

**EAST AYRSHIRE COUNCIL**

**CABINET : 21 OCTOBER 2009**

**INSTRUCTIONAL BARRIERS TO CHILDREN'S LITERACY DEVELOPMENT:  
LESSONS FROM THE PROGRESS IN INTERNATIONAL READING LITERACY  
STUDY (PIRLS) 2006**

**Report by the Executive Director of Educational and Social Services**

**1 PURPOSE OF REPORT**

- 1.1 To advise Cabinet of the findings of a primary school based literacy research project funded by East Ayrshire Council and the University of Strathclyde.

**2 INTRODUCTION**

- 2.1 The Progress in International Reading Literacy (PIRLS) is a five yearly international investigation into the reading abilities of nine and ten year old children: the Primary 5 stage in Scotland. The study involves the assessment of four comprehension processes in a 'fiction' and 'non-fiction' task.

- 2.2 A study in 2006 involved children from forty five education systems worldwide, including 3775 Scottish children. For the Scottish education system, significant results from this study were:

- (i) Scottish pupils' scores placed them twenty sixth of forty five education systems; nineteenth of the twenty five participating Organisation for Economic Co-operation and Development (OECD) systems and ninth of nine education systems in which English was the principal language of instruction (EPLI).
- (ii) Within OECD and EPLI systems, Scotland had the third widest gap between high and low achievers and the second largest gender gap, with girls significantly outperforming boys.
- (iii) Scotland had the lowest scores amongst the lowest socio-economic group within EPLI systems.

- 2.3 The PIRLS 2006 also provided analysis of approaches to reading instruction in participating education systems. From analysis of this data, four significant differences between Scottish approaches to reading instruction and those of its OECD and EPLI counterparts emerged:

- (i) Assessment strategies and purposes
- (ii) Teaching resources used
- (iii) Learning and teaching activities in school and
- (iv) Types and frequency of homework.

### 3 THE RESEARCH PROGRAMME

- 3.1 Based on the analysis of the study, East Ayrshire Council was invited to participate in a research project titled: *Barriers to Literacy Development: Investigating Lessons from the Progress in International Reading Literacy Study (PIRLS) 2006*, which would last through session 2007-2008.
- 3.2 The research was led by Anne Neil, Lecturer, Department of Childhood and Primary Studies, University of Strathclyde. Mrs Neil has an extensive track record of designing and delivering continuing professional development (CPD) courses on the teaching of literacy for primary and secondary teachers, including five consecutive years working with teachers in East Ayrshire.
- 3.3 Five hundred and forty pupils in twenty one classes across fourteen schools participated in the project: eleven of these classes were in the experimental group. The experimental and control groups were matched in terms of socio-economic catchment based on entitlement to free schools meals (14 %) and food and clothing grants (28%). Pupils were tested pre and post intervention using one of three instruments: PIRLS, Neale Analysis of Reading Ability (NARA) or Pass Mark (PM) Benchmark Scores. Based on professional judgment teachers decided which pupils were suitable for which assessment.

Pupils in Primary 4 who were in composite Primary 4-5 classes took part in the intervention, but were not included in the analysis of the assessment findings.

- 3.4 The key features of the intervention related to:
- (i) Reading engagement.
  - (ii) Developing use and metacognitive awareness of text and word attack strategies.
  - (iii) Direct teaching of protocols for answering questions with a particular emphasis on scanning the text for key question words and/or synonyms for these.
  - (iv) Active learning approaches in whole class, mixed ability and ability group tasks.
  - (v) Specific, text-related phonic, word attack and spelling activities for pupils in the group assessed with alternate reading skills tests: Neale Analysis of Reading Ability (NARA) and PM Benchmark Scores.
  - (vi) Providing a context for post-intervention testing.

#### 4. IMPROVEMENTS IN PERFORMANCE

##### PIRLS Test Scores

##### Comparative Pre and Post Test Outcomes- Fiction

Group	Test 1 Average Score %	Test 2 Average Score %	+ % Difference
Experimental	50	65	15
Control	53	62	9

##### Comparative Pre and Post Test Outcomes- Non Fiction

Group	Test 1 Average Score %	Test 2 Average Score %	+ % Difference
Experimental	41	74	33
Control	44	68	24

4.1 In the post-intervention tasks, the experimental schools average scores improved more than those in the control schools on every measure. The relative extent of this improvement resulted in the experimental group outperforming the control group on each of these measures. Children performing at and below average in the experimental group improved the most.

In the fiction task, the average increase within the experimental group was 15% compared to 9% in the control group. In the non fiction task, the average increase was 33% in the experimental group and 24% in the control group.

#### Neale Analysis of Reading Ability Test Scores

4.2 The average age of the 97 children who undertook this test was 9 years 3 months. Their average reading ages were:

- Reading Accuracy – 7.01 years
- Reading Comprehension – 6.09 years

#### Comparative Pre and Post Test Outcomes

Group	Average Chron Age at Test 1	Accuracy Test 1	Accuracy Test 2	Difference Years & Months	Comprehension Test 1	Comprehension Test 2
Experimental n=55	9.02	6.09	7.06	+0.9	6.08	8.00
Control n=43	9.04	7.04	7.08	+0.04	6.09	7.02

- 4.3 In the 6 months between the pre and post test analyses, the experimental group's average reading ages for accuracy and comprehension rose by 9 months and 16 months respectively, thus reducing the gap between their chronological and reading ages. In the same period, the average accuracy and comprehension ages of the pupils in the control group rose by 4 and 5 months: in other words, the discrepancy between their chronological and reading ages widened.
- 4.4 Due to pupils moving schools or being absent on the day of testing there is no comparative data for the 6 pupils who undertook the PM Benchmark tests.

## **5. KEY FINDINGS**

5.1 Key findings to emerge were:

- (i) Teachers' professional judgements of their pupils' reading abilities provide a basis upon which to build appropriate reading curricula.
- (ii) Pupils benefit from active, collaborative learning approaches focussed on the strategies and skills required to read with comprehension.
- (iii) The research findings present evidence that average and below average pupils benefit most from these approaches and, in so doing, are closing the attainment gap
- (iv) Teachers require CPD support if they are to adapt curricular materials to meet the specific needs of all of their pupils and to effectively utilise recent educational initiatives and programmes, such as 'active learning', 'critical thinking skills' and 'collaborative learning techniques'.
- (v) Professional expertise and curricular resources to support teachers and pupils currently exist within the authority and will be fully utilised.

## **6. FUTURE DEVELOPMENTS**

6.1 It is proposed that the intervention techniques designed through this project be used to develop the reading skills of all primary 5 pupils across the authority. Two seconded literacy developers, who were part of the project, will deliver in-service training to all Literacy Leaders within primary schools. They will work with primary 5 teachers, in a phased programme across all school in East Ayrshire.

## **7. FINANCIAL IMPLICATIONS**

7.1 The costs of the two seconded literacy developers are covered through the use of the Scottish Government allocation of fully funded probationers to the authority. All other funding costs will be met within the existing Curriculum for Excellence budget and schools Continuous Professional Development (CPD) budget.

## **8 COMMUNITY PLANNING AND POLICY IMPLICATIONS**

- 8.1 The project will contribute to the achievement of the objectives of the 'Promoting Lifelong Learning' theme of the East Ayrshire Community Plan.

## **9 LEGAL AND PERSONNEL IMPLICATIONS**

- 9.1 There are no legal or personnel implications.

## **10. RISK IMPLICATIONS**

- 10.1 There may be a negative impact on the pace of literacy development if methodologies such as that described in this report are not adopted by our schools.

## **11. RECOMMENDATION**

- 11.1 It is recommended that Members:

- (i) approve the roll out of the approaches developed through the research project;
- (ii) ask the Executive Director of Education and Social Services to provide updates on the impact of the literacy intervention at appropriate intervals;
- (iii) otherwise, note the contents of this report.

Graham Short  
Executive Director of Educational and Social Services

CMcC/JW  
September 2009

Members wishing further information should contact Graham Short, Executive Director of Educational and Social Services, Tel: (01563) 576017 or Andrew Sutherland, Tel: (01563) 576126.

## **LIST OF BACKGROUND PAPERS**

1. Progress in International Reading Literacy Study (PIRLS) 2006.
2. Barriers to Literacy Development: Investigating Lessons from the Progress in International Reading Literacy Study (PIRLS) 2006.

## **IMPLEMENTATION OFFICER**

**Andrew Sutherland, Head of Service: Schools**