

## Chapter 5

# APU DESIGN & TECHNOLOGY

### *Why you might find this project interesting*

*This chapter marks the origins of our research activities in TERU, and the challenge was enormous. The well established ‘light sampling’ methodology of the Assessment of Performance Unit (like the National Assessment of Educational Progress [NAEP] in the USA) required two conditions that – on the face of it – ran counter to all the traditions of assessment in design & technology.*

- *Test time was limited to 1 hour, whilst normal ‘authentic’ design projects typically stretch over days, weeks and months.*
- *We were never to see the teachers or the learners. The tests were to be packaged so that they could be sent by post to randomly selected schools, unpacked by the teacher, and administered ‘cold’ to a randomly selected group of learners.*

*Despite these challenging conditions, we were determined NOT to create just another written test. We would create test **activities**. Meaningful designing activities that would probe the **capability** of learners.*

*We describe here how – over 5 years – we developed the instruments, conducted pilot and national surveys, trained assessors, analysed learner performance against variables (such as gender and curriculum experience) and created the first comprehensive database of learner capability in design & technology. And in the process we reconceptualised the nature of performance and modeled the impact of learning and teaching.*

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## 1. INTRODUCTION

This chapter draws heavily from the text and the images in the final report that we prepared at the conclusion of the *APU Design & Technology* project (Kimbell et al., 1991). The last copies of that report have long since been distributed, and because we continue to receive requests for it, we are in the process of recreating it in pdf format on the TERU web site. What follows in this chapter might be seen as some of the edited highlights of that report.

## 2. CONTEXT

The Assessment of Performance Unit was a research arm of the DES, and it was established in 1975 to survey and monitor levels of achievement in schools. In the decade to 1985 there was a gradual shift from monitoring, towards supporting curriculum development through an increasing focus on understanding what enhanced or blocked learning – and it was in this climate that *APU Design & Technology* was launched.

The case for an APU survey in Technology was first proposed in 1979 and in 1980 the DES created a Working Party to consider the assessment of design and technological abilities. In 1981, it published a discussion document ‘Understanding Design and Technology’ (Assessment of Performance Unit, 1981). The group had been set three interrelated tasks:

- Identifying those aspects of an understanding of both design & technology most likely to be reflected in primary and secondary schools
- Considering when and where abilities in design & technology appear in the school curriculum
- Suggesting how these aspects of learners’ development might be assessed

In addressing these tasks, the group defined design & technology in terms of skills, knowledge and values. It identified four constituent categories of skills (investigation, invention, implementation and evaluation) and saw knowledge lying in three groups of technological concepts (control, energy and materials). It drew attention to four areas within which values might be assessed (technical, economic, aesthetic and moral). It made two additional points in relation to assessment in this area.

First, the acquisition of an understanding of design & technology **by** a child, and the detection of that understanding **in** a child, are contingent on the child’s engagement in purposeful and comprehensive activity.