

AMSP Professional development videos: Technology

Aims of the session

- To encourage teachers to reflect on their own practice and explore how technology could enhance the learning of their students.
- To provide teachers with the opportunity to create and share useful resources that can be trialled in future lessons.

Resources needed

- A projector for showing the videos.
- Individual/pair teacher access to a computer with graph drawing software, such as GeoGebra, Autograph or Desmos.

Introduction

The first two videos in the technology series demonstrate teachers using dynamic graphical software to illustrate properties of quadratic functions. Discuss examples of where you currently use graphical technology in your own teaching.

Now watch the two videos. After watching the videos you might like to continue the earlier discussion by considering the following questions:

- In what ways did the use of the software enhance the students' learning?
- What are the specific advantages of using graphing software to introduce this topic, as opposed to a more traditional whiteboard/textbook approach?
- What problems might be faced when using such an approach with our own classes, and how could they be overcome?

Individual/pair work

List as many teaching topics as you can think of that might benefit from graphing software. It is probably advisable to start by considering broad topic areas, before narrowing down to specific individual topics/lessons, for example:

Polynomials > Quadratics > Location of vertex and line of symmetry

Graphs of functions > Transformations > Stretches parallel to the axes

As a group, share your ideas and identify the topics that most often cause students problems due to misconceptions or difficulty in visualisation.

Main task

In pairs, select one of the topics that has been identified as a common problem area. Produce a prepared file that could be used to illustrate the key concepts in a visually engaging way and save this in a shared user area. Consider factors such as line thickness/colour, font size and screen clutter, to make sure that the file is attractive and easy to follow. Aim to include control variables/sliders that will make the file easy for a teacher to operate.

If you have time, formulate a list of useful questions for the teacher to ask the class during the demonstration, and attach these to the file.

Sharing resources/next steps

Each teacher/pair should present their file to rest of the department, with a short demonstration of how it might be used.

In a future meeting revisit the saved files and share feedback on their use; could any be developed further, or have any additional files been created since the initial training?