

# Spheros in the classroom

**Eleni Kyrtsis**

***Students will be designing and creating code to direct the Sphero while connecting, communicating, collaborating, problem solving, testing, failing, and iterating – all key characteristics of 21st century learners***

**A**s teachers we need to provide our students with opportunities to learn how to learn, supporting them to find and solve problems. Our role involves developing learners for many jobs that are yet to exist. The critical question we must ask as educators is – How might we best prepare our students for their future?

There are many tools, resources, and applications that can be used to enhance student learning and develop their lifelong learning skills. The Sphero is one of these, it is amazingly versatile and will engage and empower your students. A tennis ball sized robot connected via bluetooth to a mobile device, the Sphero can be used to transform teaching and learning across various curriculum areas.

The Sphero can roll at a speed of up to 7km/h in any direction, spin, flip, and change colour. Using a range of Apps, students can accurately direct the movement of the Sphero using code.

Creatively designed lessons incorporating Spheros can develop many of the attributes we want for our learners. Students will be designing and creating code to direct the Sphero while connecting, communicating, collaborating, problem solving, testing, failing, and iterating – all key characteristics of 21st century learners.

## **Some of my favourite lessons using Spheros**

### *Mathematics – Shape and Angle investigation*

#### ***Tickle App***

- On paper, students create and sketch a 2D shape showing their knowledge of angles
- Using masking tape, rulers, and protractors, they recreate their shape on the floor
- Students connect the Sphero to Tickle, and use code to direct the Sphero to follow the masking tape shape.

#### ***Skills students develop***

- Coding using block code
- Percentages, Angles, Measurement, Time, Distance, Speed

### *Mathematics – Data, Measurement, Mean, Median and Mode*

#### ***Tickle App***

- The Sphero can be used as a variable to collect data, recording the time it takes to complete a task.
- Using masking tape or cones, students can record the time it takes the Sphero to follow a course.
- Using different speeds, students can measure the distance the Sphero travels in a set time.
- The Sphero is waterproof, so students can record the time it takes to travel through water. Rubber bands can be added to increase friction and alter results.

#### ***Skills students develop***

- Coding using block code.



- Percentages, Angles, Measurement, Time, Distance, Speed
- Data, Analysing data, Mean, Median & Mode

### *Angles – Mini Golf*

#### ***Tickle App***

- Students design a mini golf course
- Using Tickle, they direct the Sphero to each hole in as few code directions as possible
- They can analyse the data from the game and calculate the Mean, Median and Mode for each hole of the course.

#### ***Skills students develop***

- Coding using block code
- Percentages, Angles, Measurement, Time, Distance, Speed
- Data, Analysing data, Mean, Median & Mode

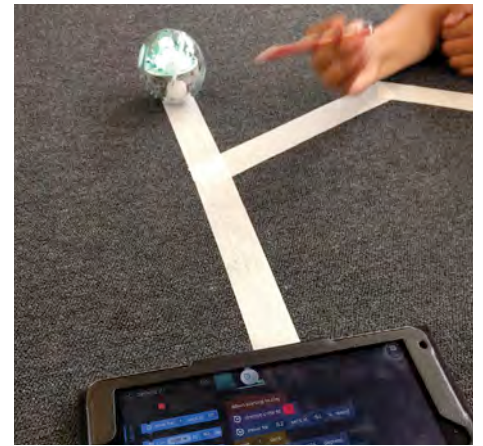
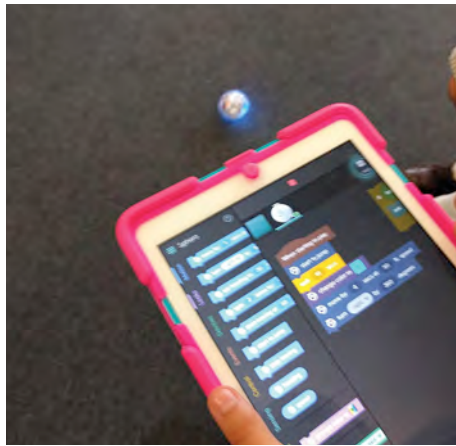
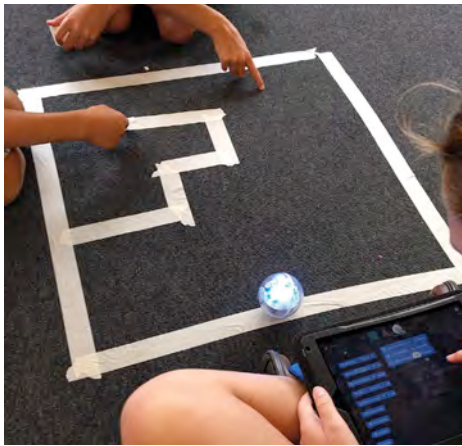
### *Language*

#### ***Tickle App***

- Students design and create a plastic cup character that can be placed over the Sphero
- They create a story line and move their cup character to retell the story

#### ***Skills students develop***

- Art, Design
- Storytelling, retell skills descriptive language, character development
- Plot, storyline



### *Sphero Art Tickle App*

Using Tickle, Students dip the Sphero into paint and then place it onto a large blank canvas (wipe the Sphero clean after each use using baby wipes).

### *Tickle App*

Students can code shapes and images

### *Draw & Drive App*

Students can draw an image on the iPad screen which the Sphero will follow.

### *Skills students develop*

- Art, Design
- Percentages, Angles, Measurement, Time, Distance, Speed.

## ***Incorporating the Sphero into my lessons has increased my students' love of learning and is teaching them critical skills for their futures***

If you are participating in Sphero Art, my students would love to see your classes creations please share via [bit.ly/spheroart](http://bit.ly/spheroart)

The use of Spheros in your classroom will enhance your students' enthusiasm and engagement. While developing attributes of 21st century learners, students will continue to problem solve until they achieve success and their achievements are celebrated with cheers of delight. Incorporating the Sphero into my lessons has increased my students' love of learning and is teaching them critical skills for their futures.

### **About the Author**

Eleni Kyrtis is the IB PYP teacher at an independent school in Melbourne, Australia. She is a Google Certified Trainer, Google Certified Innovator, Hapara Certified Educator, the host and founder of TechTechPlay, and the creator of The Genius Hour Fair. She is the Digital Learning and Teaching Victoria Educator of the Year.

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## **Software monitors health and wellbeing**

**B**risbane based SMG Technologies has introduced Baseline, the first product available to offer the ability to tap into the same technology used by elite sporting professionals and large international colleges.

Baseline centralises communication tools, notifications and data from any source on staff and student health, wellbeing, training and performance. XELA, a predictive analytic engine collates, monitors and analyses the information and provides trends and changes in wellness, health or injury or behavioural patterns. This allows staff to be alerted to any issues, potential injuries or health concerns as well as saving valuable time with communicating and coordinating across large student numbers and sporting codes.

The Baseline platform can integrate with current school systems. Students, athletes and staff can access the mobile tool and update up to 22 Baseline metrics including sleep quality, fatigue, motivation, appetite, injury related variable and stress levels for that day.

Daily results are securely protected and alerts and trends sent to authorised support staff in real time to warn of individuals at risk of injury or under physical or mental pressure.

The importance of monitoring stress, sleep, nutrition and overall wellness was demonstrated by an initiative of SMG Technologies research and development team, which focused on the



*Dual sport champion, Ellyse Perry and PLC students*

general health and welfare of over 130 young Australian student athletes and school captains in correlation to their performance, both on the field and academically.

Results showed students who slept less than the recommended eight hours were more likely to suffer from stress, fatigue and a decrease in motivation and nutritional choices. In addition, the research showed too little sleep is linked to a decrease in academic focus and an increase in

injury during training or competition.

NSW independent girls school Pymble Ladies College has been using Baseline since May to monitor the health and performance of students. Dual sport champion, Ellyse Perry and SMG sport science expert Naomi Wallis trained the students on using the mobile solution at a recent educational workshop.

[www.smg-technologies.com](http://www.smg-technologies.com)



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