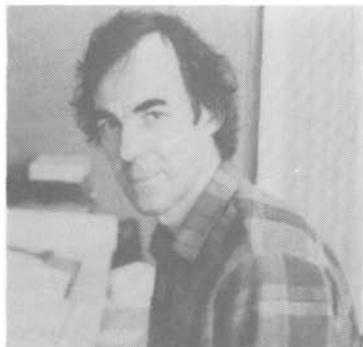


INTERACTING WITH DESIGN STUDENTS

Bryan Dale



Bryan Dale is a senior lecturer in Technology in the School of 3D Design at Gwent College of Higher Education. He trained as an industrial designer at the Royal College of Art, London, before working on a United Nations funded R&D project on renewable energy. He and his students are currently involved in developing working exhibits for interactive science and technology centres in the UK.



Bryan Dale (facing camera) with students from Gwent College of Higher Education.

This chapter is written as a result of the fascinating experience of supervising some of my design students working on projects for both the Bristol Exploratory and Cardiff's Techniquest. Many design staff have the somewhat frustrating task of helping their students to work on interesting design projects which they themselves would like to get their hands on, and I have been lucky to be able to have a go myself.

I have been surprised to find that, despite the wide range of two and three dimensional design courses around the country, to my knowledge very few other colleges have, as yet, been actively involved in this exciting newly emerging area of design. It may well be because it is too multi-disciplinary or maybe because of a reluctance to get students committed to real outside projects. Probably because of my background, being trained as an industrial designer and having been involved in a range of research and development projects prior to coming here, I see immense potential benefit to students working with and for external organisations, as long as the educational context is right.

As well as having many different connotations to those in the museum or interactive centre world, interactive or informal learning projects as design college activities will be viewed from many different positions.

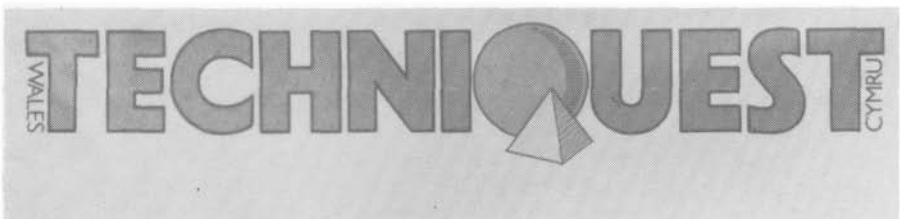
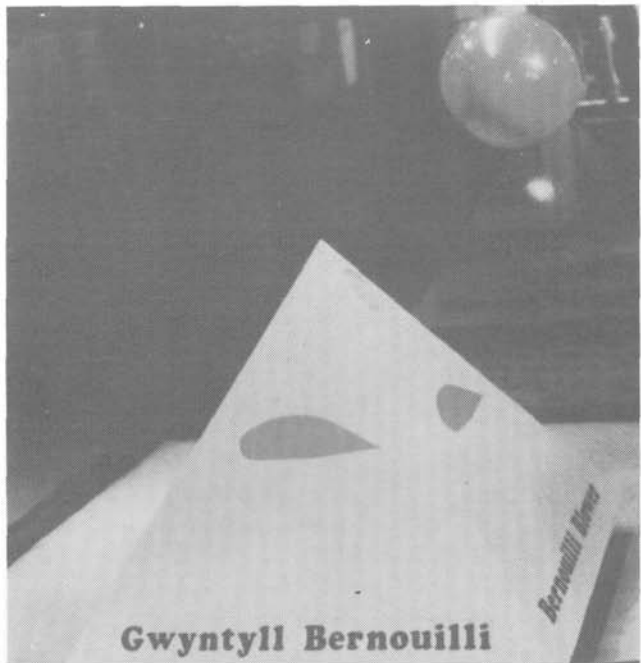
The interactive centre may well regard design colleges and students as sources of innovative and inexpensive exhibits. This can be true, but it does rely on a close working relationship with both students and staff, and plenty of time. Design departments do have the necessary workshop equipment and experience in dealing with a wide range of materials. Most departments still, however, tend towards producing design concepts, using scale or full size presentation models backed up by drawings, with the intention of demonstrating the feasibility of an idea rather than realising a working device. This is how many in the design world still see the role of the 3D designer. Changes are happening though and, surprisingly maybe, some school sixth form departments may be better suited to producing working designs, particularly if they are following a Craft, Design and Technology approach.

As with any students' project, optimism must be tempered with realism, as the end result, while hopefully educationally valid, may not actually be usable in a public show. The bonus is that external centres can be sure that someone will come up with something that they had never even thought of. Some students might exhibit a resistance to suggested

design modifications. Do not worry, this is a common condition and often springs from an unrealistic attachment to the concept of 'my work'. Subtle but persistent hints that other people's opinions must be involved in the process if the design is to actually be produced usually work in the end.

A lot depends on the ability of the interactive centre to play a part in developing a usable design brief. They may not have had previous experience of dealing with 3D designers, and the development of such a brief can require time and effort on both sides. This can be time well spent though, particularly if the centre is prepared to risk time and materials in the hope that something useful will emerge. A useful safeguard is the fact that most design projects pass through fairly well-defined phases. Usually there will be a point, fairly early on in

The Gwent College version of the Bernoulli Blower made for Cardiff Techniquest was inspired by their logo.



the project, at which design concepts are submitted for evaluation. This can take the form of experimental prototypes, drawings and sketch models which can be produced fairly inexpensively, and a broad indication of likely costs and timescales.

Good 3D design students have many skills appropriate to producing effective exhibits. They have an ability to analyse complex 3D problems, innovate, draw and model three-dimensional objects, and use a variety of materials and processes. When motivated by the prospect of their work going on public show they are capable of an enormous amount of sustained effort. My own students treated the end of term as if it hadn't happened and worked on until their projects were completed. However, they do have to be given



'Seeing Stress' shows stress patterns in plastic as revealed by polarised light. Students took the basic phenomenon and developed this exhibit for the Exploratory and Techniquest.

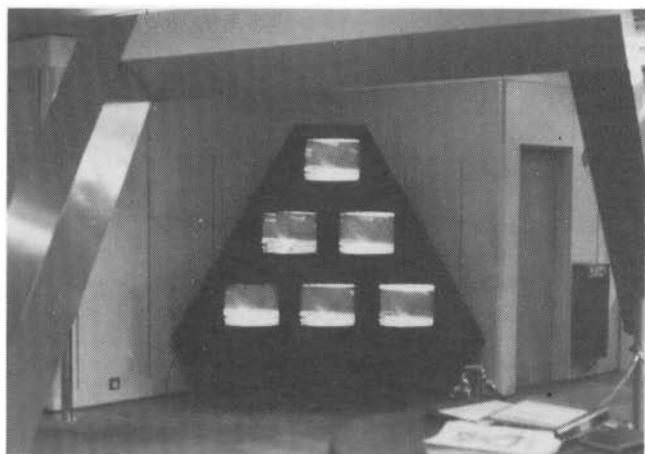
the feeling that their work does matter, and some might well need reassurance that this kind of activity will enhance the prospects of a good qualification. This comes back to the question of design staff and external bodies thinking the project management through. Students do not like being the subject of an experiment however interesting it may be to the staff if they feel that the nature of this kind of work is taking them away from what they regard as the central design activity.

It is essential, though, that students are encouraged to produce an actual prototype which can demonstrate the natural or man-made phenomena involved. With the tendency of some courses to work towards presenting concepts only, many mistakes can be made in simple assumptions: this motor will run at the right speed, that light will be bright enough, the proposed structure won't wobble alarmingly, and most important of all, the phenomenon does work and is actually presented in a form that will stimulate and arouse curiosity.

There is a huge potential for Graphic Design students to play a part in developing captions, labelling and overall presentation. But there is an as yet undefined art involved in presenting something that invites the interactive participant, of whatever age and background, to get involved. Distilling the essence of an exhibit into a succinct few words, diagrams and drawings, and presenting it in an approachable form, requires the kind of skills that many graphics courses are actively developing in their students.

The most likely problem area between college and interactive centre is that of conflicting timescales. Design departments have their own constraints in that they operate from term to term and academic year to year, with sometimes a required number of projects to be completed by the students in a given time. They have their own assessment structures which usually require projects ending at specific times for assessment and criticism. Interactive centres, particularly if just starting up, often have their own very pressing time-scales for planned exhibition dates that might well not coincide with the college's sense of timing. If the staff are not too well aware of the particular design and publicity requirements for interactive exhibits then this can lead to problems when it comes to the completion and assessment of student coursework.

Questions of material supply shouldn't present too much of a problem for those familiar with creative accounting, assuming of course that the external centre is prepared to



Cardiff's Techniquest uses the 'Impossible Triangle' illusion as an entrance arch. The student who was assigned to the project worked out the best way to implement the basic idea.



supply the necessary materials. It may appear from the outside that design departments must have masses of spare material as they obviously use lots of it. Budgets have shrunk, money is tight, and many students spend a great deal of their own money on materials for their project work. Wherever possible, materials and components should be identified sufficiently in advance for the external centre to acquire and get them to the college. Some colleges might well have unwieldy finance offices, and it can be difficult, if not impossible, for an individual department to receive reimbursement for materials they might have supplied as part of the project. In such cases it is always possible to resort to some form of medieval barter, avoiding altogether the problems associated with money and accounts.

The most powerful weapon the interactive centre has is the potential for good publicity. Colleges, not surprisingly, love it. And as long as the interactive centre can assure the prospective college of its credibility, most effectively done by having a sprinkling of eminent academics among its organisers, then many colleges will be happy to be associated as long as adequate credit is given.

When approaching a design department which has not been exposed to the perhaps eccentric form of enthusiasm that many of those involved in interactive ventures seem to exhibit, a clear professional presentation is necessary to overcome any potential reservations. A selection of photos and slides of the excellent work done at such places as Launch Pad, the Boston Children's Museum and the Ontario Science Centre will probably convince the doubtful. Both design department and interactive centre should bear in mind that they might not get exactly what they bargained for, but probably much more.