

A close-up photograph of a LEGO Technic robot, likely a Mindstorms NXT or similar, with various black, grey, and red components. The robot is positioned on a light-colored surface. The background is slightly blurred, showing more of the robot's structure.

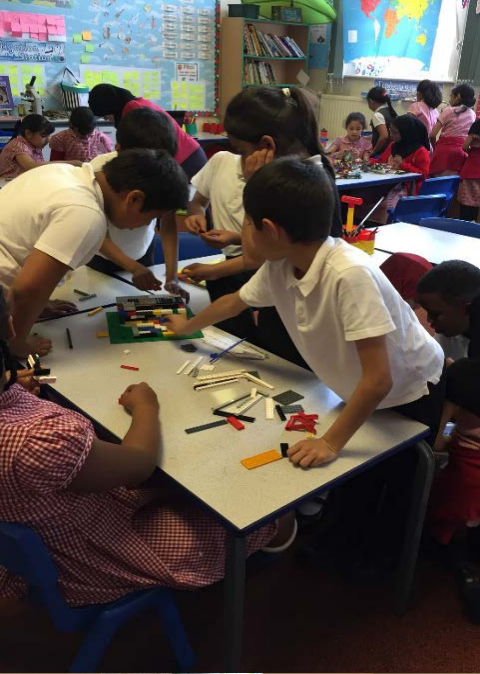
MANCHESTER
1824

The University of Manchester

Tinker Tailor Robot Pi

Exploring a Signature Pedagogy for Engineering in Primary Schools:

Learning together with teachers and engineers



What happened?

- Embedding with existing school ethos and developments
- Visible tinkering through dedicated areas and themed curriculum weeks
- Staff Professional Development
- Engagement with the local community/parents
- Enrichment: lunchtime/after school engineering clubs
- University links: visits from 'engineering heroes'



What was the impact on teachers and teaching?

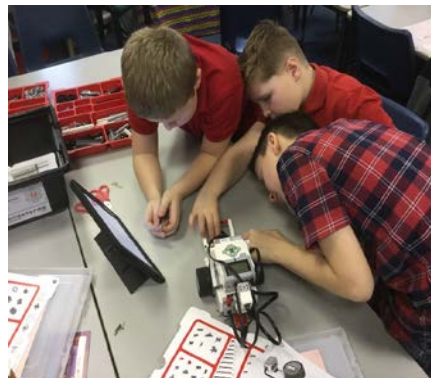
- Playful with Purpose - teaching through investigations
- Challenge – setting higher aspirations
- Autonomy - for teachers and pupils
- Modelling to mastery – teachers demonstrating how learn with and from each other



Gliders



Model Tipis



LEGO
MindStorm



Ballistas



What was the impact on learners and learning?



- Independence and Curiosity

Less spoon fed learning, more self initiated drive and vision

From being given resources to choosing resources.

- Failure = Learning
Progress develops from adapting and refining
- Open mindedness
Right ways and better ways.



- Collaborative Teacher mentors to peer mentors.
- Outcome focused Knowledge based to a functional or skill based.

Whole School Impact

The rich curriculum and excellent provision are strengths of the school.

Skills are extended and developed across the curriculum to give meaning and purpose

Attainment has risen and progress has accelerated.

Good teaching provides imaginative experiences and activities capture pupils enthusiasm for learning so that they flourish in this vibrant learning environment.

OFSTED, March 2016



Residing question

Can a 'Millie Measure' be developed that provides authentic evidence for accountability?



fascinate

What is the role of school leaders in pioneering authenticity learning for engineering?

BELONGING
COPING

LEARNING
CORE SELF

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