

EVALUATION OF CLACKMANNANSHIRE THINKING SKILLS INITIATIVE

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INTRODUCTION

Clackmannanshire is a small council situated in the middle of Scotland, north east of Glasgow and north west of Edinburgh. The council has been committed to a progressive policy since 1997 for developing education services encapsulated a policy document entitled '*Learning to Succeed in Clackmannanshire*'. Philosophy for Children was introduced to Clackmannanshire schools in 2001 as an element of this strategy. The introduction of Philosophy for Children followed careful consideration of existing research on how children learn and an extensive period of consultation within Clackmannanshire.

The Clackmannanshire initiative is unusual in that it involves a commitment on behalf of a whole education service to promoting thinking and learning through the process of Philosophy for Children. It is also unusual in the extent to which the initiative has been subject to rigorous evaluation.

The Philosophy for Children process includes three features that Adey (2001) has suggested are central to promoting cognitive skills and educational attainments, i.e.

- *cognitive challenge*, i.e. the provision of a situation that lacks a simple factual answer and requires thought to resolve or clarify,
- *social construction*, i.e. working together to develop a more detailed understanding or resolution than would have been possible working individually,
- *metacognition*, i.e. reflecting on and developing awareness of the thinking and learning processes that have been used in responding to cognitive challenge.

These three elements have been demonstrated to be central to The three above elements also relate closely to the concept of thoughtful classroom '*dialogue*'. Black and William have suggested that developments in dialogue contribute to improvements in the practice of '*formative assessment*'. Formative assessment provides information that can be used as feedback to improve learning and teaching. Evidence suggests that formative assessment practices produce significant learning gains and raise standards.

The Philosophy for Children process seeks to promote thoughtful dialogue. Carnell and Lodge (2002) describe dialogue as necessary for promoting rich learning environments. In other words, the quality of learning comes down to the quality of teacher/student and student/student interaction. This will not surprise most educational practitioners! It would seem reasonable to hypothesise that the process of Philosophy for Children contributes to the quality of this interaction.

Clackmannanshire Council recognised the potential contribution that Philosophy for Children could make to support schools achieve the current five National Priorities for Scottish Education (SEED 2001), i.e. that Scottish schools should:

1. Raise standards of achievement for all learners
2. Provide a process that contributes to teacher development
3. Encourage inclusive classroom learning communities
4. Promote values in children (in a way that they can participate as 'citizens' of their own communities)
5. Develop essential life skills, i.e. critical thinking and problem solving, creativity and the ability to collaborate with others.

However, the Council also accepts Black and William's (1998) contention that "there is no 'quick fix' that can be added to existing practice with promise of rapid reward". Any progress achieved through this type of initiative is likely to be gradual.

It was agreed from the outset that the 'Clackmannanshire Philosophy for Children Initiative' should be subject to rigorous *evaluation* involving external moderation through the Psychology Department of the University of Dundee. This evaluation is still at the stage of collecting 'post test data' and as such remains incomplete. However the account below provides an outline of the elements involved in this evaluation and a description of the experimental design used.

Aim of the research project

This initiative considers whether a regular Philosophy for Children 'lesson' can lead to:

1. Developments in critical reasoning skills and dialogue in the classroom
2. Changes in self image as a learner and a problem solver
3. Emotional and social developments
4. Developments in cognitive ability

These four aims are described above in very broad general terms and are defined more precisely in the Methodology.

* An initial fifth aim of looking at whether Philosophy for Children led to improvements in National Test scores was discontinued due to the poor validity of these measures.

Rationale

As previously stated, the Clackmannanshire Philosophy for Children Initiative is seen as an important initiative in the context of the five new National Priorities for Scottish Education. The initiative is also seen as making a contribution to the personal and psychological well being of all those involved.

While the vision of the National Priorities seems to have widespread support, there appears to be a less clear consensus as to how these priorities can actually be delivered. The Clackmannanshire 'Philosophy for Children' Initiative seeks to provide a realistic vehicle for contributing to the delivery of these priorities.

A key element in this process is the emphasis on developing a community approach to 'enquiry' in the classroom. The process is characterised by an increase in open-ended questioning which challenges the children to have to think for themselves (as against giving simple facts). There is already extensive evidence supporting the crucial role of dialogue and metacognition (Watkins, 2001) in raising educational standards for all children. The Clackmannanshire initiative is unusual in a British context in that it is an authority led initiative that aims to involve all its primary schools in developing the Philosophy for Children process.

METHODOLOGY

Hypothesis

This project is based on the hypothesis that the Philosophy for Children process will lead to improvements in critical reasoning skills and the quality of dialogue taking place in the classroom. There is more than one definition of critical reasoning skills. For present purposes, critical reasoning skills are seen to be reflected in *the ability of students to demonstrate justification of their own views and comments and justification as to why they agree or disagree with views expressed by others.*

Indicators of improvements in the quality of dialogue will include the extent to which there is:

an increase in the use of open ended follow up questions by the teacher
an increase in 'pupil talk' (the length and quantity of pupil utterances)
increased use of pupil questions (as an example of pupil initiated behaviour).

It is also hypothesised that improvements in the quality of classroom dialogue will lead in turn to developments in *social behaviour, cognitive ability and educational attainment.* The way in which students respond to problematic social situations was taken as an indicator of changes in *social behaviour.* Initially developments in *educational attainments* were to be indicated by Scottish National Test results but these plans were discontinued in the light of research indicating that these scores to be too subjective and lacking in rigour for this purpose.

Research Design

The research design is that of a traditional two by two pre-post design in which a range of measures are obtained in two populations of children before the initiative started in October 2001 and again in May 2002. One population of children received one lesson each week one dedicated to Philosophy for Children and the other pursued their curriculum as before. The range of measures include standardised tests, such as the Cognitive Ability Tests (CAT), Myself as a Learner (MALS) and the Taxonomy of Problematic Social Situations (TOPS). The measures also include a comparison of classroom discussions recorded with a video camera in October 2001 and May 2002.

Although Burden and Nicholls (2000) have argued that the above design is not the best means of evaluating this type of intervention, the design does allow the relationship between the groups to be precisely defined and in ways that can be subject to external scrutiny and replication.

The research design also includes post-test questionnaires completed by pupils, observations from headteachers and observation diaries maintained by participating teachers throughout the initiative.

The design thus incorporates a wide range of approaches to maximise a 'triangulated' approach to the evaluation and to take into account as broad a range of perspectives of outcomes as possible.

Sampling

All schools were invited to bid for a place in the initiative following a presentation given to all P6 and P7 teachers in Clackmannanshire. The involvement of the Clackmannanshire Council's Chief Executive in the initial presentation is likely to have reinforced initial interest in the initiative and subsequent teacher motivation. It was made clear that only P6 and P7 teachers from the first nine schools could be accepted due to constraints in the initial support available to participating teachers. The 'experimental' schools were thus self-selected as a result of their speed of response to the initial presentation. The initiative also involved four control classes. The control schools were selected on the criteria that

they could either provide a control class to an experimental class in the same school

pragmatic grounds that they were willing to act as controls

that they were comparable to the experimental schools in terms of size and social disadvantage factors.

Support and training were offered to these teachers by Paul Cleghorn, a Clackmannanshire primary school head teacher. Paul had an philosophical background and was already experienced in using Philosophy for Children in the classroom. He was seconded one day each week to the initiative. The initiative involved each teacher providing one Philosophy for Children lesson each week from November 2001 onwards.

Evaluation

Evaluation of developments in thinking skills is generally considered to be less than straightforward. Reference has already been made in this paper to Burden and Nichol's (2000) critique of traditional pre-post designs in evaluating cognitive interventions in this paper. However, the majority of evaluation studies have used this type of design. It is possible that this has been because this type of quantitative methodology has advantages in more precisely defining the relationship between the variables under consideration. The current evaluation has also included qualitative elements in the form of post-test questionnaires completed by pupils, observations from headteachers and observation diaries maintained by participating teachers.

There are three main elements of the current evaluation, i.e.

1. Pre-post video recordings of classroom discussion
2. Standardised testing of cognitive abilities, self esteem and social behaviour
3. Pupil questionnaires, teacher diaries and headteacher observations.

1. Video Recordings

'Pre-initiative' Video Recordings were made of classroom discussion of a Greek fable in October, 2001. These recordings involved 6 'Experimental' classes and 2 'Control' classes (the control classes were in the same schools as two of the experimental classes). The teacher read out the story and then explored its meaning through discussion with the class.

The same stimulus was used in the last two weeks of May 2002 and the discussions again recorded. By this time the experimental group had been involved in a weekly Philosophy for Children lesson for six months.

2. Standardised Testing

a) Self Perception as a Learner and Problem Solver

Burden's (2000) 'Myself as a Learner' (MALS) was used to measure changes in pupils self image as a learner and problem solver. This comprises of 20 statements on which each student rates themselves on a five point scale. 'Pre-initiative' scores were obtained in October, 2001 for 203 pupils from 8 'Experimental classes' and 62 pupils from 2 'Control' classes. This procedure was then repeated in May 2002 as a post-test measure.

b) Social behaviour in the classroom

Dodge, McClaskey and Feldman's (1985) Taxonomy of Problematic Social Situations (TOPS) was used to obtain a pre- and post-test measure of the behaviour of a random sample of individual students. TOPS is a questionnaire that teachers complete on the basis of their observations of the way that individual children respond to problematic social situations in the classroom. TOPS consists of 44 problematic situations such as 'How the child responds when called a bad name'. The teacher rates to what extent the child would experience problems in that situation on a five-point scale.

Responses were obtained before and after the 'Pre-initiative' scores using teacher ratings of 34 randomly selected pupils from 7 'experimental classes' and 7 pupils from 2 'control classes' on the Taxonomy of Problematic Social Situations (TOPS) questionnaire. This questionnaire also provided 6 sub-test scores for each pupil that also can be analysed for pre and post-initiative comparisons.

c) Cognitive Abilities Test (CAT)

The Cognitive Abilities Test (Lohman, Thorndike and Hagen, 1993) provides measures in standardised scores of Verbal Ability, Nonverbal Ability and Quantitative Ability for each pupil. It also provides raw scores for nine subtests for each pupil, i.e. Verbal Classification, Sentence Completion, Verbal Analogies, Number Analogies, Number Series, Equation Building, Figure Classification, Figure Analogies and Figure Analysis.

'Pre-initiative' standardised scores were obtained in the three overall abilities and raw scores in the nine sub-tests for 180 Experimental pupils and 62 Control pupils in October 2001. Follow up testing is to be delayed until 12 months from the initial assessment until October 2002 to reduce 'familiarity effects' arising from a rapid repetition of the same test procedure. This delay also takes into account the probability that interventions in cognitive development are unlikely to be rapid.

3) 'User observations'

Observations were collected from pupils, teachers and headteachers in May, 2002. Pupils were asked to complete a questionnaire that had been designed to elicit their views and experiences of Philosophy for Children.

Feedback from teachers involved in the Philosophy for Children lessons came from two sources, i.e. *verbal comments* recorded during group feedback meetings arranged to support the teachers and *written comments* in observation diaries that teachers had been asked to maintain as the sessions progressed.

Headteachers were simply asked to record their impressions as the Philosophy for Children initiative progressed.

RESULTS, DISCUSSION and CONCLUSION

The evaluation has still to be completed. Data arising from post-test assessment still needs to be collected, analysed and compared to pre-test assessments. Non parametric statistical procedures (Wilcoxon and Mann Whitney U Tests) will be used to establish probability levels as to whether the results could have occurred by chance. What is already evident is that the qualitative evidence arising from both questionnaires seeking pupil views and from teacher's 'observation diaries' appears positive and very encouraging.

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For more information regarding this evaluation (including completed references), please contact Steve Trickey at:

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