thinking, creative approaches to teaching and the development of writing, speaking and listening skills. This was seen by the way in which the teacher in an English Lesson about Shakespeare's Macbeth used a wide range of visual cues and stimulus materials to help pupils collect their thoughts through individual reflection and small group discussion and whole-class plenaries. This included the use of a visual prop in the shape of a head to encourage pupils to collect their thoughts at the start of the session. A diamond Venn diagram was used to classify different characters in the play and their motivations. This was followed by pupils working in small groups using a writing frame to identify connective phrases and adjectives which they could later use in structuring their personal responses to the play. A probability line was used to enable pupils to physically locate their ideas in relation to a series of well framed questions from the teacher at the end of the session and to compare ideas and perspectives with their classmates.

4.7.3 Case Study: First School 1

This school was not selected for study in Phase 1 but nominated as a low involvement and low impact case study school in Phase 2. The case reported below draws upon interviews and observations conducted on 22 March 2006.

Summary of Previous Ofsted Report 2002

The school was previously inspected in 2002 when it was judged to have serious weaknesses because pupils' achievements were unsatisfactory by the time they left the school, some of the teaching was unsatisfactory and some aspects of leadership and management were unsatisfactory.

Latest Ofsted Report November 2004

This is a below average sized first school catering for children aged between 3 to 9 years. It draws the vast majority of its pupils from the immediate area which consists largely of local authority housing and has significant socio-economic difficulties. There are 177 pupils on the roll, including 33 who attend part time in the nursery for between three and five terms. There are more boys than girls in all year groups except one. There has been much staffing instability and change during the two years previous to the inspection with four head teachers or acting head teachers in post during this time. At the time of the inspection the new permanent head teacher had only been in post for two months. Currently apart from the nursery, there are five classes, one each for Reception, Years 1 and 2, Year 2, Year 3 and Year 4 pupils. Virtually every pupil is of white UK heritage background. Twelve pupils are identified as having special educational needs this proportion being below the national average; most of these pupils have moderate learning difficulties. There are six pupils who have statements of special educational need, this proportion being above the national average. The proportion of pupils entitled to free school meals is well above the national average. Most pupils have experienced pre-school education through the schools own nursery class. Attainment on entry to the reception class varies from year to year but overall is below what could be expected most notably in speaking and listening. The school was given the Basic Skills Quality mark in 2001 and an Investor in People award in 2001. This is a satisfactory school which is steadily improving, following a very unsettled couple of years. The school is now on an even keel. Standards at the end of Year 2 and Year 4 are below those expected but the quality of teaching and pupil's achievements are satisfactory overall. Overall leadership and management and the value for money provided by the school are satisfactory.

Data from Phase 2 Qualitative Visit: Interviews and Observations

The research questions which emerged from Phase 1 of the qualitative strand were used alongside the indicators of impact identified by NRAIS consultants to collect the following data. Interviews were conducted with the head teacher, one classroom teacher, a classroom observation of a reception class and observation of an NRAIS staff development event.

Evidence of Impact: Data from Interviews with Head Teacher and Teachers

This school in its previous Ofsted inspection report was judged to have 'serious weaknesses'. Following this many members of staff were unhappy including the head teacher who subsequently left and another temporary head was appointed. Neither the original head teacher, nor her immediate successor, had any involvement with NRAIS. With another Ofsted inspection imminent the current head was appointed in September 2005. She was concerned that the current curriculum was 'not right' in that the timetable was not allowing staff to teach in the way that they wanted to and could, that is, 'in an atmosphere of excellence and enjoyment'. The current head teacher was aware of the work of NRAIS while in her previous post, in a school in a city outside of the county, but had never had any direct contact with the team. At the suggestion of a member of staff moving from teaching Year 3 to teaching the reception class the head teacher invited NRAIS to support the CPD of all staff in the school. This began when the Year 3 teacher who had had some awareness of the existence of NRAIS through 'Let's Think' training programme (through the work of Paul Cleghorn from Dumfries and Galloway in Scotland) began to teach the reception class and asked for help in adapting her existing resources to the needs of early years children. This teacher now working with reception children for the first time began to notice that the lowest achieving children who often came from the least well-off families in the area performed least well in activities which required them to say or explain what they were thinking and she wanted to know why. She realised that she had to work to help these children but she didn't know how to go about it. She described how the NRAIS consultant concerned came into her class for a whole day to watch her teach and understand the context of her teaching. She described how they had sat down together afterwards to discuss the kinds of thinking she was asking the children to do in each of the

activities set and the resources and techniques she had used to support the development of these. A joint planning session followed where the teacher and the NRAIS consultant reviewed and evaluated the current lesson plan and supporting resources being used in order to identify how these resources and activities might be adapted to meet the needs of reception class children and to identify any new activities/resources which might be appropriate.

We simplified it down to reception level. We are getting better and joint planning and jointly adapting resources to meet the needs of these children. We know the types of thinking we are trying to develop ... we have carried out an audit of the kinds of thinking we are trying to develop and identified what is missing and we plan together how to fill that gap. I hope we can continue with this, we are just starting to get underway. It needs to be a continuing programme of support not just an introduction to different packs of resources and ideas. Although I was trained in 'Let's Think' it was in the context of a different year group and I needed help to contextualise this to the needs of the children in my reception class. Going on the training I already had I was able to work with NRAIS to use what I already knew and adapt it. It was not just throwing out everything I had done before but looking at what I knew already and getting help and support to translate it into another context. I am already using these strategies in the classroom and see [name of NRAIS consultant] as my critical friend. I want to go on and do P4C. I can say to him 'I was just wondering...' and we can talk in a kind of trusting, creative professional partnership about the way I teach and about how we might change the curriculum. The staff in this school were unhappy and wanted to change. We are working with NRAIS to put bids in to find the money to help us do other things. Our NRAIS consultant came along to the Creative Partnership meeting. He is helping us to facilitate change in the school and is instrumental in helping us to extend our networks and to support us in bidding for other initiatives. The staff and the children know him, he is one of us. We want to become our own Community of Enquiry. He gives us advice we would not get from anywhere else. Inspectors and LEA see themselves in an overseeing and monitoring role. NRAIS has an improvement role and takes responsibility for helping you to improve, not just telling you that you have to. NRAIS have a very good overview of what is going on across the county. We don't always meet to discuss pedagogy. He has an overview, connecting knowledge of the general practical context of each school he works with. It's great that NRAIS are not about SATs, it's a different agenda about making what we do more effective as an organisation not just about test results. I feel when you go on a course, for example, 'Boy's Writing' that the only interest is in the SAT result, it's just about a number not about real teachers and pupils. NRAIS are as interested in teachers as they are in learners. They know us as people.

At the end of this visit a twilight session facilitated by the NRAIS consultant was observed by members of the evaluation team. This involved teachers watching a video clip of a lesson in which the NRAIS consultant was working with children from the school asking 'What do Creative People Do?' 'How do you feel when you are being creative?' All of the teachers from the school attended the session. They clearly had very open and positive professional relationships with the NRAIS consultant and there was evidence of trust, mutual respect and humour. Teachers' observations of children's behaviour while watching the video included: 'Listen to the language [name of child] is using!' 'I'm glad he spoke I was holding on for him', 'Look at how she went from yawning to interested!' and 'Look at him thinking!'

4.7.4 Case Study: First School 2

This school was not selected for study in Phase 1 but nominated as a moderate involvement and moderate impact case study school in Phase 2. The case reported below draws upon interviews and observations conducted on 15 February 2006.

Latest OFSTED Report May 2003

The school is a medium sized first school situated in Northumberland with 141 pupils on roll aged between 4 to 9 years. Its catchment area is mainly from the private housing surrounding the school but a few families do live outside this area. The percentage of pupils known to be eligible for school meals broadly matches the national average. Although the percentage of pupils having special educational needs is below the national average, the percentage of pupils with a statement of special educational need is well above the national average. All pupils are white British and there are no pupils with English as an additional language. There are five classes and all classes consist of one year group. A nationally approved assessment scheme shows that, when they start the reception year, most children have levels of attainment that match those expected for their age in communication, language, mathematical development and personal, social and emotional development. The school met the Quality Mark standards in February 2003, is accredited as a Healthy School and very recently has received an improvement award for progress made between 2001–02. This is a good school having very many good features where the head teacher, governors and staff are fully committed to providing effective care and support for pupils, resulting in a school that is orderly harmonious and very happy. The head teacher through her inspirational leadership brings a sense of magic and excitement into the lives of all pupils.

Data from Phase 2 Qualitative Visit: Interviews and Observations

The research questions which emerged from Phase 1 of the qualitative strand were used alongside the indicators of impact identified by NRAIS consultants to collect the following data. Interviews were conducted with the head teacher, one classroom teacher and a classroom observation of a Year 4 maths class, on shape.

Evidence of Impact: Data from Interviews with Head Teacher and Teachers

The head teacher in this first school had been involved in the early stages of NRAIS through training in P4C Levels 1 and 2 and described the early work of NRAIS and how it had paved the way for the Thinking for Learning and Thinking Room initiatives across the county and how NRAIS had worked collaboratively with both to have an enormous impact upon the way people teach. The head teacher talked of how this had been slow progress but that the hugely enthusiastic way in which NRAIS consultants worked had done much to enthuse young teachers who identified with them. In fact, she regarded NRAIS as having provided the initial spark for the initiatives which followed and that this had grown into something which had been hugely successful in their previous school, to the extent that she had come to her new school with a determination to do the same with NRAIS there. Remarking that parents and the community around the school was not renowned for being highly aspirational, the head teacher had invited Thinking for Learning and NRAIS to offer staff development events for teachers, pupils and parents in the school.

NRAIS had provided P4C training in the summer term of 2005 which was beginning to take off, albeit slowly, across the school. An NRAIS joint planning event followed which had been rather less successful as staff had found it difficult to relate to the Key Stage 3 examples offered during the event. NRAIS responded by offering an additional event facilitated by a consultant with extensive teaching experience in early years and KS1. This session was described as ‘brilliant’ where the consultants adopted a very down to earth and dynamic approach i.e., ‘Show me your planning’, ‘What kind of activities have you thought about using?’, ‘Let’s plan this together’, ‘Here are some resources we could use ... what do you think?’, ‘What kind of thinking are we trying to encourage here and why?’. The head went on to describe the value of commitment of the approach modelled by the consultant in terms of bringing her ‘life and soul and life’s blood to helping teachers in the school improve’ and contrasted this with a ‘cherry on the cake’ approach.

The first joint planning approach offered by the first NRAIS consultant was described by the head teacher as feeling very much like being offered a ‘bag of tricks’ which had not engaged the

staff particularly well, while the second NRAIS consultant had made the sessions so enjoyable that many staff asked for more philosophy training because the consultant had worked collaboratively with the teachers to help them to 'do it for themselves'. This was being extended with the second consultant coming back in two weeks to sit in on sessions, model any areas for development and do a de-brief. A key feature of NRAIS for this head teacher is that they 'respond to your needs'. The fact that they didn't charge was considered to be a huge benefit too, the Thinking Room can be quite expensive; this matters a lot in the early days of managing a new school in an low socio-economic area with its own particular difficulties'.

A description of how the Year 3 children were 'loving philosophy but also enjoying mysteries and diamond ranking' was given. The head also described how the Year 4 had become really interested in using more of these techniques and was in the early stages of working closely with another colleague in the school to embed these techniques in her practice and to find ways of making the strategies she wanted children to develop more explicit, in order to help them to be able to use these independently.

The head pointed to the importance of being patient with staff and being prepared to sit there and wait until they were ready to try more things out. Reference to the 'Supporting your Child' workshops were made which NRAIS had provided for parent and teaching assistants and that participants had been so taken with these that they had asked for more. Adding that other NRAIS consultants were supporting the school through the local Primary Learning Network through first schools funding by providing help with numeracy, problem solving and mysteries. Examples were given of instances where the head teacher had come across teachers standing around talking about teaching out of sheer interest in improving their practice. Although the head teacher was not totally convinced of the value of mysteries it was thought these might be beginning to help children to move away from rote learning and to discover other kinds of learning ie. powers of classificatory thinking etc. The head talked about the sense of excitement among teachers in the school in terms of their abilities to adapt interventions to teach more creatively and an enthusiasm and confidence that it was 'ok' to try something and make mistakes as long as you learned from the experience. This was described in terms of 'encouraging teachers to consider themselves as learners'. The head talked enthusiastically about an NRAIS event around the idea of the teacher designed school and the commitment that would be needed by all to make this happen. The head described the impact upon children of the school's involvement with NRAIS as follows:

What you see when this kind of work is captured in the classroom is excited, engaged children thinking outside the box, not being constrained by what they see as school in terms of the literacy and numeracy strategy etc. ... but as a mystery. The children love it because there is no standard correct answer. Teachers doing their own things ... I wonder what would happen if I did this. I wonder what the kids would do if ...

This was pointed out as important together with how it was important in the school that children have a voice and that teachers planned for this to happen for different children in different ways. 'When children are consulted about their learning they learn that they can have a say in their lives'. A description of how everyone had worked together was then given where staff and governors created a shared vision of the school but disappointingly there was 'not one mention of teacher as learner'.

The head claimed that NRAIS take professional relationships seriously and that they have as much time for you as you need whereas with the LEA this would cost more:

NRAIS staff respect teachers, they know what they are about, they talk sense and they are nice people. It would be tragic if NRAIS shrank to the point where they were forced to go off and do other things. What a resource lost to the county!

The teacher interviewed and subsequently observed during this visit had attended NRAIS Level 1 Thinking Skills twilight session training in the form of 8-10 sessions after school. Although she had asked to go on to Level 2 training, this was not followed through by NRAIS. While she said

that she had found the sessions useful, she found that each session tended to be taught as an isolated skill and that she had not been helped to integrate these into lessons but had to work out how to embed them in to everyday practice for herself. She would have liked more ideas of things she could develop and use to challenge and extend children's thinking. She would have liked more on how to choose questions and found this to be a gap in the Thinking Skills Level 1 course offered by NRAIS and furthermore, that this was another thing that she had to teach herself.

She went on to say that she uses questions carefully and regularly in her teaching and sometimes used some thinking skills interventions like mind maps in a stand alone way in different parts of a lesson, as well as at the end of the lesson, or the end of the week, the end of term, as well as at the end of the year. 'I ask the children if you were in Year 4 (again) next year what would you like to do more of/less of?' She described how she had to work hard to make the children think independently and how she had given a lot of thought to how she could make the thinking strategies she was trying to teach as explicit as possible to the children, for example by playing music at clear up time and to continue playing it until everything was cleared up, before 'we all go to the dance'. She described the using of clicks to get all of the children's attention as part of her classroom management skills. She explained how she used a lot of brain gym and 'tap your thinking cap and something might come up'. She explained that the NRAIS Level 1 course had not been as helpful as she thought it would have been, while she had learned some things from her NRAIS training she had taught herself many of the techniques which she had picked up out of books she had read and that as she has taught Year 4 for 18 years she finds it difficult to remember all of the strategies and techniques she uses.

Out of all of the things covered on her NRAIS Thinking Skills Level 1 course she had found the 'Stories for Thinking' the most useful and clearly focused. She had also enjoyed the NRAIS training in the use of emotions lines, the Thinking for Learning training at the White Swan in Alnwick and the NRAIS day at Berwick but that she would have liked to get more opportunities and help to use these ideas in her practice. She emphasised the importance of matching the experience of consultants to the Key Stage of the teacher/school. She was critical of the 'Segedunum Mystery' on the grounds that, 'you are trying to make a mystery where there isn't a mystery ... you need to plan the mystery so that it suits the context. I want to have access to the idea/intervention and the autonomy, space and support to develop and adapt it to my own context'.

Evidence of impact: Data from classroom observations

Observation data is reported here at some length to provide an example of the claim of this evaluation NRAIS involvement encourages teacher creativity, questioning skills and use of language. However it should be noted from the teacher's comments above that this might be only in part attributable to NRAIS and may also at least be in part due to the length of experience and range of self-directed wider reading and CPD this teacher had undertaken on her own account. This session was about sorting geometric shapes of different colours and thicknesses into categories.

The session began with the teacher sharing her learning objectives and success criteria carefully with the children:

Look at the learning objectives. In the first part of the lesson we will be identifying lots of shapes. In the second part of the session we will be classifying them and in the final part of the lesson we will be doing a mystery activity together. Listen carefully. I want you to be confident when naming the shapes and I want you to be able to follow instructions. So I am going to point to the shape and I want you to tell me what shape it is. [Teacher points to equilateral triangle and prompts] It's the one where the sides are equal ... I'm almost doing it for you! What about the next one ... What do you know about a right angled triangle? How big is the one angle that's different? How big is the angle?

Now a quick odd one out.

[Children spontaneously] YES!

Who is sitting, not having a try and thinking about last night's television?

This is how I am going to make it easier. Are you listening? Listen carefully!

I was hoping someone would name the poor isosceles. Nathan get one ready I am going to ask you next!

Can you think of a reason?

I'm still looking for someone who hasn't said anything yet. It's...Laura.

Now I am going to introduce you to the next part of the lesson. Digiblocks.

[Children spontaneously] YES!

You might remember...

What I want you to do... I'm going to lift the lid. When I lift the lid tell me what you notice.

So if you really listen carefully...If I were to describe it as...Put your thumbs up if you agree with me. Maybe you shouldn't agree with me...I could have tricked you. When I hold the next one up can you whisper its name to a friend?

Last one.

Children start to chatter. Teacher clicks fingers. Some children notice and join in clicking until every child is looking at the teacher and clicking their fingers. 'I am waiting for Nathan to sit down. This one is to ask Ashley to sit down.' Goes on to change clicking pattern slightly, children follow and change the clicking pattern too.

Is everybody sure of the four properties of the shapes we are going to look for? I am giving you a particular shape for a particular reason. Can you think of a way I could make it easier for myself to give you all a shape? I am thinking, I could do that but that would take a long time. Sometimes grown ups need a lot of help. Sometimes children have great ideas.

The teacher asks all of the pupils to stand in a line and as each child leaves the classroom to go in to the hall where she gives each child a green, red, blue or yellow Digiblock each of a different shape and thickness.

The next part of the session took place in the school hall where the teacher had arranged different coloured hoola hoops set out like a Venn Diagram to make three different sets. The children were asked to stand in a circle and each child was asked in turn to name the properties of their Digiblock, to put their Digiblock in one of the sets and to say why they were putting it there. Gradually the children began to notice that there were more than three ways to categorise the Digiblocks. One child noticed another hoola hoop of a different colour to the other two which the teacher had left in a corner of the Hall and picked it up and overlapped it with the other two hoola hoops to make more sets. The children resumed the activity, many giving different reasons to the ones they gave before, as to why they were putting their shape in a particular part of the Venn Diagram.

This session had a magical atmosphere and a sense of wonder, excitement and discovery throughout. The aims, objectives and successes were clear, well framed and shared with the pupils in a way which made them accessible to the pupils and in a language they could understand. The teacher used her voice, her language, sentence construction, vocabulary and silences for 'thinking time' to create this imaginative and constructive learning environment. Her classroom management techniques were fun and did their job of maintaining engagement, helping pupils to learn to listen and kept them productively on task. The range and variety of approaches to teaching, learning and assessment she used throughout the lesson were highly creative and imaginative and clearly encouraged active participation by pupils throughout all three parts of the session,

challenging and extending pupils thinking, creative approaches to teaching and the development of listening, speaking and mathematical skills and bringing them back on board when the attention of some began to wander. The practical part of the lesson in the school hall was carefully planned and designed to consolidate and extend children's thinking in the previous two parts of the lesson. This was an outstanding piece of teaching and a pleasure to observe.

While some of this teacher's achievements might be attributable to NRAIS Level 1 Thinking Skills training she attended she would claim that much of the credit for the quality of her teaching is due to the work, time and thought she invested in her own CPD before, during and beyond her involvement with NRAIS. This is evidenced in the creative and imaginative ways in which she has worked to embed some/all of these in her practice. While NRAIS Level 1 Thinking Skills course and other NRAIS and Thinking for Learning events may have introduced this teacher to new ideas and ways of developing and extending children's thinking, it would appear that in this case much of this embedding had to be done by the teacher on her own.

4.7.5 Case Study: Middle School 2

This school was selected for study in both Phase 1 and Phase 2 and was identified by NRAIS as a high involvement and high impact school. The case reported in detail below is derived from interviews conducted during our Phase 2 visit on 8 February 2006.

Latest OFSTED Report September 2004

The school is larger than the average middle school with 469 pupils on roll aged between 3 to 9 years. In 2002 it obtained a School Improvement award for improving results between 1998 and 2001. In 2003 it obtained the Sportsmark award and was designated a Partnership Promotion School by the Teacher Training Agency. The school is a centre for School Centred Initial Teacher Training (SCITT) with provision for 34 graduate trainees. The socio-economic context is overall average or slightly above, but students come from a wide catchment including areas of deprivation. Attainment on entry is broadly average. The school also takes children from RAF Boulmer and the number on the roll can fluctuate as a result. Of the 469 pupils almost all are white and there are no groups of minority ethnic pupils of any significant size. There are no refugees, asylum seekers or pupils at an early stage of learning English. The proportion of pupils on the schools register of special education needs is below average, as is the proportion with statements of special educational need. Most of these pupils have moderate learning difficulties, although the school provides for pupils with a wide and increasingly complex range of needs. This a good school with some very good features. It has a welcoming and approachable style that attracts parents and pupils alike. Pupils are particularly enthusiastic about the school; they like being here and it shows in their very good attitudes and behaviour. They enjoy a rich variety of creative and sporting opportunities around the normal school curriculum. Pupils achieve well because of good teaching and standards are above average. The school provides good value for money.

Data from Phase 2 Qualitative Visit: Interviews and Observations

The research questions which emerged from Phase 1 of the qualitative strand were used alongside the indicators of impact identified by NRAIS consultants to collect the following data. Interviews were conducted with the deputy head teacher and two classroom teachers. We also spent time looking at a range of resources and teacher and pupil work that had been produced as a result of NRAIS input. No observations of practice or interviews with parents or pupils were conducted although these were done for this school in the Phase 1 data collection period.

The principal interventions used in this school are P4C, Hourglass, creativity techniques and the Transfer of Skills project. As part of the Transfer of Skills project teachers from Humanities, Design and Technology and Art had opportunities for joint planning facilitated by NRAIS. In addition

NRAIS offered other in-house development days where people could drop into classes to see them modelling a range of different interventions and techniques. A working party was formed which included NRAIS and the Thinking for Learning Unit to research and plan for improvements for disaffected boys under the umbrella term of Pupil Voice.

Many of the staff in the school were trained in P4C Level 1 by the NRAIS team; some have also been trained by NRAIS in Thinking Skills Level 1.

Evidence of Impact: Data from Interviews with Head Teacher and Teachers

The deputy head referred to the positive impact NRAIS had had in relation to the purposeful use of aims, objectives and success criteria at lesson level; helping staff to plan for differentiation and pupil achievement at higher levels through criteria/specifications. The deputy spoke of the support from NRAIS as being invaluable as it gave a focus for re-evaluating practice although it was important to acknowledge that the Head had given time and support for staff to be involved and was especially committed to the 'Transfer of Skills' project.

NRAIS has made us think about different strategies and approaches both for teachers and pupils. The real advantage of working with NRAIS is the accessibility of the consultants, the positive relationships they have with staff and children, they know what they're doing and we have confidence in them and trust in their confidentiality... The way they have made me look again at my values as a teacher and the way in which they have made me think about and value pupil creativity as well as teacher creativity.

She referred to the input they had had on 'mapping' and how she is still using this strategy.

The interview with the first teacher began with an invitation to comment on SATs results. She responded by saying that one of the important aspects of working with NRAIS was that,

SATs had nothing to do with working with NRAIS and that through them she was using P4C to develop the way in which pupils and boys in particular were able to construct arguments and learn to develop points more effectively. As a direct result of NRAIS I have more confidence in using philosophy, the training has helped me use it better.

This teacher talked about how she used it to gauge children's levels of understanding to enable her to pitch lessons more effectively. It was also very helpful when tackling difficult issues and behaviour problems. 'I can sneak philosophy in. It helps pupils personally and socially. With difficult issues like divorce you can see kids visibly relax. I often say to them how would you feel if that was happening to you.' An important issue for this teacher was the way in which NRAIS had helped her get better in her practice, talking about the practical things they had done such as video recording a session then going through it together to make sense of the experience and how future improvements could be made. She considered their input to be far more than a 'Bag of Tricks' and to her it was the old cynics who had this view and that they should retire. In terms of impact upon pupils the teacher identified the following as being significant – 'tenacity when stumped', they would stick with a problem more until they had seen a possible way forward; they were more prepared to ask open questions; they are able to say I agree or disagree and keep on the point; P4C 'digs so deep that quiet children speak'; P4C has given children the confidence to go forward on the School Council. She commented that P4C was not always used as a full blown session but could be adapted using parts of the framework e.g. to suit tutor group activities for 20 minutes in a morning or think/pair/share as a classroom strategy. She also commented on how P4C is a great teaching strategy it gets me to 'shut up!' She said, NRAIS works. When initiatives like this get off the ground, but are not sustained, it hacks teachers off. The great thing about NRAIS is that the staff know the consultants and the kids know them and use their first names. 'Ofsted were well impressed with P4C. When the delegates from the IAACP conference came to observe our session the kids were really proud of themselves.' A really useful resource that has been developed is the

video of two of the NRAIS team talking to pupils; we've used this as a training aid and encouraged pupils to feedback on lessons. This teacher was most vocal about accessibility, saying, 'the thing about NRAIS is they come to us. I would never go to Hepscott Park' (LEA Advisory Services).

The interview with the second teacher also began with an invitation to comment upon the SATs data summarised in the Interim report of this project. His response was that the, 'results were up and down like the wind'. He commented on the very diverse nature of the county and how statements had no validity, 'it was really too small a timeframe' and that the talk of changing structures from three to two tiers could be detrimental. He said that 'maths had always been a problem but with the introduction of Catch up and Booster sessions they had improved greatly especially now we are running in school time. After school depended upon parental involvement. In English, the writing paper caused some problems and the marking criteria posed problems for staff. Humanities now planned to embed literacy and the liaison with first schools is improving with results more broadly accurate than in the past'.

When asked about what involvement he had had with NRAIS, this teacher said it was difficult to separate out the help he had received from NRAIS with that of the Thinking for Learning. For him it didn't matter where it was coming from just that it was coming. He spoke with great enthusiasm about a joint project designed to engage disaffected pupils in Year 8 and 7. Of importance was the opportunity to be involved in joint planning with the two agencies and other staff across curriculum areas. His main concern was the wish that this had been carried out even earlier.

4.7.6 Case Study: First School 3

This school was selected as a high involvement high impact school in Phases 1 and 2. The content of the case below reports only in detail on those interviews and observations we conducted during our Phase 2 visit on 31 January 2006.

Latest OFSTED Report June 2005

This is a below average sized first school which caters for 143 children from 4 to 9 years of age. The majority of pupils live in the immediate area with a mixture of housing types. Just under a third live outside the catchment area, some from local housing estates with a degree of social and economic difficulty. There are 143 on the roll with slightly more boys than girls. There are five classes, one for each age group, from Reception to Year 4. Every pupil is of white UK heritage background. Thirty-two pupils are identified as having special educational needs, of whom three have statements of special educational need. Both these proportions are broadly in line with national average. The proportion of pupils entitled to free school meals is below the national average. Virtually all of the pupils have had pre-school provision, the majority in the pre-school play group on the site. Attainment on entry varies from year to year, but overall it is slightly below that expected and most notable in the area of communication, language and literacy. The school was given a Healthy Schools award in 2003 and an ARTSMARK Gold in 2004. Across the school, standards of handwriting and presentation are insufficiently high. There are no significant differences between the achievements of boys and girls. Pupils with special educational needs achieve as well as their classmates because of the very good support they receive. Standards in information communication are broadly in line with those expected nationally. Standards in religious education are good and exceed the expectations of the locally agreed syllabus. Pupil's personal qualities including their spiritual, moral, social and cultural development are very good. Attendance is currently below the national average; it is adversely affected by a small but significant minority whose attendance is poor. Punctuality is good with pupils arriving eager to start the school day. The school provides a very good quality of education; the quality of teaching and learning is very good overall. Virtually all of the teaching observed was good or very good. Key features of the school are the highly developed promotion of thinking skills including the use of philosophical skills.

Data from Phase 2 Qualitative Visit: Interviews and Observations

The research questions which emerged from Phase 1 of the qualitative strand were used alongside the indicators of impact identified by NRAIS consultants to collect the following data. Interviews were conducted with the head teacher, two newly qualified teaching staff, classroom observations of the reception class which was using P4C and a Year 2 literacy class also using P4C. In addition to this focus group interviews were conducted with eight Year 4 pupils and four parents who had participated in NRAIS training. All teachers and teaching assistants have been trained in P4C Level 1 by the NRAIS team; some have also been trained by NRAIS in Thinking Skills Level 1.

Evidence of Impact: Data from Interviews with Head Teacher and Teachers

The main intervention being used in this school was Philosophy for Children's Community of Enquiry which was supplemented by an extension of this intervention in the form of an after-school Philosophy Club. The head teacher had adopted a whole school approach to the embedding of this intervention from Reception to Year 4 and included teachers, support staff, ancillary staff and parents. Positive reference to this is made by Ofsted,

the ethos of the school is very good. It ensures equality of access and opportunity for all pupils. A very good programme to develop pupils' personal, social, health education and citizenship is in place. This is well supported by the work in 'philosophy for children' which helps to develop pupils' confidence, critical thinking and respect for others. (Ofsted 2005 p11)

In addition, cognitive maps were being used to target and plan writing activities throughout the school. The head teacher and deputy head were both long-standing in their roles. They had made a conscious decision to employ newly qualified staff and saw this as a major attributing factor to the success of the school in implementing this intervention across the board and also in raising the profile of ICT in the curriculum. Both the head teacher and all of the teachers interviewed had adopted a 'children will do when ready' approach to progression and achievement.

The head teacher explained that she had no confidence in SATs and was encouraged by the fact that NRAIS did not use SATs as the starting point for their work. The head went on to attribute gains in speaking and listening, pondering and pupils' abilities to formulate their own questions across the school as evidence of the impact of NRAIS's work with school. The head substantiated this claim with reference to the report from the Ofsted Inspection the previous summer which throughout commented upon pupils automatically giving reasons for their opinions and their ability to formulate thoughtful questions. For example,

A current target of the school is to improve speaking skills. This is working well; as a consequence of the focus on improving thinking skills, including the use of philosophical skills, pupils' speaking and listening skills are being well developed. Most pupils are confident to articulate their thoughts. (Ofsted 2005 p10)

and

...most children ask and answer questions confidently. They listen very well to the adults and to each other and articulate ideas and opinions with increasing confidence and clarity...Adults are very good at modelling language and children have a growing vocabulary which shows good progress over time. (Ofsted 2005 p17)

The head also referred to a letter from the head teacher of the local middle school who comments upon the fact that all five children elected to meet their local council representatives had been members of the after school Philosophy Club and that this was too much of a coincidence considering the size of the first school. These children were significantly low on the baseline assessment on entering school which made this gain even more significant.

Working with NRAIS had in the head teachers view reaffirmed the importance of encouraging pupils to think for themselves and to care for and listen to each other. In turn the head reported that by working with NRAIS, an increased confidence in making professional spaces for staff across the school had been realised and had resulted in the creation of an atmosphere where teachers had confidence in their own ability to flexibly timetable sessions with more creativity and that this had had a positive effect on their own enthusiasm and motivation.

The teaching staff interviewed talked about how the head teacher encouraged them to move away from the rigid format of the Literacy Hour. For example, 20 minutes allocated to writing was considered to be insufficient to allow pupils time for real writing. Cognitive Mapping was being used to plan writing consistently across the school. Teachers reported how the head teachers own confidence and the subsequent confidence placed in them had encouraged them to be more flexible in their timetabling and planning. They also talked of how their training in philosophy and thinking skills by NRAIS had highlighted the importance of types of questions and questioning which had in turn enabled them to use questions to adapt topic work and to make more explicit links between national curriculum topics, to the extent that this was becoming a natural part of their practice. They valued the spaces the head teacher had made for them in the curriculum to apply professional judgements. They saw a gap in the training offered by NRAIS in relation to the creative use of ICT. An important aspect of the work of NRAIS according to these teachers was the simplification of theory which had helped teachers see the bigger picture and to think that little bit deeper. In particular these teachers valued the way in which the head was prepared to let staff 'have a go'. The head attributed this confidence to encourage staff to take risks and try out new ideas, to the support received from NRAIS. Both NQTs commented that their ITT had been overly focussed upon targets and audits of practice and contrasted this with the change in culture which permeated the ethos of this school and the way in which this was supported and encouraged by NRAIS.

Evidence of impact: Data from classroom observations

Observation data provided some support for the claim that Community of Enquiry is a useful overarching intervention which can be used in full, in part, or adapted to include other thinking skills interventions and infused throughout the curriculum.

In one of the sessions the teacher had used and adapted a stimulus from P4C – the story of 'Where the Wild Things Are' – to develop literacy. Specifically this involved the use of paired recall and paired reading which was then extended into a matching picture to word exercise which became part of a 'mini enquiry'. The session ended with children using fortune lines and cognitive mapping to consolidate learning and begin to plan for writing. The session was varied and highly interactive with creative use by the teacher of questioning and group work, in a variation of circle time which culminated in a whole group story structuring activity. The second observation centred on a traditional Community of Enquiry session using a text based story as stimulus material. While there was evidence of some thoughtful participation from very young children there was also evidence of some children being much less engaged. There was considerable leading and prompting from the teacher in relation to children's responses.

Evidence of impact: Data from Interviews with Parents

Parents commented positively on the staff's approach to the children across the school. They had noticed how the staff wanted the children to be confident and encouraged them to be confident. Parents attributed this to the way the staff talked to children and the way they treated the children and valued dialogue and opinion. One parent said,

they bring so much out of them. If a child has a good idea they encourage them. They encourage everybody to believe in themselves they don't decry them. They don't talk about what the children cannot do but what they can do as they move through the school. It's a happy school, the children are so confident.

They contrasted this with their own experiences of school which, rarely sought their opinion on anything. One of the parents talked about the Confidence Building course she had done with NRAIS and how it had positively impacted upon her. Another one talked about how shy she had been until she was about 30 and how she never thought anyone would be interested in what she had to say and that how proud she was to have been elected on to the School Council, 'before now I probably would not have believed that anyone would have voted for me'.

This was attributed to the involvement of NRAIS in providing confidence building, thinking skills and philosophy Level 1 courses for parents. Parents said they were using questions differently with their children now. They talked about this in terms of more - how, why, what for etc. 'NRAIS have got us looking at things differently, looking deeper and wider'. They also talked about the way in which the school worked positively with NRAIS, 'everybody looks out for each other...children talking about school more at home. We do this now as a matter of fact!' One parent talked about how she had received feedback from the middle school confirming that her son had successfully transferred the skills and confidence he had developed here into his new school.

4.7.7 Case Study: First School 4

This school was selected for study in Phase 2 only. The case below draws upon an interview with the head teacher conducted on 14 February 2006. For reasons of staff sensitivity following a recent merger it was decided that observation of teaching would not take place during this visit.

Latest OFSTED Report June 2005

The majority of the 322 pupils aged from 4 to 9 years attending First School 4 are white British. They are taught in 10 classes and a nursery. A small number of minority ethnic children speak English as an additional language. Most children come from the surrounding area. Attainment on entry is below that expected for the children's age. The proportion of children with special educational needs is about average. The school has had a series of acting head teachers over the past four years. A permanent head teacher and deputy were appointed in September 2004. The school has made remarkable progress since the last inspection four terms ago. All the serious weaknesses have been eliminated, although the school acknowledges there is further to go in raising standards in information and communication technology (ICT) and in making use of information gained through assessment. The newly appointed head teacher has played a significant part in the school's improvement. Her energy, enthusiasm and very clear understanding of what needs to be done have galvanised governor, staff, parents and children. Standards are rising throughout the school and children make good progress overall even though there are some inconsistencies in the opportunities for learning within the Foundation Stage. Teaching is good so children want to learn and try very hard to do their best. The children's personal development is excellent; they love coming to school and the care, guidance and support they receive are outstanding. The school is in a good position to improve further, building upon the improvements made so far. The school provides good value for money.

Good subject knowledge means that teachers can ask appropriate questions to challenge children's thinking. They listen carefully to their teachers and each other and are not afraid to ask and answer questions. Many effective initiatives have been introduced to help the school improve and to evaluate how well it is doing. These systems are having a positive effect on the standards that learners attain.

Data from Phase 2 Qualitative Visit: Interviews and Observations

During this visit the evaluation team interviewed the head teacher and the NRAIS consultant who had begun to work with the school.

Evidence of Impact: Data from Interviews with Head Teacher

The current head teacher came from a successful school in another part of the county and took up this post after the school had been judged to have serious weaknesses by Ofsted causing morale in the school to plummet. At first the post was as an acting head followed by permanent appointment in September 2004; appointing a permanent deputy head soon afterwards. The decision to adopt a 'let's put things right within these four walls approach' was taken in the first instance with a deliberate decision not to involve any outside agencies (including NRAIS) until it was felt that staff and the school were ready. This was given as the reason why NRAIS had had little involvement with the school until recently. The head teacher and staff decided that they would 'get the nuts and bolts right before looking to outside to see what can enrich our work further'. In May 2005 the school merged with a neighbouring first school under dual leadership from 2005. At this point NRAIS was invited to support the development of the leadership and help develop the vision of the merged school. The NRAIS consultant arranged a weekend residential team building event at an outdoor pursuits centre in Yorkshire in October 2005. This event was based around a set of practices and activities that required staff in the school to depend on each other and to work as a team. A key aim was to help the staff recognise each other's strengths and begin to start work on a shared vision for the school. The head described this as:

One of the most powerful things I have done; I saw a difference in personalities. I saw the hierarchy of the school flatten out and on the way back on the bus I thought, 'they know what they need to do now' and wondered, 'well what's my job tomorrow then?' The event made us aware of our comfort zones. We shared, whether we were motivated by success or fear of failure, our drives and our motivations and this stayed with us afterwards.

The head teacher then described how the next day they had started visioning/designing the school they wanted to work in. This involved looking at Ofsted reports of 'outstanding schools' together with information about schools considered to be 'the best in the world' and how they developed from these activities a mission statement that would define their teacher designed school in the form of '10 commandments':

We struggled with time and wanted things to happen quickly, to see what we needed to put our shoulder to, to develop the confidence and give each other permission to look at things differently. NRAIS has helped us to look outside of the box, to look at things differently.

The head pointed to the importance of NRAIS being locally located with local knowledge, accessible and therefore a continuing support: 'I know he is at the end of the phone. I can even text him if we need help fine tuning something. He has a very clear understanding of the people from this area and their aspirations. He was there to support us through the merger.' The personalities of the NRAIS team were identified as important; they are not arrogant, they're approachable and that staff enjoyed working with the people from NRAIS because they trusted them and felt safe working with them. 'The more time we spend together the more we realise it is all about networking and sustained support'.

It was important to the head that NRAIS take responsibility and accept accountability for the joint implementation of interventions and that unlike other LEA services NRAIS consultants work with a whole school not a number of individuals from different schools and that programmes like Outsmart were only available through NRAIS. The head emphasised the importance of the attention NRAIS paid to the development of the relationships and to the context of the institution. The notion of confident teachers giving confidence to their pupils was an aspect of practice that this head felt could be to a large extent attributed to NRAIS. This was particularly relevant when taken alongside the remarks made by an Ofsted inspector, 'this does not present itself as a school which is about to close'.

The time taken to build up these relations was another factor to be considered, 'I'm aware that this is a daunting model for the Local Authority to accept because it is all about local autonomy'. An example was given where the head described the initiative to drive up KS3 standards across the county and the tension this caused within the 'teacher designed school' and how it contrasted with the '10 commandments' they had developed. This involved delegating authority for decision making for everyone involved in the life of the school and sits in stark contrast with a model that starts with SATs targets and results. Comments were made about how easy it was and how much pressure there was upon head teachers and teachers to be target driven all of the time. The head wondered if at times even those people responsible for setting targets and who were involved in county-wide initiatives to 'drive up standards' even believed it themselves. A concern for this head teacher was how NRAIS would survive in a top-down target driven culture, when their values and way of operating was so at odds with such county-wide approaches to CPD

4.7.8 Case Study: First School 6

This school was selected in both Phases 1 and 2 of the evaluation as an example of a school with NRAIS high involvement and high impact. The case below reports on interviews and observations conducted on 14 February 2006.

Latest OFSTED Report March 2005

First School 6 is an average sized first school in Northumberland. The school caters for pupils between the ages of three and nine and has 170 pupils on roll. The school serves the local community where most of the pupils live. Almost all pupils are from a white British background. The proportion of pupils who are entitled to school meals is lower than the national average. A lower than average proportion of children has special educational needs but the proportion that have statements of special educational needs matches the national average. There are seven classes. When children start nursery their attainment is slightly below the national expectation. The school is involved in a number of projects such as 'Healthy Schools' and 'Eco Schools'. Until recently the school has been working as a Beacon School.

In discussion with pupils it is clear that they are able to give extremely thoughtful responses. Circle time successfully develops calm thoughtful attitudes through the varied use of light and music to set a mood. Candle light focuses attention very well and deepens levels of thinking. The development of thinking skills during these sessions is outstanding and makes considerable contribution to the pupil's personal and social development. It is clear that they have a very good appreciation of their culture because of the very good work done in music and the arts. Pupils speak with enthusiasm about local events and the history of the area, they have an adequate understanding of other cultures and the school is working to improve this further. The quality of education is very good. Teaching brings about very good achievement and the curriculum is exciting and interesting. All pupils are cared for very well and the school works very effectively with parents.

Data from Phase 2 Qualitative Visit: Interviews and Observations

The research questions which emerged from Phase 1 of the qualitative strand were used alongside the indicators of impact identified by NRAIS consultants to collect the following data. Interviews were conducted with the head teacher, one Year 2 and one Year 4 teacher followed by classroom observations of the same teachers' classes. Interviews were also conducted with two parents who had participated in NRAIS training.

Evidence of Impact: Data from Interviews with Head Teacher and Teachers

The principal intervention being used in this school was P4C in the form of Community of Enquiry. Community of Enquiry sessions were used purposively as a structured part of circle time and also embedded within National Curriculum subjects across the school. This was supplemented by other thinking skills interventions such as classification and ranking activities and more extensively the use of ‘mysteries’. All of the teachers in the school had elected to be trained by NRAIS in the use of both P4C and Thinking Skills interventions. NRAIS training in P4C and Thinking Skills had been offered and taken up by all of the teaching staff in the school. The head teacher had supported all of the teaching staff to be trained to Level 1 and Level 2 in the use of P4C. Teaching Assistants, parents and school governors had also attended NRAIS taster day/evening sessions in P4C and Thinking Skills and Parent Coaching sessions. Teaching staff reported that they had chosen P4C because it seemed most relevant to their development needs and that they thought it was important to have been trained in P4C first and then in thinking skills. The reasons they gave for this were that P4C offered a framework which they found useful in the development, planning and using of questions in lessons to extend children’s thinking and use of language. This was identified as being particularly useful in taking them to the forefront of national initiatives such as Assessment for Learning. The head teacher referred to recent materials from DfES in relation to the Numeracy Strategy and in particular Shirley Clarke’s book on mathematical vocabulary and pointed out that things that were being recommended by DfES now was already well established within the school curriculum and supported by their work with NRAIS. They talked of how rewarding and pleasurable the experience of seeing children helping each other to arrive at responses to questions instead of struggling to respond on their own was. They also talked of how P4C training had enabled them to develop new and creative ideas for stimulating thinking and discussion which they could carry forward into thinking skills sessions. Classroom environments were bright and stimulating with much imaginative use made of stories, music, light, smell, colours, games and unusual props to stimulate thinking and discussion, along with innovative classroom and wall displays.

The head teacher described how the school was concerned with the whole pupil and believed that everyone was bright in accessing learning and expressing their own feelings and opinions. P4C and Thinking Skills have given teachers a shared language which encourages teachers to take risks and try out new ideas. The head teacher also drew attention to the confidence the staff had in their NRAIS consultant and the ways in which NRAIS training had resulted in staff having higher levels of trust in each other. This was attributed to the consistency and long term relationships which had developed between the school and the NRAIS consultant. The school chose to work with NRAIS because it was available and because the consultant was committed to their Partnership of Schools and knew everyone in the Partnership so well. ‘The training has got teachers talking the same language as the consultants.’ This was attributed to the warm relationships they had with their consultant and gave examples of how the Taster sessions had attracted the full compliment of Governors and substantial numbers of parents. The head teacher referred to the Ofsted report and attributed the gains made in speaking and listening to the schools links to NRAIS. The same report directly refers to the use of P4C:

The Philosophy for Children programme has led to examples of outstanding teaching in which pupils take a great deal of responsibility for learning. (Ofsted 2005 p10)

and

The Philosophy for Children programme is helping pupils to develop their own questions which they attempt to answer through high quality discussion and debate. For example, in an excellent Year 3 lesson, pupils posed some outstanding questions about a box the teacher held that helped them make inferences and deduce exceptionally well. (Ibid p11).

The head teacher emphasised the importance of working with NRAIS which allowed staff to accept, reject, challenge, adapt or develop the interventions they wanted to use. Staff stressed that the opportunity to choose the interventions they wanted to work on be trained together in their use and to be able to implement these alongside each other with the support of their NRAIS consultant was central to the ways in which they had been able to change, share and develop their practice.

Evidence of impact: Data from classroom observations

Teachers had infused P4C across the curriculum. Evidence of this was found in the classroom observation data for example in the Year 4 history lesson reference and links were made to literacy, RE and maths. This was made explicit to pupils, for example, 'You are making links with things we have done in RE'. It was particularly noticeable during both sessions how teachers were modelling the use of the language of thinking. For example, 'What can we infer from this?'; 'What can we deduce from this?'; 'Stephen has made a good point, he's made an observation.'; 'We have used these inferencing skills in literacy'.

In the Year 2 observation of a session on, 'What makes this a good place to live?', the quality and challenge of teacher questioning was noticeable with most questions generating a 'because' response from pupils. At whole class level the teacher's use of questioning was striking in terms of the way these were being used to inject energy and encourage inclusion, challenge and collaborative dialogues between the teacher and pupils. This was extended into the small group work that was part of the session.

Evidence of impact: Data from Interviews with Parents

Parents talked about how they felt comfortable about coming into the school, for example, they were able to come in and make themselves a cup of tea. They wanted to come in and do more training in the school. They talked about how the NRAIS training had given them opportunities to refresh their thinking, given them ideas to use with their children at home and had built their confidence. One parent said, 'I feel for the first time ever, I feel that I know what to say to my child'.

Section 5

Phase 2 Quantitative Data

5.1 Achievement Measurement KS1

In 2004 Northumberland LEA improved its already high position relative to national Key Stage 1 SATs tests, with 86% of pupils reaching Level 2b or above in Reading, 69% in Writing and 84% in Mathematics (compared with national figures of 71%, 62% and 76% respectively). When compared with the 2003 results, there was a very marked improvement in Reading in 2004, a significant 6% improvement in Mathematics, but no real change in Writing.

In 2005 the percentages at Level 2b or above were 78% for Reading, 71% for Writing and 82% for Mathematics. These figures show that the 2004 improvement in Reading was not sustained, while Writing went up and Mathematics down by two points. However, the KS1 results are still well above the 2005 national averages, which are 72% for Reading, 62% for Writing and 74% for Mathematics.

5.2 Achievement Measurement KS2

In 2004 Northumberland LEA maintained its position relative to national Key Stage 2 SATs results, with 78% of pupils reaching Level 4 or above in English, 74% in Mathematics and 87% in Science. Just as in 2003, the Northumberland figures for English and Mathematics exactly matched the national percentages, while attainment in Science was one percentage point above the national average. In 2005 there were 77% at Level 4 or above in English (2% below the national average), 74% in Mathematics (1% below the national average) and 86% in Science (matching the national average). There is therefore some evidence of levelling off or slight decline in performance in 2005.

5.3 Achievement Measurement KS4

Over the period from 1994 to 2002 Northumberland pupils have generally performed slightly above the national average in terms of grades A–G passes, and slightly below in terms of five or more A–C passes. In 2003, 54% of Northumberland pupils obtained five or more A–C passes, compared with a national average of 53%. In 2004 the figure for five or more A–C passes was 56% and in 2005, 59% (compared with a national average of 57%). It therefore appears that during the period 2003–05 there has been a marked improvement in GCSE performance in Northumberland secondary schools.

5.4 Hanneke Jones' Survey of the Use of Thinking Skills Strategies by Year 2 and Year 6 Teachers

This survey was a targeted repeat of a survey carried out in 2004 and was intended to contribute to the NRAIS evaluation. It was sent to all first and middle schools in Northumberland in early summer 2005, for completion only by teachers of classes which had taken either KS1 or KS2 SATs. It asked about training in, use of and attitudes towards Thinking for Learning approaches, defined as: 'thinking skills strategies infused into the curriculum, and Philosophy for Children'.

Replies were received from 67 teachers in 54 first schools (a 38% return rate from first schools) and from 37 teachers in 18 middle schools (a 40% return rate). The vast majority of the first school teachers (96%) taught both English and Maths, with only three teachers specialising in Maths and/or Science. In the middle schools subject specialisation was the norm, with 59% of the respondents teaching only one of the three core subjects, 19% teaching two subjects and 22% teaching English, Maths and Science.

For the purposes of the NRAIS evaluation the main value of the survey is to enable us to examine possible links between the reported use of thinking skills strategies by Y2 and Y6 teachers and performance in the KS1 and KS2 SATs.

Teachers were asked to indicate on a six-point scale ranging from 'every day' to 'less than once a term' how often they use the strategies/approaches listed below:

- mysteries
- odd-one-out
- philosophy for children / community of enquiry
- mind or concept mapping
- fortune lines / living graphs
- diamond ranking
- card classification
- maps from memory
- thinking hats
- others

There were 26 first schools represented by survey respondents who had received no thinking skills training either from NRAIS or from the Thinking Room (TROOM) in 2004 or 2005. The 29 teachers in those schools reported using a significantly smaller range of thinking skills strategies than teachers in schools in which such training had been delivered. Moreover, the 28 teachers from schools which received thinking skills input in both 2004 and 2005 reported using a significantly wider range of such strategies than the rest of the sample. The median frequency for teachers with some training in Thinking for Learning to use teaching thinking or philosophy approaches in English, Mathematics and Science was 'roughly once a term' for each subject.

Teachers in first schools supported by NRAIS reported significantly more frequent use of the following strategies than those who had received no support from either NRAIS or TROOM:

- philosophy for children / community of enquiry
- mind or concept mapping
- diamond ranking
- maps from memory

Teachers in first schools supported by TROOM reported significantly more frequent use of the following strategies than those who had received no support from either TROOM or NRAIS:

- mysteries
- fortune lines / living graphs
- diamond ranking
- maps from memory

There were only five middle schools represented by survey respondents who had received no thinking skills training either from NRAIS or from the Thinking Room in 2004 or 2005. The eight teachers in those schools reported using a significantly smaller range of thinking skills strategies than teachers in schools in which such training had been delivered. Also, teachers in schools which had received thinking skills input in 2004 reported rather more use of such strategies than those trained in 2005. The median frequency for teachers with some training in Thinking for Learning to use teaching thinking or philosophy approaches in English, Mathematics and Science was 'roughly once every half term' for English and Mathematics and 'roughly once a term' for Science.

Although teachers in middle schools supported in 2004 and/or 2005 by NRAIS or by TROOM did not report significantly more frequent use of any particular thinking strategy than those who had received no support, there was a consistent tendency for those trained in 2004 to use each strategy more often than those who had not been trained.

5.5 The UNN 'Listening to Young People' Survey

This questionnaire was first administered as part of a regional survey in 2002–03 to more than 950 pupils in Northumberland schools, eight of these schools were subsequently supported by NRAIS. Data was collected from the age groups Y6–Y13. The survey yields the following measures which are directly relevant to the aims of the NRAIS project:

- attitude to school
- influences on working hard in school
- educational and future employment aspirations
- influence of family and friends on young people's lives
- young people's feelings about living in the North East

The Centre for Public Policy at UNN was commissioned to repeat the survey in 2005 in as many Northumberland schools as possible. The aim was to compare possible changes in these measures in NRAIS and control group schools (i.e. schools receiving no support either from NRAIS or from TROOM staff during the two-year period of the NRAIS project).

Six of the NRAIS schools (three middle and three high schools) agreed to administer the survey again in 2005, as did four control group schools (two middle and two high). The sample sizes achieved, with data available from the same year groups in the same schools on both occasions, are summarised in Table 1.

Group		n in 2002-3	n in 2005-6
NRAIS	Middle	83	75
	High	223	186
	Total	306	261
Controls	Middle	45	31
	High	143	173
	Total	188	204

Table 1. Survey sample sizes in 2002–03 and 2005

The NRAIS and control schools were significantly different on available deprivation indicators, so in most of the analyses reported below a free school meals index was used as a co-variate to control statistically for this factor. Univariate analysis of variance was the main method employed, with group, time and school phase being the main variables under examination. The hypotheses tested for relevant items all proposed that the NRAIS pupils would show more positive change from 2002/3 to 2005 than the control group pupils.

The statistically significant findings from this survey have to be interpreted with caution, as there is a danger of Type 1 errors whenever a large number of comparisons is made.

5.6 Research Questions and Results: attainment, attendance and attitudes in first schools

Do first schools which received training through NRAIS perform better than expected on national tests?

When the 45 schools in which staff received NRAIS support between September 2004 and May 2005 are compared with 78 others which received no support either from NRAIS or from the Thinking Room team, no significant differences in KS1 SATs emerge. The effect sizes of -0.07 for Reading, -0.02 for Writing and 0.00 for Science are in all cases trivial.

When the 11 schools in which staff received BRAIS support followed by NRAIS in 2004–05 are compared with 31 others which received no support either from NRAIS or from the Thinking Room team, no significant differences in KS1 SATs emerge.

When the 36 schools which received NRAIS support in both 2004 and 2005 are compared with the 31 schools which received no support either from NRAIS or from the Thinking Room team during those years, again no real differences in KS1 SATs emerge. The trivial effect sizes are 0.03 for Reading, -0.07 for Writing and 0.02 for Maths.

Are there any links between the use of thinking skills strategies in Y2 and performance in KS1 SATs?

Inspection of scatterplots suggested that a number of the relationships were not linear, making correlational analysis inappropriate. It was therefore decided to compare specific categories of response, using non-parametric analyses. In each case the relationships examined were not with raw SATs scores, but with a measure indicating performance below or above a prediction for each school based on the period 1999–2003. For teachers reporting some use of thinking skills, this analysis yielded the following results, each of which is statistically significant at either $p < 0.05$ (*)

or $p < 0.01$ (**).

Using *mysteries* twice a term is associated with better results in Reading* than more or less frequent use.

Using *fortune lines/living graphs* every few weeks is associated with better Maths* results than less frequent use.

Using *diamond ranking* weekly or thereabouts is associated with better Writing* results than less frequent use.

Using *card classification* once or twice a term is associated with better Writing** results than more or less frequent use.

Using *maps from memory* twice a term is associated with better Reading* and Maths* results than more or less frequent use.

These results suggest that moderate use of thinking skills strategies is associated with better KS1 SATs results.

In schools where thinking skills and/or community of enquiry approaches have been in use, is there a relationship between how strongly teachers believe in the importance of metacognition (thinking about and discussing thought processes) and school performance on national tests?

No significant relationships were found for the sample of 57 teachers who reported using thinking skills strategies.

Is pupil attendance better than expected in first schools which received training through NRAIS initiatives?

In these analyses, total attendance is used as the criterion measure, since both authorised and unauthorised absence are significantly correlated with attainment levels.

For the first schools the only attendance data available are for 2004 and 2005, so it is not possible to work out predicted levels on the basis of trends over preceding years.

The average total absence rate for Northumberland first schools was 5.5% in 2003–04 and 5.4% in 2005. The average total absence rate in the schools receiving NRAIS support in 2004–05 was 5.3%, compared with 5.5% in non-NRAIS schools (a non-significant difference). Although the direction of the difference is positive for NRAIS, the difference between the 2004–05 absence rates for the schools involved in the NRAIS project over the two years (5.2%) and those which received no thinking skills input either from NRAIS or from TROOM (5.5%) is non-significant. There is therefore no clear evidence that NRAIS training and pedagogical initiatives affect pupil attendance in first schools.

Do Y4 pupils in first schools which received training and support through both Berwick RAIS (BRAIS) and NRAIS report more favourably on their school experience in 2006 than in 2005?

This question was answered by using a 42-item attitude questionnaire, 'How I am Getting on at School' (HIGO). This was tailored to the purpose of the NRAIS evaluation and was administered either in paper or in on-line form to Year 4 pupils in first schools.

Across seven schools which had been involved in BRAIS and which continued to receive input from NRAIS consultants after 2003, significant improvement in academic self-concept was found ($p < 0.05$). There were also significant improvements on the following items:

Our teachers listen to what we have to say ($p < 0.05$)

Our teachers often let us know how well we are doing ($p < 0.05$)

Our teachers try to make our lessons fun ($p < 0.001$)

I like finding out what other people think ($p < 0.01$)

Do Y4 pupils in first schools which received training and support only through NRAIS report more favourably on their school experience in 2006 than in 2005?

Across 11 NRAIS schools there was evidence of significant improvement on only one item of the HIGO questionnaire, whereas there was significant deterioration on four items. The improved item was:

I keep trying even when I get stuck ($p < 0.05$),

while those showing deterioration were:

My teachers think I am clever ($p < 0.05$)

Other kids like me ($p < 0.05$)

Our teachers try to make our lessons fun ($p < 0.001$)

I find it easy to make friends ($p < 0.05$)

5.7 Research Questions and Results: attainment and attendance in middle schools

Do middle schools which received training through NRAIS perform better than expected on national tests?

When the 13 schools in which staff received NRAIS support between September 2004 and May 2005 are compared with 22 others which received no support either from NRAIS or from the Thinking Room team, they are found to have done rather (but not significantly) better than predicted in KS2 English and Mathematics and Science SATs. The effect sizes are moderate for English and Mathematics (0.57 and 0.59 respectively) and small for Science (0.27).

When the 10 schools which received NRAIS support in both 2004 and 2005 are compared with 11 others which received no support in those years either from NRAIS or from the Thinking Room team, they are found to have done substantially (but not quite significantly) better than predicted in English and Mathematics and also better in Science. The effect size is large for English (0.83), while the effect sizes for Mathematics and Science are both in the moderate range (0.77 for Mathematics and 0.50 for Science). When aggregated performance in the three core subjects is similarly compared, the difference in favour of NRAIS has a large effect size of 0.94 and is statistically significant at $p < 0.05$.

Are there any links between the use of thinking skills strategies in Y6 and performance in KS2 SATs?

For teachers reporting some use of thinking skills, the following links were found, statistically significant at either $p < 0.05$ (*) or $p < 0.01$ (**):

- Using *mind or concept mapping* about once or twice a term is associated with better results in English**, Maths* and Science* than more or less frequent use.
- Using *fortune lines or living graphs* not at all or less than once a term is associated with better results in English*.
- Using *maps from memory* once or twice a term is associated with better results in English**, Maths** and Science* than more or less frequent use.

Here the evidence suggests that, if the primary goal is to achieve good SATs results, it is generally preferable to use thinking skills strategies rather infrequently.

Is pupil attendance better than expected in middle schools which received training through NRAIS?

In these analyses, total attendance is used as the criterion measure, since both authorised and unauthorised absence are significantly correlated with attainment levels. Predicted attendance levels for 2004–05 were calculated by fitting a logistic regression equation to the pre-NRAIS data for 2000–03 and making a small percentage adjustment so that the overall and predicted absence totals for the county coincide.

The actual mean absence rate for the 2004–05 school year for the 18 schools supported by NRAIS during the two-year period of the project is 6.3%, while their predicted absence rate is 6.2%. There is therefore no evidence to suggest that NRAIS training and pedagogical initiatives affect pupil attendance in middle schools.

5.8 Research Questions and Results: GCSE attainment and attendance in secondary schools

Do secondary schools which received training through NRAIS perform better than expected in GCSE examinations?

Two high schools received a high level of NRAIS support between September 2004 and May 2005: The High School 1 and High School 6.

The High School 1 had also been supported by NRAIS in 2003–04 and the 2004 GCSE results were significantly higher than predicted on the basis of performance over the previous ten years ($p < 0.01$). Similar results were achieved in 2005, with 60% obtaining five or more A–C grade GCSEs, compared with a predicted 53% (a difference which is significant at $p < 0.05$).

High School 6 was also supported by NRAIS in 2003–04 and the 2004 GCSE results were somewhat (but not significantly) higher than predicted. However, in 2005 the GCSE results were significantly above predicted levels, with 32% obtaining five or more A–C grade GCSEs, compared with a predicted 25% (a difference which is significant at $p < 0.01$).

At High School 3 there had again been NRAIS input in 2003–04, which was continued at a low level in 2004–05. The 2004 GCSE results were somewhat (but not significantly) better than predicted. In 2005 58% obtained five or more A–C grade GCSEs, compared with a predicted 45% (a difference which is significant at $p < 0.01$).

At High School 5 there had been some NRAIS support in 2003–04, continued from the 2001–03 Berwick RAIS project. The 2004 GCSE results had been dramatically better than predicted. NRAIS support was maintained at a low level in 2004–05. In 2005 63% obtained five or more A–C grade GCSEs, compared with a predicted 50% (a difference which is significant at $p < 0.01$). However, there are compelling reasons to exclude this school from the analysis. In 2003 there was a step change increase from 34% to 69%, largely attributable to the effect whereby GNVQ computer passes unusually boosted the percentage of A–C grade passes. Because of this, the predicted percentages for 2004 and 2005 are too low.

At High School 7 there had again been NRAIS involvement in 2003–04, which was continued at a low level in 2004–05. The 2004 GCSE results were somewhat (but not significantly) better than predicted. In 2005 49% obtained five or more A–C grade GCSEs, compared with a predicted 48% (a non-significant difference).

Taking the five secondary schools supported by NRAIS consultants as a whole, there were 567 students who achieved five or more A–C grade GCSEs in 2005, compared with 476 predicted (i.e. 19% more than predicted). When High School 5 is excluded from the analysis, there were

439 students in four NRAIS-supported schools who achieved five or more A–C grade GCSEs in 2005, compared with 375 predicted (i.e. 17% more than predicted).

	NRAIS/TROOM	2005pred.%	2005 act. %	Diff.sig.
High School 2		42.9	42.0	ns
High School 3	N	45.2	58.0	<0.01
High School 4		44.3	42.8	ns
High School 5 ⁴	N	30.6/49.9	63.1	<0.001
High School 6	N	24.7	32.3	<0.01
High School 7	N	48.3	48.7	ns
High School 8		78.0	76.3	ns
High School 1 N		53.2	59.9	<0.05
High School 9		52.4	62.8	<0.01
High School 10		36.8	43.8	ns
High School 11		75.5	77.2	ns
High School 12		74.4	75.9	ns
High School 13		62.1	61.8	ns
High School 14		77.9	73.9	ns
High School 15	T	53.1	62.0	<0.01

Table 2. Predicted and actual performance in 2005 (using the criterion of five A–C grade passes)

As shown in Table 2, in only one of these schools was the difference between achievement and prediction not statistically significant. These results should be compared with those of the nine Northumberland schools who received no thinking skills support either from NRAIS or the Thinking Room. In those schools 1488 students achieved 5 or more A–C grade GCSEs, compared with 1470 predicted (only 1% more than predicted).

⁴ For High School 5 the first set of predictions is based on the period 1994–2000 (prior to Berwick RAIS). The second set of predictions is based on the period 1994–2003 and was used in this analysis. The percentage of A–Cs achieved in 2002 was 34% (4 percentage points higher than predicted). In 2003 the percentage of A–Cs rose to 69% (as against 30% predicted from pre-NRAIS performance). In 2004 the percentage of A–Cs fell to 61% (as against 32% predicted from pre-NRAIS performance). In 2005 the figure was 62%, which is still very significantly above the predicted level. The step-change increase in 2003 is largely attributable to the effect whereby GNVQ computing passes artificially boost the percentage of A–C grade passes.

It can be seen from Table 2 that six of the 15 high schools performed significantly above predicted levels in 2005, with High School 3, High School 5 and High School 6 doing particularly well. Five of these six schools had received thinking-for-learning training and support, either through NRAIS or through the Thinking Room. No school performed significantly below prediction. When the 2004 results are considered alongside the 2005 results, two schools (High School 5 and High School 15) managed to significantly exceed prediction in both years.

As the results for NRAIS-supported schools significantly exceeded predictions in two consecutive years (by 11% in 2004 and by 17% in 2005), we can be confident that school improvement is taking place on more than a local basis. However, as we are not aware of the other influences within and across schools which may have helped bring about these positive results, we cannot attribute them solely to NRAIS.

Is pupil attendance better than expected in high schools which received training through NRAIS initiatives?

Using total attendance is used as the criterion measure; predicted attendance levels for 2004–05 are calculated by fitting a logistic regression equation to the pre-NRAIS data for 1996–2003 and making a small percentage adjustment so that the overall and predicted absence totals for the county coincide.

The combined attendance rate for the five RAIS high schools is 90.9%, while their predicted attendance rate is 89.1%, a highly statistically significant difference ($p < 0.001$). However, this result is largely attributable to the fact that High School 6 did substantially better than predicted² (even though attendance there declined somewhat from the previous year). On the other hand, attendance is rather better than predicted in three of the other four NRAIS schools and this contrasts with the trend in the nine schools which received no thinking skills support either from NRAIS or the Thinking Room. In those schools the combined attendance rate of 91.7% is significantly lower than the predicted rate of 92.5% ($p < 0.05$).

The findings for school attendance in high schools indicate that the whole-school, in-school approach used by the RAIS team certainly has no adverse effect on school attendance and may help to improve it through greater pupil engagement with learning.

5.9 Data Analysis and Results: attitudes and aspirations in middle and secondary schools

Do pupils in schools which received training through NRAIS have a more positive attitude towards education than pupils in control group schools?

This question was examined by looking at the 41 items in questions 3–6, 42 and 48–49 of the UNN attitudes survey.

The percentage of pupils in the control group schools claiming that, ‘Doing well at school’ is most important to them went up significantly from 34% in 2002–03 to 51% in 2005 ($p < 0.001$), but the increase from 33% to 38% in the NRAIS schools was not significant.

A significant difference between the two groups was found in response to the item, ‘You enjoy being at school’. This effect was found only in the middle schools, not in the high schools and amounts to significant improvement in these ratings in the NRAIS group ($p < 0.01$).

As there were no significant differences on 39 other items, it cannot be claimed that NRAIS training promotes more positive pupil attitudes towards education in middle and high schools.

Do pupils in schools who received training through NRAIS show more positive motivational changes related to working hard in school than pupils in control group schools?

This question was examined by looking at the 38 items in questions 8–12 of the UNN attitudes survey.

Significant differences were found on seven items relating to the encouragement and discouragement of work and effort at school by family members, teachers and peers. Five of these differences favoured the control group and in the other two cases favourable differences in one phase (e.g. for the control group in middle schools) were balanced by unfavourable differences in another phase (e.g. for the NRAIS group in high schools).

No other significant differences in terms of change over the two-year period were found between the NRAIS and control group pupils on the remaining 30 items.

There is therefore insufficient evidence to demonstrate increased pupil motivation to work hard as a result of the NRAIS project.

Do pupils in schools which received training through NRAIS have higher educational aspirations than pupils in control group schools?

This question was examined by looking at the nine items in questions 13–14 of the UNN attitudes survey.

No significant differences were found between the NRAIS and control group pupils in terms of change over the two-year period.

It cannot therefore be claimed that NRAIS training promotes higher educational aspirations in middle and high schools.

Do pupils in schools which received training through NRAIS have higher employment aspirations than pupils in control group schools?

This question was examined by looking at 16 items in questions 15–18 of the UNN attitudes survey.

No significant effects were found. It cannot therefore be claimed that NRAIS training promotes higher employment aspirations in middle and high schools.

Do pupils in schools which received training through NRAIS benefit in personal-social terms, when compared with pupils in control schools?

This question was examined by looking at 22 items in questions 35–38 of the UNN attitudes survey.

Six significant effects were found, three of which can be seen as positive for pupils in NRAIS-supported schools, while two favoured the control group and one was neutral.

Responses to the question, ‘Do you feel you have friends to be with?’, there was a significant deterioration in the control group ($p < 0.05$), but not in the NRAIS sample. On the item, ‘Are you happy with your own company?’ The NRAIS group improved significantly ($p < 0.01$), while the control group mean ratings declined a little.

When asked, ‘Do you worry about not having enough money of your own to spend?’, the NRAIS high school students reported rather less worry in 2005–06 ($p < 0.01$), in contrast with the control group, who tended to worry more.

In response to the question, 'Are you happy with what you look like?', only the control group pupils in middle schools showed a significant improvement ($p < 0.05$).

When asked, 'Does the area that you live in look tidy and neat?', the control group middle school students were more positive in 2005 ($p < 0.05$) than three years earlier.

When asked, 'Do you worry about being bullied away from school?', there were no significant changes in the NRAIS group, whilst in the control group middle school pupils worried significantly less in 2005 ($p < 0.05$) and high school pupils worried significantly more ($p < 0.05$).

Overall, the evidence does not support the idea that NRAIS initiatives impact strongly on the personal-social attitudes of pupils.

5.10 Collated Information for NRAIS Schools which Repeated the UNN Survey in 2005

Middle School 3

This school was supported at a high and sustained level by both NRAIS and TROOM staff during the two years of the NRAIS project.

In 2005 the KS2 SATs were close to the predicted level in English, above prediction in Mathematics and somewhat below prediction in Science. Attendance in 2004–05 (95.1%) was rather better than predicted (94.2%).

There were significant improvements between 2002/3 and 2005 in the following items of the UNN attitude questionnaire:

Enjoying work makes you want to work hard. More ($p < 0.01$)

Feeling that you are doing well (makes you want to work hard). More ($p < 0.05$)

Feeling you aren't good enough (stops you working hard). Less ($p < 0.05$)

Feeling as if there isn't any reward for working hard (stops you working hard). Less ($p < 0.05$)

Paying most attention to yourself about how hard you work/try. More ($p < 0.01$)

You will leave school at 16/after your GCSEs. Fewer ($p < 0.05$)

There was a significant fall-off in the following item:

You enjoy your lessons. Less ($p < 0.05$)

Middle School 4

This school was supported by NRAIS staff during the two years of the NRAIS project, but not at a high level. Four Y6 teachers responded to Hanneke Jones' survey, who reported that the children they taught had little or no prior experience with Thinking for Learning strategies. These teachers were generally below the survey mean in the number and frequency of strategies used, although they were above the mean in using them in Science. Their preferred approach was mind or concept mapping, which they tended to use once every few weeks.

In 2005 the KS2 SATs were close to the predicted level in English, below prediction in Mathematics and substantially above prediction in Science. Attendance in 2004–05 (93.4%) was the same as predicted.

There was a significant improvement between 2002/3 and 2005 in responses to the following item of the UNN attitude questionnaire:

You will leave school before you take your exams. Fewer ($p < 0.05$)

There was significant fall-off in the following:

You enjoy your lessons. Less ($p < 0.05$)

Someone like you will be able to get the kind of job you'd really like to do at 30. Less ($p < 0.05$)

At 30 you will have lots of hobbies and interests. Less sure ($p < 0.05$)

At 30 you will have nice clothes. Less sure ($p < 0.05$)

At 30 you will have children. Less sure ($p < 0.05$)

Most of your friends are likely to go to college or university to do a degree. Fewer ($p < 0.05$)

Middle School 5

This school was supported by NRAIS staff during the two years of the NRAIS project, but not at a high level.

In 2005 the KS2 SATs were above the predicted level in English and below prediction in Mathematics and Science. Attendance in 2004–05 (94.2%) was better than predicted (92.0%).

There were significant improvements between 2002–03 and 2005 in the following items of the UNN attitude questionnaire:

At school you learn new things/skills. More ($p < 0.05$)

You take part in school decision-making (e.g. school council). More ($p < 0.001$)

You are clever enough to go to college or university to do a degree. More ($p < 0.01$)

Looking after home and family after full-time education. Less ($p < 0.05$)

You will get the qualifications needed for the job you would really like at 30. More ($p < 0.05$)

When you are 30 you will have a nice home. More ($p < 0.05$)

The following item showed significant changes:

You feel you have too much homework. More ($p < 0.05$)

You will finish your full-time education when you are 18/after you have taken your A levels or GNVQs. More ($p < 0.05$)

Go traveling in this country or abroad after full-time education. Less ($p < 0.05$)

You will be doing something else after full-time education. More ($p < 0.05$)

There was significant fall-off in the following:

The teachers help and support you. Less ($p < 0.01$)

You are encouraged to go to plays, art galleries, museums, etc. Less ($p < 0.05$)

You know what you want to achieve. Less ($p < 0.01$)

The standard of your school work. Worse ($p < 0.01$)

Wanting to learn more makes you want to work hard. Less ($p < 0.05$)

Wanting to get qualifications makes you want to work hard. Less ($p < 0.05$)

Feeling as if there isn't any reward for working hard stops you working hard. More ($p < 0.05$)

High School 3

This school was supported by NRAIS staff during the two years of the NRAIS project, but not at a high level.

In 2005 58.3% of Y11 pupils obtained five or more A–C GCSE passes, significantly above both the 45.2% predicted and the 2004 percentage, 47.8%. Attendance in 2004–05 (92.4%) was rather better than predicted (91.0%).

There were no significant improvements between 2002–03 and 2005 on UNN attitude questionnaire items.

The following items showed significant increases:

You feel you have too much homework. More (p<0.01)

You will be doing something else after full-time education. More (p<0.01)

There will be plenty of opportunities for the kind of job you'd really like at 30. More (p<0.01)

At 30 you will be doing something else. More (p<0.05)

There was significant fall-off in the following:

School is a good place to learn. Less (p<0.05)

The teachers help and support you. Less (p<0.01)

The lessons are interesting. Less (p<0.05)

You are treated fairly by the teachers. Less (p<0.01)

You feel you are learning new things/skills. Less (p<0.05)

Enjoying lessons makes you want to work hard. Less (p<0.05)

You will go on to college or university to do a degree after full-time education. Less (p<0.05)

High School 5

This school played a key role during the Berwick RAIS project, but was supported at a relatively low level during the two years of NRAIS.

In 2005 62% of Y11 pupils obtained five or more A–C GCSE passes (or equivalent), significantly above the 49.9% predicted and a slight improvement on the 2004 figure of 61.2%. In 2003 there was a step change increase from 34% to 69%, largely attributable to the statistical effect whereby GNVQ computer passes in one year unusually boosted the percentage of A–C grade passes in the area. Because of this, the predicted percentage for 2005 is a serious underestimate. Attendance in 2004–05 (91.1%) was somewhat better than predicted (90.4%).

There was a significant improvement between 2002–03 and 2006 in the following item of the UNN attitude questionnaire:

There is plenty of opportunity to take part in school decision-making. More (p<0.05)

There was significant fall-off in the following:

You do your homework on time. Worse (p<0.01)

You join in with school clubs and extra school activities. Less (p<0.01)

You are encouraged to play a musical instrument, sing, act, etc. Less (p<0.01)

You know what you want to achieve. Less (p<0.05)

The following item showed a significant increase:

Looking after home and family after full-time education. More ($p < 0.001$)

The following item showed a significant decrease:

At school you spend time on your own. Less ($p < 0.001$)

High School 6

This school was supported at a high level by NRAIS staff during the two years of the NRAIS project.

In 2005 32.4% of Y11 pupils obtained five or more A–C GCSE passes, significantly above the 24.7% predicted and an improvement on the 2004 figure of 27.5%. Attendance in 2004–05 (88.4%) was significantly better than predicted (84%).

There were significant improvements between 2002–03 and 2005–06 in the following items of the UNN attitude questionnaire:

You enjoy your lessons. More ($p < 0.05$)

The lessons are interesting. More ($p < 0.01$)

Wanting to get a reward (or present) makes you want to work hard. Less ($p < 0.05$)

Not wanting to learn more stops you working hard. Less ($p < 0.05$)

You know what you have to do to get the kind of job you'd really like to do at 30. More ($p < 0.01$)

You will have the right skills and abilities to get the kind of job you'd really like to do at 30. More ($p < 0.01$)

Someone like you will be able to get the kind of job you'd really like to do at 30. More ($p < 0.01$)

You will have the confidence to get the kind of job you'd really like to do at 30. More ($p < 0.05$)

There was significant fall-off in the following:

Doing an apprenticeship after full-time education. Less ($p < 0.01$)

When you are 30 you will go on nice holidays. Less ($p < 0.05$)

When you are 30 you will have a nice car. Less ($p < 0.05$)

You have a good relationship with your parents/carers. Less ($p < 0.05$)

Not getting on with other people will hinder your ambitions. More ($p < 0.05$)

Section 6

Evaluation of NRAIS

6.1 Summary

NRAIS is an ambitious project. Its stated aims are to embody the core values of inclusion and democracy in all of its activities. Northumberland Strategic Partnership (NSP), by gaining the external funding required for the scaling up of the project from Berwick-RAIS to NRAIS, enabled the development of positive professional relationships and the acquisition of high levels of trust and positive relationships between NRAIS consultants and teachers and parents in schools and communities across Northumberland. We found these highly developed professional relationships to be particularly valued in terms of several central components of the NRAIS model of CPD. Feedback from head teachers and teachers consistently bears witness to their high estimation of the programme and the commitment of NRAIS directors and consultants to the professional values referred to above. Thinking skills interventions and practices are being explained, demonstrated and modelled in practice across schools and communities in Northumberland in ways that respondents identify as being both accessible and useful. Teachers in NRAIS consistently reported that they have become more confident and reflective and state that they have acquired a wider and more creative range of ideas and pedagogical techniques.

In Phase 1 of the evaluation it was difficult to separate out gains which could be attributed to NRAIS from those which may have come from the Thinking for Learning team, Healthy Schools and other initiatives taken independently by head teachers and others. It is important to note that there may indeed be complementary effects of more than one of these initiatives operating in combination. For the purposes of this evaluation however we needed to collect and analyse further evidence of any gains or losses in learning and achievement across schools in Northumberland which could be attributed to NRAIS.

The Year 1 attitude survey (How I am Getting on in School) was distributed before half term. This was repeated in Phase Two in the NRAIS and non-NRAIS schools and is reported earlier in Section 5.

From the sites visited in Phase 1, a central theme emerging from the qualitative data strand from visits to schools, was that teachers repeatedly reported that they 'know' their interventions are

‘working’. In Phase 1 we also found evidence of noticeably high energy levels and regular and open discussion of pedagogy in the NRAIS schools. In Phase 2 we identified and used ‘Indicators of Impact’ to find out what NRAIS consultants and teachers counted as evidence of the impact of NRAIS. This evidence was then used to inform collection and analysis during Phase 2 visits to schools. A key feature of the formative evaluation feedback process has been the joint analysis and interpretation of data by the research team, NRAIS, NSP, the Evaluation Steering Group, head teachers and teachers. We recognise that there may be competing claims for gains identified in this evaluation so in Phase 3 we tested our understandings of the data further through a Report-and-Respond survey which we adapted from the work of Stronach and MacLure (1997).

In designing the Report-and-Respond survey we analysed and compared data from Phases 1 and 2. We then focused our qualitative data collection activities upon gains/losses which respondents attributed solely to NRAIS. We invited all of those who participated in this evaluation to agree or disagree with the findings of the Report-and-Respond survey, as well as add to it. This model of evaluation includes a different notion of validity constructed from different patterns of negotiation (Ibid p103) between different contributors to this research. For example, representatives from NSP and NRAIS directors and consultants were invited to comment on the Report-and-Respond survey and the draft Final Report in July 2006. Professor Julian Elliott from Durham University acted as academic critical friend to the evaluation team and responded to earlier drafts of this Final Report in July and November 2006. At the same time all of the case study schools were sent a copy of their individual case study, the Report-and-Respond survey and the Executive Summary of the Final Report. Those schools who participated in Phase 1 were sent a copy of the Executive Summary of the Final Report and the Report-and-Respond survey.

All comments were received and returned in confidence and were incorporated where appropriate in the relevant sections of this Final Report. In the interests of simplicity and standardisation, all respondents were asked to use the same Report-and-Respond form. Our purpose here was to combine feedback and inquiry in ways that offer the sponsor some reassurance about the wider validity of the findings of this evaluation and to engage the respondents more actively and differently in both the inquiry and the reporting process. (Ibid.104).

Report-and-Respond forms were framed around a series of summary statements about NRAIS drawn from the data. Respondents were asked to say whether they agreed or disagreed with these and to offer any comments or additions. Responses sometimes took the form of a tick or a cross in a bracket or individual written commentaries about any or each of the statements. This Final Report aims to continue this dialogue and sense-making process beyond the period of the evaluation.

6.2 Introduction to NRAIS Report-and-Respond Survey

The Universities of Sunderland and Newcastle were asked to evaluate Northumberland’s Strategic Partnership’s (NSP) Raising Achievement and Aspiration in School and Society (NRAIS) Project. A number of research instruments including questionnaires, interviews, observations of classroom practice and case studies were used to construct the statements outlined below in a Report-and-Respond survey. Report-and-Respond survey forms were sent with the first draft of the final report to NSP and NRAIS on 1 August 2006. At the start of the new term each case study school received a copy of their case plus Report-and-Respond survey forms. At the same time Report-and-Respond forms were sent to all of the schools who participated in Phase 1 only, of the evaluation. (Appendix 2)

A survey response rate of 38% was returned in addition to responses from an NRAIS Director and comments from three members of the NSP team. These responses were analysed in relation to other data we collected from both the quantitative and qualitative strands of the evaluation in order to establish the warrant for the claims detailed in the Report-and-Respond survey which is reported in the following section.

6.3 Findings

A thematic analysis of the data from both the qualitative and quantitative strand of the evaluation resulted in the identification of the following themes:

- the overall impact of NRAIS;
- impact upon teachers;
- impact upon pupils;
- impact upon parents;
- thinking skills interventions used;
- the NRAIS model of CPD, and
- areas for improvement.

These themes are reported below in terms of teachers' perceptions of and responses to the data. Teachers' perceptions are important because they shape their attitudes and behaviour in the classroom. Whether these perceptions are real or otherwise is less important. The consequences of teachers' perceptions are real in the sense that they shape what they do.

Overall impact

Although the quantitative data suggested that in, 'first schools there is no significant immediate impact by NRAIS on SATs results in Reading, Writing or Mathematics'. Data from the qualitative strand suggested that the picture was much more subtle than this. For example, some teachers in first schools reported that SATs results were not their prime motivator or as high on their agenda as the development of the abilities and confidence of each child in their school. Some teachers made the point that higher order thinking may not be adequate measures by SATs tests. Other teachers, mainly in first schools, agreed with this finding, while others emphasised the significance of the word 'immediate', pointing to the necessity for longer term involvement in the NRAIS project before any likely academic gains could be achieved in SATs score.

The claim that, 'NRAIS support in first schools of three years or more shows improvements in SATs Mathematics scores', was supported by some teachers in first schools while others who had more recently become involved with NRAIS were unable to respond to this statement. This could point to some participants in the research being involved with NRAIS for longer periods than others. On the other hand this could be linked to evidence in the case studies that some teachers do not associate NRAIS with SATs scores but rather as an opportunity to pay attention to pedagogy and a more broadly drawn understandings of a 'good education'.

Of interest to the evaluation was the finding in the quantitative data that schools reporting moderate use of thinking skills interventions achieved higher SATs results than those reporting frequent use, 'It may be best to make only moderate use of thinking skills approaches and strategies if the main aim is to improve SATs results'. However, it was difficult to confirm or refute this as participants in the qualitative strand, although they did on occasion talk in terms of degree of usage, they did not explicitly link this to SATs scores. The quantitative data suggested that there was, 'a positive link in first schools between the use of Community of Enquiry, Cognitive Mapping and maths performance but a negative one between philosophy approaches and Writing performance'. Again the picture was mixed. All of the teachers we spoke to and all of those who responded to the survey were convinced that Community of Enquiry and cognitive mapping not only improved maths performance but also enhanced pupils' writing. This was particularly true where a whole school approach to the use of these interventions had been taken.

The finding from the quantitative strand that, 'Thinking Skills strategies and approaches are not significantly associated with reading performance', were similarly disputed by participants in the qualitative data strand who reported positive links between thinking skills strategies and reading

performance. Although it should be noted that one teacher in the survey response agreed with this finding from the quantitative strand.

The assertion from the quantitative data strand that, 'teachers who value metacognition tend to use both thinking and philosophy approaches more often but these do not generally translate into better SATs scores, unless they make frequent use of CoE and cognitive mapping', was almost unanimously supported through the qualitative data sets. Although the quantitative analysis considered the possible impact of NRAIS on attendance and found that, 'NRAIS involvement makes no difference to pupil attendance in first and middle schools'; considering the number of variables involved it remains difficult to substantiate or refute this link. Indeed a number of participants in other parts of the research talked about children enjoying coming to school more which they attributed to the ethos that had been fostered through NRAIS initiatives amongst others.

Likewise the findings from the quantitative data in respect of NRAIS involvement in middle schools, 'having no significant impact upon Reading, Writing or Mathematics SATs', was disputed by participants in the qualitative strand. Although agreement was reported in respect of, 'The use of Community of Enquiry and cognitive mapping approaches is significantly higher in middle schools where English performance at Key Stage 2 SATs exceeded'.

Impact upon Teachers and Support Staff

A key finding from analysis across the stages was that 'involvement with NRAIS makes teachers more confident'. This was unanimously agreed by all the respondents in the survey and recurs time and time again in interviews, observations and conversations with teachers. Confidence can also be seen to be linked to other positive features in teachers professional development. For example, teachers reported that enhanced confidence was central in encouraging them to be 'more creative, more reflective and more willing to try out new ideas'. In addition they reported that they felt, 'more inclined to change their ideas about practice'.

The ability to 'think critically' was cited as another way in which their involvement with NRAIS had enhanced their practice. An aspect of the NRAIS approach to CPD which was particularly valued by teachers and repeatedly referred to in the data was the fact that the 'NRAIS consultants have positive relationships with teachers'. It was the way in which consultants worked alongside teachers in their classrooms that they found to be particularly effective in promoting positive relationships and that consultants were, 'regarded by teachers as trusted, critical friends'.

There was much support for the statement: 'Teachers find the NRAIS model of support which does not use SATs as the starting point for professional development and discourse to be valuable and enabling', in the sense that they felt less constrained by the demands of national targets and tests and allowed them to focus more upon the needs of each child and the local factors affecting their own classrooms. This was evidenced by teachers reporting that they were empowered by the way in which, 'the NRAIS model encourages teachers to adopt, adapt and reject interventions, all or in part'. Another significant finding was that schools which had adopted, 'the NRAIS whole school approach results in teachers talking more about pedagogy and sharing ideas more frequently' and was characterized by lively staffroom discussions and meetings and noted in some of the case study schools as a positive feature by Ofsted.

Teachers were unanimous in their support for the claim that, 'NRAIS encourages teachers to make connections between interventions and national curriculum subjects and to infuse thinking skills interventions across the curriculum'. Teachers' enhanced use of questions was evident from the observation data, Ofsted reports and teachers' own accounts of their practice. This was further supported in responses to the survey and the statement that, 'involvement with NRAIS makes teachers think critically about their use of questions and questioning and to plan carefully for their improved use'. Of additional interest was the finding that for a number of teachers, 'working with

NRAIS, results in teachers transferring and making links across curriculum areas' and that the, 'NRAIS modelling of interventions is important in enabling teachers to bridge the theory practice divide'. Shared responsibility for the, 'implementation, evaluation and improvement of interventions is of central importance and valued by teachers'. This was further qualified by responses to the survey. It is necessary however to remember that there will be variables involved and as one respondent commented:

A lot of these answers are variable, depending upon the member of staff. In my own experience older (50+) members are often reluctant to experiment, to move beyond SATs, take the risk, make the effort. Post Level I support (NRAIS Level 1 Training) has proved most effective in combating the negatives. (Head teacher First School)

Impact upon Pupils

Findings from the HIGO questionnaire found that, in first schools supported by NRAIS for three years or more, more Year 4 pupils believe they have done well in core subjects and enjoy lessons more and like to exchange ideas. In first schools supported by NRAIS for less than three years there is little change in pupils attitudes to learning. In middle and high schools involvement with NRAIS may make pupils enjoy school rather more, but has little overall impact on their attitudes to education and their aspirations. This emerged as very difficult to qualify further both through the Report-and-Respond survey and in conversations with teachers. Teachers chose either not to respond in the survey or, in the case of one, commenting on the enormous number of variables that may come into play when trying to measure this.

This was in contrast to their unanimous support that, 'involvement with NRAIS improves pupil confidence, their ability to see and respect other people's perspectives and to balance competing ideas'. This was also supported by classroom observation data where it was noted how especially in Community of Enquiry sessions pupils respected each other. A number of Ofsted reports also supported this finding in relation to respecting other people's perspectives and their confidence and ability to voice their opinions. Report-and-Respond data ratifies this claim and furthermore confirms the statement about the way in which, 'it also helps them to be more prepared to voice their opinions and expect to be taken seriously by peers, teachers and parents. NRAIS involvement encourages pupils to be more creative develop tenacity in problem solving, improve speaking and listening skills'. Talking to teachers and observing practice revealed that, 'through NRAIS interventions pupils are able to improve their questioning skills and to transfer skills across curriculum areas'. Respondents to the survey also agreed that this was the case.

Impact upon Parents and Governors

All respondents in the survey agreed with the statement that, involvement with NRAIS improves parents' confidence and the quality of the conversations they have with their children'. Responses to the statements, 'involvement with NRAIS can lead some people to access further education and training opportunities. Parents and other family members do not encourage pupils to work any harder than schools who have not had any involvement with NRAIS', had a more mixed response. This may have been due to a problem in our design of the survey in terms of the fact that these two statements in the survey were not separated, with the opportunity to respond separately to each. An additional comment from one respondent was, 'All parents who undertook training found it interesting and useful.'

Talking to parents across different stages of the evaluation pointed to a very positive picture when they recounted their experiences and the impact NRAIS had or continued to have on themselves and their families. Data outside of this evaluation collected by NRAIS for their own use also revealed a very positive picture of practice. Parents talked enthusiastically about the impact NRAIS training had had on their confidence, ability to help their children, integration into school life and their plans for further education.

Interventions Used

The majority of respondents agreed with the finding that, 'the most popular thinking skills intervention taken up through the NRAIS project is P4C in the form of Community of Enquiry'. One respondent commented that they had not yet had any training in the use of this intervention. With this exception all respondents agreed that this intervention had 'the greatest impact upon the development of teachers' use of questions [and fostered] creative approaches to group discussion, more creative pedagogical approaches in general and a greater inclination to discuss pedagogy and share ideas'.

When asked about the 'use of P4C, it was thought that it is best used as an overarching framework through which other thinking skills interventions can be filtered', a mixed response was received. Responses to the statement that P4C is, 'also an important intervention in the shaping and development of a whole school ethos', a unanimous agreement was returned with exception of the school not yet trained in this intervention. It has been difficult to confirm any order of popularity within the remaining interventions identified from data collected across the stages although 'odd one out', 'mysteries', 'cognitive mapping' and 'diamond ranking' were confirmed as being widely used.

NRAIS Model of CPD

Talking to teachers over the three years of the evaluation together with the unanimous support from respondents to the survey confirmed that, 'the NRAIS whole school, whole teacher, whole pupil approach to CPD is valued by teachers and central to the success of the project'. Throughout the evaluation, teachers emphasised the importance of the local knowledge of NRAIS consultants and how they understood the context of each school and became part of the work of the school. All respondents supported the claim made in the survey that, 'aspects of this model which are of particular importance, are the local knowledge of NRAIS consultants and the close positive, personal and professional relationships they have with head teachers, teachers, support staff, pupils, parents and governors'. In our interviews, teachers and head teachers repeatedly referred to the importance of choice and autonomy in deciding which thinking skills intervention they wanted to develop in their practice. Similarly, all respondents in the survey supported the statement that, 'local decision making and autonomy in the choice and application of interventions is a key factor in this process'. Teachers were also unanimous in their support of the statement that, 'the non-inspectorial remit, shared power relationships and autonomy in interactions with consultants, is a strength of the model'. While all of the teachers and head teachers we interviewed, were conscious of the importance of DfES published League Tables and the Standards Agenda they valued the NRAIS approach because the focus of the model was upon professional dialogue about pedagogy and the supported development of practice in a partnership where the professional knowledge and abilities of teachers were respected and recognised and developed in context. All respondents to the survey supported the statement that, 'the standards agenda is less important to NRAIS than the development of a professional discourse with teachers'.

Areas for improvement of the NRAIS project

Responses to the statement that 'NRAIS need to attend more to the use of ICT in thinking skills interventions and classroom practice' was evenly split between those who supported this statement and those who did not, suggesting that this may be less of a priority than first appeared. There was some support for the statement that, 'support for embedding interventions in practice needs to be more consistent' and the statement that, 'it is possible to interpret some NRAIS activities as "bags of tricks"'. However, the statement that, 'NRAIS need to ensure that interventions are well understood by consultants particularly in relation to their theoretical and empirical base' received an evenly split response. The same split was evident in responses to the statement that interventions should be 'carefully matched to key stage'. Some respondents clearly felt strongly enough about

this statement to underline it, while others disagreed with this statement entirely. Teachers repeatedly emphasised the importance of respect for local knowledge and context and there was widespread support for the statement in our survey that thinking skills interventions be carefully matched to the 'context of each teacher's practice and followed through where teachers have requested further support'. The statement that, 'there is a perception among some schools that NRAIS "has gone", any continuation of NRAIS will need to address this' received almost unanimous support. With one exception (where the box was left blank by the respondent). The statement 'that the NRAIS model is highly valued by teachers but is expensive to sustain' was unanimously supported. Teachers in case study schools were very aware of the difficulties in attempting to raise aspirations of pupils and their families in Northumberland communities where children were often expected to follow similar occupations and patterns of social interaction to those of their parents and that NRAIS had set themselves a very ambitious task which was difficult to measure. There was widespread support in the survey for the statements that, 'the NRAIS aim to raise aspiration is very ambitious and difficult to measure. A more realistic and measurable remit needs to be negotiated with schools and communities in Northumberland which recognises the social democratic contribution' NRAIS makes as well as those of a pedagogical and academic nature.

Section 7

Conclusion of the Final Report

This Final NRAIS Evaluation Report includes accounts of the qualitative and quantitative strands of the research which have, wherever possible, been woven together to illuminate understanding. Our intention in this report is to provide quantitative data and qualitative case studies which capture the processes underpinning changes in teacher thinking and practice which have occurred throughout the NRAIS project, examine the evidence and test the warrant for any gains/losses we have found.

We have conducted individual and comparative thematic analyses of data sets across all three phases of this research in order to progressively organise, prioritise, triangulate and refine emerging ideas and themes in the data. We analysed data to inform our research focus across the period of this evaluation. We paid particular attention to the identification of key characteristics, themes and possibilities as well as disparities and problems. We maintained regular contact with consultants, teachers, pupils, parents and other stakeholders throughout the evaluation via a series of consultative workshops, illuminative seminars, focus group meetings and through the Report-and-Respond survey. The Evaluation Team met regularly throughout to evaluate progress and analyse data. We presented the final evaluation report of the NRAIS project in November 2006.

We will report our experiences of using formative evaluation and ways in which this approach to evaluation and continuing professional development might be 'scaled up' in other outcomes from this study in the form of papers, and academic journals. We hope these will be of interest to policy makers and inspectorates in that they will point to new possibilities in approaches to quality improvement and inspection and contribute to CPD programmes for teachers. In this we will draw upon understandings of the psychology of learning and upon social constructivist psychology Vygotsky (1934, 1978) Daniels (2001) and Black et. al. (2003) together with the critique of models of 'Good, Best and Perfect Practice' soon to be presented by Coffield and Edwards (2007).

The ways in which data is collected and the scale and instruments used in evaluation studies have a bearing on the way in which data can be reported upon and the different claims which can be about reality and truth. It was important in this study to interrogate quantitative data further by seeking qualitative responses to such data and to use individual and collective perceptions to make sense of what we found. It was equally important to use quantitative data to mitigate against naive, uncritical and simplistic interpretations of qualitative accounts of experience. Reporting on

the two data strands shows how a quantitative analytical lens has revealed one picture while a qualitative interpretation of the same phenomenon has brought a different perspective into view. In this Final Report we present comparative analysis of both strands of the evaluation in an endeavour to build and develop balanced understandings of the impact of the NRAIS Project upon teachers, pupils, schools and communities in Northumberland.

References

Black, P., Harrison, C., Lee, C., Marshall, B. & Wiliam, D. (2003) *Assessment for Learning: putting it into practice*, Buckingham: Open University Press.

Black, P. & Wiliam, D. (2003) 'In Praise of Educational Research.' *British Educational Research Journal*. Vol. 29, No. 5, October 2003.

Coffield, F. & Edward, S. (2007) 'Good Best and Now 'Excellent' Practice: What Next? Perfect practice?', *British Education Research Journal*.

Daniels, H. (2001) *Vygotsky and Pedagogy*, London: Routledge Falmer.

Stronach, I. & MacLure, M. (1997) *Education Research Undone: The Postmodern Embrace*, Buckingham: Open University Press.

Vygotsky, L. S ([1934]1962) *Thought and Language* (Rev. Ed.), Cambridge: M.I.T. Press

Vygotsky, L.S. (1978) *Mind and Society*, Cambridge M.A: Harvard University Press

Appendix 1: Outline of Research Activity

Phase 1: Evaluation of the NRAIS Project September 2003 to March 2004

September 2003- December 2003

Steering Group Meeting 1

NRAIS Team Focus Group Meeting 1

- Ethos, principles, processes and practices of the evaluation explained and agreed
- Baseline assessment of teacher constructs and measures of self-esteem and self-efficacy research instrument discussed and refined
- Sources of other baseline data established
- Research sample identified
- Format and content of interview questionnaires for use with NRAIS team, Headteachers, teachers and parents agreed

January 2004 – March 2004

Preliminary data collection through:

Individual interviews with NRAIS directors and consultants

Individual interviews with head teachers

Individual interviews with classroom teachers

Focus group meetings with parents

Preliminary data collection through school visits and classroom observations

Focus group meetings with pupils

Phase 2: Evaluation of the NRAIS Project March 2004 to March 2006

March 2004- May 2004

Aggregated Analysis of first data sets for thematic content

Steering Group Meeting 2

June 2004 – August 2004

Steering Group Meeting 3

Identification of sites for in-depth, focused case studies for Year 2

Begin drafting Interim Evaluation Report

September 2004 – December 2004

Drafting and preparation of first Interim Report

UNN extended survey of ‘Young People’s Attitudes to Education’ begins

Year on year collection and comparison on quantitative data continues

Steering Group Meeting 4

January 2005 – May 2005

First Interim Report produced

Illuminative evaluation seminar

Data collection for in depth case studies begins

Picture of practice video data analysed

Indicators of Impact identified

Data collection of evidence of impact begins

Data collection from High Schools begins

Steering Group Meeting 5

June 2005 –August 2005

Aggregated analysis of second data sets for thematic content

Steering Group Meeting 6

September 2005 – December 2005: Consultation and Presentation of Interim Findings of the Evaluation

Begin drafting Final Report

Illuminative Evaluation Seminar

Thematic Analysis of Quantitative Data Continues

Thematic Analysis of Qualitative Data Continues using Evidence of Impact Matrix

Triangulation of data continues

Steering Group Meeting 7

January 2006- March 2006

Preparation of Final Evaluation Report

Thematic Analysis of Quantitative Data Continues

Thematic Analysis of Qualitative Data Continues using Evidence of Impact Matrix

Triangulation of data continues

Steering Group Meeting 8

Phase 3: March 2006- September 2006

Compilation and Presentation of Final Evaluation Report

Invitation to Respond to Final Evaluation Report

Presentations and dissemination of papers at local, regional, national and international dissemination conferences

Preliminary drafting of papers for dissemination conferences and publication

October 2006 – June 2007

Submission of research papers for publication.

Appendix 2: NRAIS Evaluation

Phase 1: Consultants Interview Schedule (First Draft)

Interview Date: _____

Consultant: _____

Evaluator: _____

1. Describe in your own words the aims and ethos of the NRAIS Project?
2. What were the Project Team's aspirations when you scaled the Project up from Berwick?
3. How would you define an aspiration?
4. How do you think aspirations are formed?
5. How do you think aspirations change/develop?
6. Describe what you do as a Project Consultant?
7. Why do you do things this way?
8. What do you think is happening in the NRAIS Project which makes it different/particularly effective?
9. What do you take to be indicators of the success of the Project in this school?
10. How do/will you ensure the sustainability of the Project's intervention in this school after you have left?
11. Is the NRAIS Project working?
12. Why is it working?
13. How is it working?
14. Is it working as well as it could?
15. How could it be improved?
16. Could it work elsewhere? (How?)
17. How does the Project offer value for money?
18. Why have you chosen this school in particular?
19. What impact has the Project had upon teaching practice in this school?
20. What impact has the Project had upon pupil learning in this school?
21. What impact has the Project had upon pupil achievement in this school?
22. What impact has the Project had upon the parents of children at this school?

Appendix 3: NRAIS Evaluation

Phase 1: Teacher Interview Schedule

Interview Date: _____

Teacher/School: _____

Evaluator: _____

1. How would you describe your experiences of working with Project Consultants?
2. What training have you had from the Project team?
3. Which interventions/strategies have appealed to you most?
4. Which ones have you used?
5. How frequently do you use each strategy?
6. Has your practice changed as a result?
7. If yes – how?
8. What other support have you had from Project Consultants?
9. Describe what the Project Consultants have done in your school?
10. What do you think is happening in the NRAIS Project which makes it different/particularly effective?
11. What do you take to be indicators of the success of the Project in you classroom/this school?
12. Is the NRAIS Project working?
13. Why is it working?
14. How is it working?
15. Is it working as well as it could?
16. How could it be improved?
17. Could it work elsewhere? (How?)
18. How does the Project offer value for money?
19. What impact has the Project had upon teaching practice/learning support in this school?
20. What impact has the Project had upon pupil learning in this school?
21. What impact has the Project had upon pupil achievement in this school?
22. What impact has the Project had upon the parents of children at this school?

Appendix 4: NRAIS Evaluation

Classroom Observation Schedule (First Draft)

Interview Date: _____

Teacher/School: _____

Observer: _____

Characteristics _____

of the Class: _____

Year Group: _____

No. of Pupils: _____

Boys: _____

Girls: _____

Other: _____

Student Sample	1	2	3	4
<i>Pupil Talk</i>				
Length of contribution				
Other pupils listening				
Other pupils supporting a pupil who gets something wrong				
Children asking questions about their learning				
Length of silences				
Pupils challenging own ideas				
Pupils self correcting				
Pupils openly changing their minds				
Dialogue between pupils				
Pupils giving reasons for answers				
Pupils asking for reasons				
Pupils giving extended answers				
Pupil answers on the point				
Pupils referring to previous points on the lesson				
Pupils referring to points made in previous lessons				
Pupils talking about feelings				
<i>Teacher Talk</i>				
Length of teacher talk				
Teacher asking questions				
Teacher asking for reasons				
Teacher interruptions				

Student Sample cont.	1	2	3	4
Patterns of Classroom Interaction				
Did every student contribute?				
How many students did not contribute?				
Consultant suggested Criteria for Observation				
Teacher Suggested Criteria for Observation				

