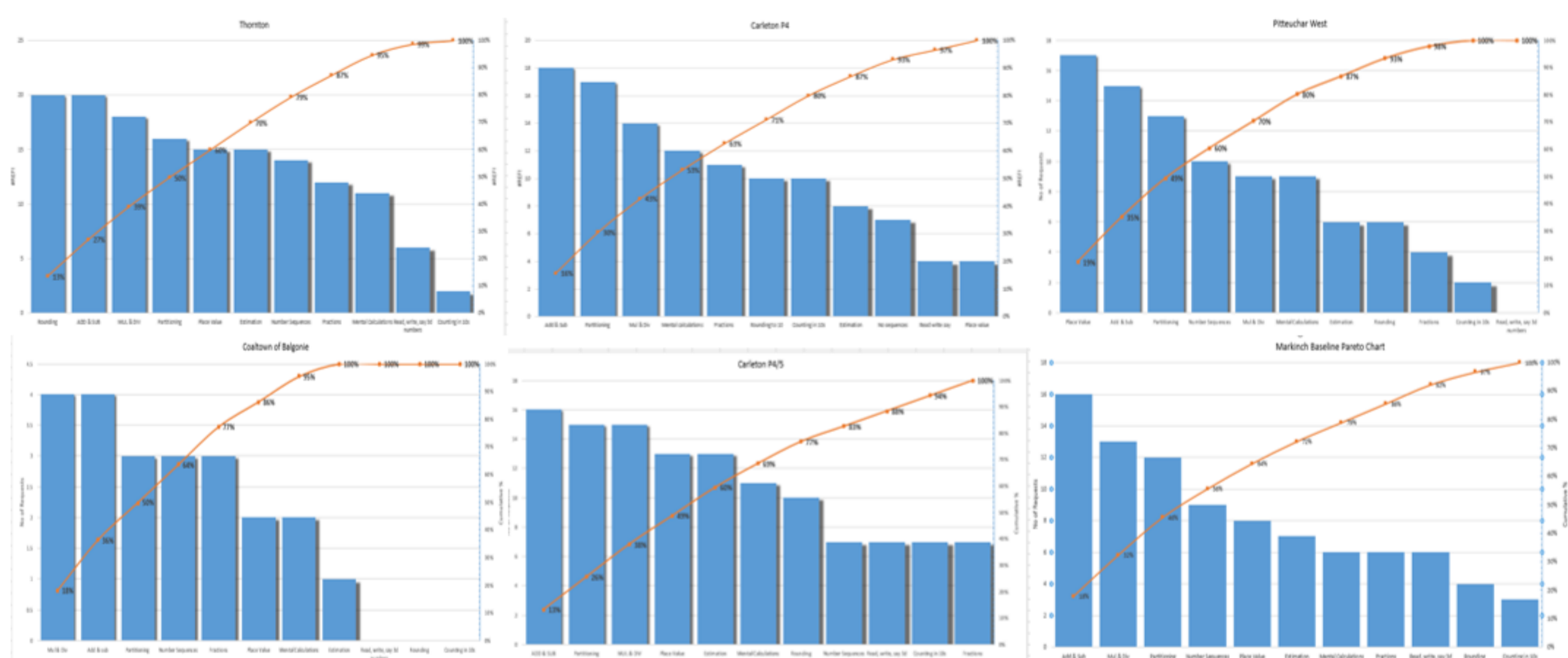


Aim: By June 2020, 85% of pupils within Auchmuty cluster primary schools will have achieved CfE first level numeracy outcomes (baseline* 0%) *baseline from Conceptual Numeracy Assessment 1b

Method

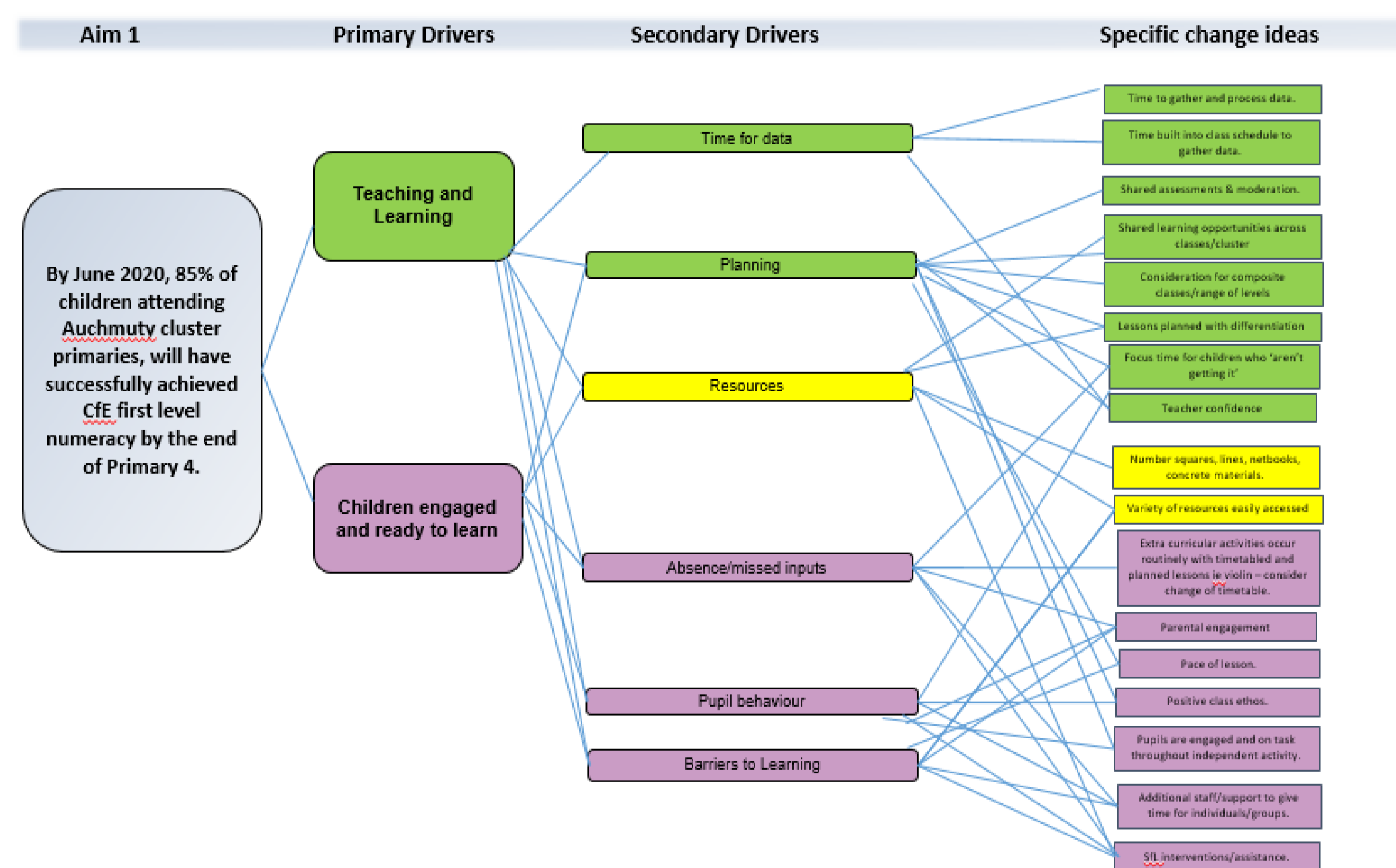
Deteriorating attainment levels in numeracy across Auchmuty High School highlighted the need for an intervention strategy to be implemented across the feeder primary schools to improve the basics in numeracy at an early stage.

Each involved primary school carried out a conceptual numeracy baseline assessment with their primary four class/classes, the results were used to create a pareto chart for each class identifying the main area's of difficulty.



Process Change

Using Quality Improvement tools, including a cluster Driver Diagram, the teacher group engaged in professional dialogue to identify the route causes for the low attainment and barriers to learning across their classes.



Effective Change Ideas

- Daily (where possible) numeracy practise with the full class.
- Teacher input to start numeracy topic modelling each concept with time spent on input gradually scaled back as child confidence and knowledge increases.
- Child involvement throughout the lesson from generating the change ideas and success criteria, involvement in data collection and analysis.
- Planning documents created using the conceptual numeracy guidelines, framework and the CfE experiences and outcomes giving the teachers a more robust planning tool to use alongside existing school documents.

Achievements

Carleton P4

Aim 1 – within 5 academic days, 100% of the class were able to partition 3 digit numbers. (Baseline 32%)

Aim 2 – within 4 academic days, 96% of the class were able to answer a variety of addition and subtraction word problems. (Baseline 33%)

*Currently working on third aim to problem solve multiplication and division problems.

Carleton P4/5

Aim 1 – within 6 academic days, 100% of the class were able to answer place digit questions within a given 3 digit number. (Baseline 37%)

Aim 2 – within 13 academic days, 95% of the class were able to answer a mixture of addition and subtraction word problems. (Baseline 33%)

Aim 3 – within 3 academic days, 96% of the class were able to partition 3 digit numbers in a variety of ways. (Baseline 46%)

Aim 4 – within 5 academic days, 96% of the class were able to solve mixed multiplication and division problems. (Baseline 37%)

*Currently working on aim 4 to understand and complete number sequences.

Thornton PS

Aim 1 – within 7 academic days, 92% of p4 children were able to round 3 digit numbers successfully. (Baseline 31%)

Aim2 – within 16 academic days, 92% of all primary 4 children were able to solve complex addition and subtraction word problems. (Baseline 31%)

*Currently working on aim 3 to solve multiplication and division problems.

Pitteuchar West PS

Aim 1 – Within 16 academic days, 89% of the class were able to answer questions on place value using 3 digits (Baseline 23%)

Aim 2 – Within 16 academic days, 100% of the class were consistently answering a variety of addition and subtraction word problems and writing a matching number sentence. (Baseline 32%)

*Currently working on third aim to partition 3 digit numbers.

Coaltown of Balgonie PS

Aim 1 – within 18 academic days, 100% of the children were able to round solve multiplication and division word problems. (Baseline 63%)

*Currently working on second aim to problem solve questions on addition and subtraction.

'Involving the children in generating clear success criteria and analysing the data with them has improved their confidence and attainment.' (teacher)

'MfI was daunting to start with but once I was in a routine, it was less work and I am more confident in reporting each child's ability in numeracy.' (teacher)

Conclusion

- Daily focus on numeracy, children generating success criteria and children setting individual targets has demonstrated improvement in specific areas of numeracy.
- Sharing and analysing the data with the children has driven their motivation and enthusiasm to achieve the outcomes.
- This approach has generated excitement and momentum within the classroom, which has contributed to improvement gains over and above the specific changes introduced.
- Teacher confidence in planning and delivering numeracy lessons has increased.

Next Steps

- A new project is in the initial phases with primary seven classes across the cluster aiming to improve numeracy attainment.