

School of Teacher Education

THE HOPE CHALLENGE PROGRAMME

Secondary

CASE STUDY: GCSE MATHEMATICS INTERVENTION

Hillside High School, Merseyside

Lead: Mary Stevenson

TARGET GROUP:

2 groups of Year 11 pupils: C/D (35 pupils) and A/A* (12 pupils)

AIMS:

The school went into Special measures and Mathematics was highlighted as needing improvement. There was considerable turnover of mathematics staff, and teaching methods were not enabling pupils to develop problem-solving and reasoning skills sufficiently

“GCSE results in 2014 in terms of the percentage of students gaining five grades A* to C, including mathematics and English, were disappointing. These represent a decline from 2013. The reason behind this decline was the performance of students in mathematics. Because ... the department was inexperienced and students were not getting enough opportunities to solve problems, results in this subject dipped”. (Ofsted, Nov 2014)

TIME FRAME:

2 days in consecutive weeks, Feb / March 2015

The project took place in school, and pupils were withdrawn from their regular timetable for the intervention work. This was arranged during PGCE Mathematics trainees’ Enhancement Weeks.

The school identified content areas and target groups of pupils in advance and trainees prepared input and activities with tutor support

HOPE CHALLENGE - CASE STUDY 2014/15: GCSE MATHEMATICS

A pre- and post-test of pupils was arranged by the school for 2 groups of Year 11 pupils: C/D (35 pupils) and A/A* (12 pupils)

19 trainees, worked in six teams, three teams for the C/D group and three for the A/A* group. Each team prepared content, activities and materials for one topic area.

The days were structured into three parts: two topics in the morning and one in the afternoon. Emphasis was on pupil engagement, active learning, and problem solving with a particular focus on moving pupils through various tasks and activities towards confident handling of relevant GCSE questions by the end of each session. Reflection on learning was built in to the activities using learning posters.

IMPACT:

Hillside pupils

- 88% of pupils improved their maths mark between pre- and post-test. Various contributory factors should be considered here: both the intervention project and ongoing school input
- There were very positive qualitative evaluations from pupils - many comments relating to enjoyment, understanding, and confidence. They liked working with the Hope teachers.

Hillside staff

- There was very positive feedback from the Headteacher and Head of Mathematics. The Hope group was made to feel very welcome in the school. They want us to repeat the activity next year.

Hope trainees

- Trainees enjoyed working in teams in a supportive model
- Trainees appreciated the opportunity to see each other teach and learn from each other – they have well developed pedagogical approaches by this stage of the course
- Trainees enjoyed the opportunity to teach Y11, to teach A/A* topics
- Developed confidence working in unfamiliar surroundings and establishing relationships with new pupils
- Working with smaller groups helped them to understand pupils' misconceptions
- Powerful learning experience

SUSTAINABILITY:

This model is to be developed in 2016, in discussion with Hillside Head of Mathematics, to support and enhance learning in mathematics for pupils identified by the school.

The Mathematics' Tutor is to introduce a more explicit focus upon the use of a variety of pedagogies, to be used by the trainees with the pupils, and as a stimulus for discussion in reflection sessions.