# Applying an Interactive Learning Style to Teach Programming Fundamentals Through a Familiar Activity

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## OUTREACH

- Students in TAP develop an educational technology demo for students while creating interactive workshops to display a project that promotes interest
- Super Saturday- demo to middle school girls
- TAP expo: We showed a demo of our project to get entry-level IT students involved

## OBJECTIVE

Use the Sphero technology to introduce beginner programming fundamentals to participants with basketball-themed obstacle courses and **engage** them . Diversity , Workshops, (TAP words)

## TECHNOLOGY

Figure 1: Sphero

We used a device called **Sphero** which uses block code to program the **robot** and engages participants to learn fundamentals of programming in a fun way. In the block code, you can form if-then statements,loops,and other basic **algorithms**. The technology uses blue tooth and can be operated from both **mobile** devices as well as computers.

## DEMONSTRATIONS

For the classroom workshop we developed a presentation to focus on spreading interest in **Information technology**. We taught two conditional statements, loops and if/else.

Figure 2 : Figure 8 challenge at S3

Figure 3: Students make their own obstacle course in classroom workshop.

## DATA / OBSERVATIONS

- 85% of participants in the free throw challenge gained, or already have a interest in Information Technology.
- Participants quickly adjusted to Sphero's controls and each trial was completed quicker.
- Students enjoyed **competing** against one another to see which team could program the best obstacle course

## RESULTS

Figure 4 : Pie Chart displaying Pre and Post survey over the understanding of Loops and If/Else Statements.

Figure 5: Nikki working with middle school girls at S3

## ACKNOWLEDGMENTS

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