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School Improvement Plan 2014-17: Mathematics –Interim Report

Based on the evidence gathered with respect to problem solving several areas requiring improvement were identified and an action plan developed and implemented over year 1. At the end of the academic year 2014-15 pupils were resurveyed on problem solving in maths (using the same sample from the previous year. In analysing the data we looked at the combined results where students had reported positively (Sometimes or Regularly) to the questions and contrasted this with the previous year's results.

Broadly speaking the students recorded a positive increase in almost all areas in the survey. An average 88% of students reported that classes had appropriate materials for problem solving. This was an increase of approximately 30% on the previous year and it is hoped to build on this with greater use of Apex Maths. Greater use of ICT (computer or whiteboard) during lessons was noted, with a 12% increase on 2013-14 (52%). There remains a good degree of room for development in this area in the coming year. There has been a reported increase in the 'visibility' of maths in the classroom as almost all students mentioning the maths displays in their classrooms. While there was a small increase in the reported use of maths outside the classroom (8%), there is still a good degree of scope for development in this area and the use of maths trails etc. will be key to development in this area (at present 25%).

In our original survey pupils had reported a very high level of satisfaction and this was further increased over the course of the year with over 90% of students stating that they sometimes/regularly enjoy maths lessons and problem solving in particular. There was a 10% increase in the use of collaborative learning in the classroom and this should remain a key target for development in this coming year (currently 59%). This can be addressed in the style of problem selected for 'Problem of the Week'. It is clear that there has been good development in student reporting and verbalising of their work in problem solving (35% of students report that they now do this on a regular basis). One noticeable area which still needs attention is the formal teaching of different problem solving strategies and this will become a key area of focus in the coming year.

Based on the reported student findings and feedback from PDST Cuideathóir the targets were reviewed and refined for further development. At the beginning of this academic year staff reviewed the action plan to reflect these targets.

Targets

In general terms the targets have been refined to allow for more specific assessment of results at the end of the year. The measurement and assessment of these targets is detailed below in the Action Plan.

1. Increase in average problem solving scores on Sigma-T tests on scores of tracker pupils at each class level (1st to 6th).
2. Increased utilisation of formal problem solving methodologies (to be assessed by teacher observation, evidence in student copies and annual pupil survey in June).
3. Pupils will report an increase in collaborative learning (annual pupil survey in June).
4. Pupils will report greater integration of mathematics into other learning settings (annual pupil survey in June)
5. Pupils will report increased use of ICT in mathematics (annual pupil survey in June).

ACTION PLAN

| Required Actions: | Person Responsible | Timeframe | Success Criteria / Measurable Outcomes | Review |
|--|--------------------|--------------------------------|---|-----------|
| Formal staff agreement in problem solving strategies. (Target 2) | | Staff meeting Oct 2015. | Record of decisions made in minutes of meeting. | |
| Class teachers implement strategies in whole class discussion (Target 2) and collaborative solving of problem of the week (Target 4) . | All class teachers | November– Jun. | Pupil questionnaires Classroom displays including wall chart showing agreed problem solving strategies | End Yr. 2 |
| During team teaching pupils will work collaboratively to solve word problems. (Target 3) | LSRT team | Sept to June | Pupil report at end team teaching session. | End Yr. 2 |
| Review bank of suitable word problems for problem of the week. (All targets) | All class teachers | November | Shared bank 35-40 problems + additional problems by strand stored in teachers folder by class level | |
| All pupils will participate in a Maths trail to further develop maths outside of the classroom (Target 4) | All class teachers | Nov. – Jun. | Teacher records | End Yr. 2 |
| Maths Problem Board will be created. Maths Blog will be used during Maths Week 2015-16. (Target 4) | Denise | During Maths week until Easter | Display | End Yr. 2 |
| Instructions on Mathletes/ Khan Academy / Mathletics Apex maths. (Target 5) | JW | Oct | | |