

Using the Rich Task and Cooperative Learning models to develop collaboratively an interdisciplinary study approach for S1 – S3 pupils.

The Pilot Tasks

Biggar High School, South Lanarkshire

The entire S2 year group prepared for their Rich Task during normal class time in Modern Languages, English, Geography and RME. The Rich Task was then undertaken over two dedicated days. "International Trade" required pupils to prepare and produce a presentation and supporting literature to promote a Scottish product or service to a French or German speaking country. The presentation had to be made in a language other than English and all members of the group had to participate in the presentation. Pupils looked at the key differences in the countries and the way advertisers manipulate language to achieve different effects. They considered how customs influenced the style of presentation and how legal and business requirements were to be met. There was an opportunity for pupils to work with outside business interests to find out what business factors affect the export of products and services.

John Ogilvie High School, South Lanarkshire

A class of 20 mixed ability S1 pupils worked on their Rich Task for four periods per week for twelve weeks, assisted by a mathematics teacher, a science teacher and music teacher. "Pi in the Sky" required pupils to demonstrate an understanding of different mathematical approaches used to frame and answer questions about astronomy and music asked by cultures from three different historical ages. They immersed themselves in one such question as well as the ways in which that culture used or developed mathematics and the arts to frame and answer the question. Pupils then prepared a short explanation (approximately 10 minutes), given as a tutorial to their peers, familiarising them with the content of the question, but, more importantly, communicating the essential ideas and techniques of the mathematics of the situation as viewed by that culture, supported by music and inspired by the period.

Oban High School, Argyll & Bute

A class of 30 mixed ability S1 pupils prepared for their task during normal class time in Geography, Technology and Art & Design. "The Built Environment – Designing a Structure" was centred around a set of design briefs focused on "theoretical buildings which could improve the school. E.g. "a bus shelter", "a cycle shelter" or "greenhouse". The pupil groups were presented with a design brief by a staff 'client' and they asked appropriate questions to help their understanding of the brief. The design and technology department considered materials, structures, construction, and design. The art department looked at design, aesthetics and modelling, while the geography department gave consideration to topography, weather, access and function. The task culminated with a presentation to the client group and pupil audience of the various design ideas.

Oban High School, Argyll & Bute

A class of 30 mixed ability S1 pupils prepared for their task during normal class time in RME, Science, ICT, English and PSE. "The Science and Ethics Conference" took the form of a debate. The ethical question centred around 'stem cell research' and pupils studied the concept in science and carried out some related experiments to show how cells develop. In the RME department they considered the ethical implications of the research; in English the pupils prepared notes and letters which were processed in the computing department and were sent out to people identified by the pupils who could contribute to the debate. The work culminated in an organised debate where a selection of these people discussed structured questions set by the pupil groups and presented by them using 'PowerPoint' or video etc, again constructed in the computing department. The audience was made up of staff, parents and pupils.

Tobermory High School, Argyll & Bute

The entire S2 year group of 30 pupils prepared for their task during normal class time in Geography, Technology and ICT. "The Built Environment – Designing a Structure". Six teams based their design briefs around two areas within the Tobermory area, namely the harbour/water front and the Aros Park forestry area. Pupils came up with a brief that they selected from their cooperative learning activity and researched the effects of technology, geography and maths as well as environmental factors that would affect and influence their designs. The task concluded with a multimedia presentation where pupils work was displayed and presented to the public.

Objectives

1. To ensure all participants are familiar with the Cooperative Learning model
2. To familiarise all staff with the New Basics model
3. To develop collaboratively a viable model of interdisciplinary working for S1 – S3

Outcomes and Impact

Objective 1

The application of a variety of Cooperative Learning strategies played a crucial role in the success of the pilot as witnessed by significant improvement in:

- motivation and commitment
- positive attitudes
- interpersonal skills
- behaviour
- critical thinking and higher order thinking skills

Objective 2

New Basics/Rich Tasks model fully incorporated and was able to demonstrate:

- improved achievement and attainment
- the value and purpose of learning in real life contexts
- intellectual rigour
- links with community
- personalisation and choice
- clear pace and challenge

Objective 3

A viable model of interdisciplinary working was evident by:

- successful inter-disciplinary working
- the demonstration of clear links between subjects
- achievable aims and objectives met within existing timetable
- the opportunity to recognise wider achievement
- the ability to offer deeper recognition of a variety of skills
- direct link to the requirements of the new ACIE Learning Outcomes

As a result of the success of the pilot in both authorities, plans were drawn up to allow for dissemination of information and mainstreaming the development in that:

- All pilot schools intend developing, continuing and extending the Rich Task model
- Information on Rich Tasks has been included in authority CPD programmes for 2007-08
- Some other schools in both authorities have expressed an interest in taking forward the Rich Task approach
- Senior Managers and Principal Teachers in both authorities have had a number of awareness raising sessions
- Guidelines on Collaborative/Cooperative Learning will be produced and distributed to all schools

Evidence

Inter-authority action plan
Rich Task descriptors
Lessons plans
Pro-formas
Pupil surveys before and after
Staff evaluations before and after
Pupil and staff quotes
Examples of pupils' work
Assessment evidence
Press articles
Edublog
Intranet/Internet
Video/photographs

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Rich Tasks and A Curriculum for Excellence

Capacities

Within these tasks pupils clearly demonstrated numerous attributes including:

- thinking creatively and independently
- linking and applying different kinds of learning in new situations
- making informed choices and decisions
- developing informed, ethical views of complex issues
- relating to others and managing themselves
- achieving success in different areas of activity
- working in partnership and in teams
- taking the initiative and leading

- The tasks impacted on a majority of the capacities in a significant way

Principles

Throughout the pilot the Rich Tasks undertaken clearly met the principles for curriculum design in that they allowed all pupils to experience:

- *challenge and enjoyment* as the learning was intellectually demanding, engaging and motivating as well as allowing pupils to take an active part in their learning
- a *breadth* of learning through a variety of contexts and there was obvious *progression* which met the needs and aptitudes of the learners
- a *depth* of learning for different types of thinking and learning; significant *personalisation and choice* which met individual needs and supported a variety of particular aptitudes and talents
- a range of activities which allowed them to see the *coherence* in the Task which drew different strands of learning together
- learning which had value and *relevance* to their lives, present and future.

Cross-cutting themes

Throughout the Rich Tasks pilot it was clearly seen that learners developed skills in relation to cross-cutting themes including:

- numeracy – all tasks made effective use of numeracy skills
- literacy – evident throughout but especially in the presentations
- enterprise – tasks evidenced strong links with the enterprising culture
- creativity – all tasks required high creativity skills
- ICT – used extensively throughout and particularly in the presentation
- citizenship – through the team working experience and the consideration of community issues

Pedagogies Used

- Co-operative Learning allowing students to work effectively with others.
- Assessment is for Learning including peer and self assessment.
- Teaching for Understanding allowing students to demonstrate and perform their understanding.

Ideas, Hints and Tips for Further Development

- Planned staff time for development and evaluation is required
- Tasks can be completed within normal timetable as long as order of work is identified
- Staff should discuss and agree the assessment needs and share these with pupils
- Pupils require to be taught presentation, debating, public speaking skills
- Rotations might be an issue in some schools
- Clear understanding of the task as being
 - inter-disciplinary
 - real-life value and use
 - challenging and enjoyable
 - built in as part of the curriculum
 - readily assessable
 - planned to overtake the new ACIE learning outcomes (when they become available)