

Effective professional development to enhance the teaching of Design and Technology: An on-going small-scale research study

Introduction

- High-quality Design and Technology (D&T) education is crucial for primary school pupils (DATA, n.d.).
- The EEF state that professional development (PD) is a vital tool for maintaining high-quality teaching in primary schools and improving pupil outcomes (Collin & Smith, 2021).
- The National Curriculum (NC) in England and Wales states hands-on and creative D&T learning for children in Key Stages 1 and 2 (DfE, 2013).
- A local authority (LA) in an outer London borough operates online network meetings for D&T. Initial formative research indicates that teachers still lack confidence and have limited skills and knowledge for effective D&T teaching.
- St Mary's University and the LA invited teachers to participate in face-to-face D&T PD workshops.
- Research from Collin & Smith (2021), has helped to support the designing and delivering of D&T PD workshops in order to help enhance the teaching of D&T.

Contact

Janine Pavlis: Lecturer in
Primary Education

janine.pavlis@stmarys.ac.uk



Objectives

- Identify current challenges teachers face in effectively teaching D&T.
- Assessing confidence levels regarding different skills and knowledge of primary D&T.
- Explore and investigate various pedagogical strategies to be incorporated into PD to improve D&T teaching.
- Evaluating research about existing PD opportunities and how they have enhanced teachers' capabilities when teaching.
- Assessing the impact of teachers' learning from participating in the PD workshops by collecting teacher feedback and observing the impact the PD has had on their teaching ability.
- Explore more ways to disseminate best practice in order to share successful PD models.

Methodology

- Mixed methods approach
- An online survey gathering participant feedback on confidence.
- A short questionnaire and semi-structured interview regarding the St. Mary's University-led in-person PD workshops.
- Teacher observations offer insight into the effects of PD workshops.

Results

- Existing challenges underscore the KS2 NC objectives: children's understanding of computer-aided design and computer programming within the design process.
- 100% of teacher participant highlighted 'not confident' regarding the utilization of CAD and programming for aiding product design.
- 89% of teachers stated that the D&T PD workshops were 'extremely effective'. Based on Collin & Smith (2021) Mechanisms for Effective PD, teachers highlighted all four areas as being successful after PD workshop.
- Figure 1 illustrates the key words and phrases from the questionnaire that highlight the reasons for the effectiveness of the PD workshops.
- Three teachers have purchased programming equipment. Future D&T action plans include the use of CAD and programming.

Recommendations and Next Steps

- Evaluate the impact of teachers' engagement in PD workshops by observing the teaching of CAD or computer programming within D&T lessons.

- Continue PD research in order to maintain high-quality teaching in primary D&T.
- Continue to refine and offer PD opportunities for the LA, based on feedback from teachers and impact of previous PD workshops.

Figure 1



Reference List

- Collin, J., & Smith, E. (2021). Effective Professional Development. Guidance Report. *Education Endowment Foundation*.
- DATA (n.d.). *Primary Design and Technology*. <https://www.designtechnology.org.uk/for-education/primary/>
- Department for Education. (2013). *The national curriculum in England: KS1 and 2 framework document*. Available at: <https://www.gov.uk/government/publications/national-curriculum-in-england-primary-curriculum> (Accessed: 4 September 2023).