re(Solve) MATHS BY INQUIRY Sports Stats

Y 4

Summary of learning goals

- Students recognise variability in a dataset and develop an understanding of 'average' as being the equal distribution of data.

Australian Curriculum: Mathematics (Year 4)

ACMSP095: Select and trial methods for data collection, including survey questions and recording sheets.

ACMSP096: Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data values.

ACMSP097: Evaluate the effectiveness of different displays in illustrating data features, including variability.

Summary of lessons

Who is this sequence for?

- It is assumed that students have collected and analysed data in previous grades. Students also require an understanding of division as an efficient way to fairly distribute a collection between multiple groups.

Lesson 1: Sports Stats

Students explore statistical questions involving numerical data to develop an interpretation of the mean and to begin to explore quantifying variability in data, within the context of sports results.

Australian Academy of Science

Reflection on this sequence

Rationale

The *Guidelines for assessment and instruction in statistics education (GAISE)* report emphasises a statistical problem-solving process that involves: (1) formulating a question that can be addressed with data; (2) collecting data to address the question; (3) analysing the data; and (4) interpreting the results. This sequence uses this process to introduce the concept of 'fair shares', otherwise known as an average or mean. Students are asked to answer statistical questions involving numerical data. This allows students to explore the ways in which they might quantify variability within a given dataset.

reSolve mathematics is purposeful

- The lesson builds students' understanding of data variation as they are asked the ways in which they might quantify variability in a dataset.
- The context of sport often uses 'averages' and is easily accessible to students.

reSolve tasks are inclusive and challenging

- The collaborative, hands-on nature of this task provides access for all students.
- Students are asked to draw conclusions of varying complexity based on the data presented.

reSolve classrooms have a knowledge-building culture

- The task is completed as a class, allowing students to learn from others' contributions. This allows students to build on the collective knowledge of the class while also extending their individual understanding.

Acknowledgements