

The Journey through the Process of Designing

José Chambers
DTI Research Fellow
King Alfred's College, Winchester

Introducing the Author

As part of her role as DTI sponsored Research Fellow in the Department of Design and Technology at King Alfred's College, José Chambers has been observing our students at work with tutors.

Being an English graduate who became involved with Communications Studies thanks to an interest in problem-solving approaches, her perspective on our work has been very welcome for its freshness and clarity.

A group of our students has recently been studying design in action by visiting in pairs the design and product development departments of various companies. They have also had available to them the Design Council's two sets of videos, 'Designers Talking' and 'Living by Design', which give some excellent insights into the world of professional designers.

Concurrent with this they have been in the early stages of a year long major project. This stage will be familiar to any teacher in the field as a time of delicate negotiation which may be fraught with potential tensions and of great significance to a student's success on a course. We approach this in part by encouraging students to share their ideas with the rest of their group for mutual support and criticism. This of course exposes much of the conflicting pressures on them and depends for its success on the relationships within the group. As design activity often does.

At KAC we are committed to the idea that close study is vital to our growing understanding of the effectiveness of design as an educating process. It has been heartening to see that in the November 1988 Working Group Report on Design and Technology in the National Curriculum the lack of adequate research in this area has been recognised. In the following article José invites you to join in her research, looking through the window she has opened onto a group involved in design in education. Look in and reflect.

David Perry
King Alfred's, Winchester

The Journey not the Arrival

Travellers' tales are notoriously suspect. Designers' tales about their travel from intention to result, like most stories,

tempt the teller towards the grandiose. Often the journey is represented as strenuous and significant, a journey which tested ingenuity and intuitive wit to their limits. Thus the successful designer-traveller looks back on those journeyings from the standpoint of arrival and, with a forgivable hint of smugness, begins the story:

'This is how it was. This is how I got here.'

Listening to designers 'in collusion with the myth of their own omnipotence'¹ can be fascinating. It's not, however, the most helpful way to learn about designing. How do we find out about design journeys? What stories are most useful?

This article looks at the beginnings of one set of design journeys, not the journeys of great men, but of four learner designers: one woman, three men. It suggests ways in which these journeys, and others like them, might be recorded and how these records might be used as a helpful source for learning about designing, particularly by those whose records they are. These are stories told, not retrospectively from the standpoint of success, but concurrent with the journey, with all the uncertainties of those about to set out.

Picture the scene: a group of B.Ed. students preparing to undertake a major project and meeting for the first time to discuss the initial ideas they have formulated over the summer vacation. We concentrate on four of them, Paul, Tim, Sarah, Mike, in order to keep the story readable. You should also bear in mind the presence of a tutor, Peter. You could perhaps cast yourself in that role. There is also an observer, me. What follows is a selective, subjective tale of some of the talk which took place in that session. At the end of the tale, I list the design issues which seem to me to present themselves and indicate in brackets the phrases through which these issues might be further explored. My purposes in offering this tale are then discussed.

The first student, Paul, is invited to present his ideas. Paul starts by saying that 'the hardest thing for me was to find a problem'. He asked his Dad for ideas to do with yachting, his Dad's enthusiasm, but he 'just laughed'. So he was walking round a shop one day and

noticed a sofa bed. That reminded him of 'a problem that we have at home'.

The problem was how to provide somewhere for his brother, now left home, to sleep when he occasionally come to stay. Because Paul 'didn't really like anything I saw in the shops', he thought he'd like to 'find an article of furniture' which solved the problem and was not either 'horrendously expensive' or 'really tacky', 'unsightly really'. So he wanted to make 'an interesting chair' which converted into a bed. 'I tried to force myself to sit down and draw, because I felt I had to sit down and do something.' He shows us some of his drawings, which seem to echo very closely what is available in the shops, with the comment that he doesn't see himself 'breaking down the barriers of design'. He doesn't think he is 'that way inclined'. He can't really think of something 'weird and wacky'. He's not 'an abstract and weird person' and he would be 'stifling my personality if I went that way'.

Sarah asks 'Why does it have to be a chair?' Paul replies that it doesn't, 'I'm just calling it a chair at the moment'. He doesn't want it to be just a bed which folds up against the wall. He wants it to have a duality of function. He wants it to be 'an article of furniture', 'an appliance for someone to sleep on'. He also strays into defining its intended location as a 'teenager's room'.

Peter asks 'whose problem is this?' 'Well it's my problem'. Is it? We discuss whether it is in fact Paul's problem, his brother's problem, his parents' problem or that of people who live in small houses. We talk about what differences it makes. What is it he really wants to achieve? Is it a solution to the problem of where his brother sleeps or is he just wanting to make a more pleasing piece of furniture than that he has seen in the shops?

We discuss cost. How will Paul's artefact be measured against those commercially available?

Tim is next. He tells us that he wanted to make 'something useful'. He didn't want to make 'yet another toy'. So he had to decide: who would this be for? He located a school for the handicapped and visited them to discuss their needs, but found that most of these were for artefacts which were already available commercially. He shows us the

catalogues with their range of goods. He thought therefore of defining his user more narrowly in terms of a specific age range. The middle years did not seem to be very well catered for. He'd eventually thought of a standing frame, because the existing ones were 'really horrible'. Then the school had told him of the children's need to have some electronic vibration to the legs to provide stimulus for the muscles. So now he was working on a standing frame which would incorporate a pad on which the child could stand to receive this vibration.

We ask why the two concepts: standing frame and vibration, needed to be combined. Tim explains in terms of existing practices at the school. Is that necessarily the best way forward? Peter suggests a pair of vibrating trousers, a suggestion which leads to some mirth and speculation about other uses for the finished artefact. Why do children have to be standing up? Has Tim actually defined the problem precisely? Is there one problem or two? Does he need to take more specifically medical advice? Should he go back to the school and check what their needs really are?

Richard tells us that 'my problem came from a hobby as well'. His problem is the need to 'groove the body' in a specific way relevant to Karate and the fact that no existing multi-gym is specifically designed for this purpose. He also wants something that is knock-down and can be used in the home. Though the problem is defined for him by his own needs, he feels convinced that it is shared by other enthusiasts. The scope of his interest is so precisely defined and the area in which he operates is so closed to most of us that we feel inclined to take him at his word. Peter shares with him a word from the Karate vocabulary which suggests an inner knowledge. We move on.

Now it's Sarah's turn. The others have all spoken from their seats in the circle which we have formed round the coffee table. She moves into the centre of the group and sits cross-legged on the coffee table. Having surrounded herself with a paraphernalia of boxes and bags, she fishes out of one of them a remnant of a terracotta model, part of a foot and a hand. It is mossy and damp and still has spiders on it which she tries to rescue. She passes it round the rest of us, asking

us to handle it and consider the question:

'Do artefacts have anything else other than their materials?'

She tells us that the terracotta is a part of a model of someone dead, someone killed in a motorcycle accident. Sarah then tells a tale in answer to her next question:

'Can you design something that is so good that it "just stays" as an artefact?'

The tale takes us down a street in Newcastle, described in terms of its light and shape, to a window containing a white leather sofa, which 'just sits there wrapped up in itself because it knows it's perfect'. What she wants to make is something which has permanence, something which contains something of herself, preserves her for others. The personal, emotive basis of her thinking does not sit comfortably in this room. There's a sense of challenge, of incongruity. Is it this that produces from Sarah:

'I've got a problem that I'm not going to tell anyone about. I really don't like explaining things to people. The more I explain it, the more I realise I've already written it. It's all there in my books if anyone wants to read it.'

Sarah's tone alternates between the lyrical and the aggressive. She expects opposition. Paul says he knows what Sarah is talking about. Mike tries a different approach: it's a tutorial stance — tell us more so that we can help. We limp through, feeling for what needs to be said. Can you plan for permanence? Do objects have to be left to survive and collect their connotations haphazardly? Are we here in a world of intentions so personal to Sarah that no-one else is going to be able to take part in its evaluation? Challenged thus, she shows us what care she is taking. She gets out her photographs, shows us herself, sitting, trying to sit, shows us many chairs: 'I like the old ones. You can tell who has been sitting on them. You can tell that someone has used them.'

Again we have the idea of an object 'sitting there'. Being itself. It is not simply comfort she wants from this chair. 'Sometimes you buy a pair of shoes which are uncomfortable, just because they are beautiful!'

Mike wants to build a multi-purpose personal workstation. His motivation is 'personal need'. He wants something 'tailored ergonomically for me'. (He is six feet tall.) He wants it to have 'elegance and zest'. Existing workstations don't 'pull you in'. They are 'rather dry'. He apologises if this is 'a bit waffly', but 'aesthetic considerations are difficult to define'. He wants it to be 'an invitation to workmanship'; he doesn't want it to be 'bland'. Though he is making it for himself, he sees it also as having a market amongst 'designerly people'. CDT teachers perhaps. We talk about its setting; CDT teachers don't usually have offices. Are we talking about domestic furniture? Mike develops the idea of mobility, something that fits into the nomadic life he foresees for himself.

So, what are the points of this story? Why bother to tell it? Talk is one of the most powerful ways we have of sharing our understanding of the nature of our own experience; through talk we make meaning, give shape to events, confirm our sense of what world we inhabit. Through talk we define and represent back to ourselves what has happened, is happening, might happen. Unless we can find ways of hearing ourselves engaged in that process of defining, becoming consciously aware of how our vision of what might be is constructed, we are not really in a position to control our progress from intention to result. Giving students an ear with which they may hear their own talk, recognise the shape of the stories they tell themselves, is an essential concern of the teacher of design.

Even though designers often want to use non-verbal means of exploring their ideas, they also need to feel their way into making those ideas concrete through the kind of instant and provisional sharing which talk most readily provides. The Interim report of the National Curriculum Working Group on Design and Technology asserts that designers and technologists are engaged at some stages of their work in:

'literally a visionary activity, a mode of thought which is non-verbal.'²

'Drawing, diagrams, plans, models, prototypes and computer displays and simulations'² are of course crucial tools

for externalising this 'visionary activity'. But let us not undervalue talk as a uniquely tentative and flexible vehicle for the exploration of ideas. Those of us who are training the teachers of design who will manage Design and Technology in the National Curriculum need to be confident about giving status to talk as a design tool.

One way of moving in this direction is to require the group's talk to be recorded sometimes: to appoint someone as occasional chronicler of the group on its travels. Perhaps a fellow student. Perhaps a colleague. Perhaps it should be the tutor's silent role in the group from time to time. What gets recorded will be partial. It will not seem to be accurate to all who were present. Those differences of perception are themselves useful subjects for debate. However what will be achieved is a sense of the importance of the informal, exploratory stages of design travel and the creation of a 'thing' independent of the journey itself which can be listened to, looked at, separately. It belongs to the group, the group know it as theirs, were once inside it, yet it has been extracted from the stream of unobserved experience. The effect of doing this can perhaps be more powerful when there is a time lapse between the record being taken and the sharing of it with the group, so that by the time they see it they have gone further and can say, like travellers looking at old photographs:

'Were we really like that?'

The group can then have a hand in structuring an analysis of the talk, such as that offered shortly, identifying the issues, articulating responses to them, carrying those responses into the next stage of their designing. More talk, but talk taken a step further. Another way of achieving this necessary distancing might be to involve the group in representing their analysis of their own talk to a different set of students.

Consider how my partial record of the beginnings of a number of design journeys might identify and explore design issues. It provides a snapshot of some of the early dilemmas, giving a series of vantage points from which the complexity of the task can be viewed. From the standpoint of my own research, I would choose the following questions as useful ways into further

reflection about the experience of designing. Your choice might well be different. What matters more is the depth and quality of attention which results from this process: recording, observing what is recorded and then sharing an interrogation of that record.

So we could analyse the talk through this framework:

1. How do we find ideas? How do we find problems? What determines what those ideas/problems are? (*Dad, walking around, a problem that we have at home, why does it have to be a chair? just calling it a chair at the moment; something useful, not yet another toy; my problem came from a hobby as well, feels convinced, scope of his interest precisely defined, inner knowledge; someone killed in a motor cycle accident, a street in Newcastle, a white leather sofa in a window, I've*
2. Where do our value judgements come from? What weight should we give them? (*didn't really like anything, really tacky, unsightly really, horrendously expensive, weird, wacky; something useful, really horrible; so good it just stays, because it knows it's perfect, I like the old ones, you can tell that someone has used them, just because they are beautiful; elegance and zest, pull you in, rather dry, a bit waffly, aesthetic considerations — difficult to define, an invitation to workmanship, bland, designerly people).*
3. How do we get to believe in ourselves as designers? What do we think about 'designers'? Where do those

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judgements come from? How valid are they?

(felt I had to sit down and do something, breaking down the barriers of design, that way inclined, weird and wacky, an abstract and weird person, stifling my personality; something useful; wants me to make something which has permanence, which contains something of herself, preserves her for others; an invitation to workmanship, designerly people).

4. What difference does the client make?

(Whose problem is this?; the school had told him, why the two concepts, should he go back to the school; he also wants something, he feels convinced that his interest is shared by other enthusiasts, inner knowledge; something which contains something of herself, preserves her for others; personal need, a market amongst designerly people, domestic furniture).

5. What's the relationship between student design and commercial artefacts?

(more pleasing than in the shops; already available commercially; nothing specifically designed for this purpose; sometimes you buy a pair of shoes which are uncomfortable; CDT teachers don't usually have offices).

6. What are the sub-texts of design activity? How do they get defined? What are the safe areas which go unchallenged because they are familiar? Where do they come from? How do they get confirmed, reinforced? How can we avoid narrowing our perspectives? How can we keep our eyes open?

(Answering these questions in relation to this text would lead me to examine differences in register and tone: not just the things said, but the manner of their saying, not just that which is uttered, but that which goes unsaid. My guess is, though, that you could start to unpack the assumptions here, even without those clues. My hunch is that some of them are linked to gender, to the different kinds of discourse with which men and women feel comfortable, but then I would say that, wouldn't I).

When those who have achieved an identity as designers 'talk'

retrospectively about their designing, they are doing what we all do when we make stories of our lives. Their reconstruction is in part a celebration of their design acts; it is one way of cementing their sense of themselves and their achievements. It can be fun listening to them 'talk', because what they are sharing is intricate and intimate: it contains a sense of personal excitement. Even if we sometimes want to distance ourselves from them as personalities, when we detect a vanity there or a self-indulgence here, it's worth the effort of reaching that observation, because what we are encountering is alive and it's the most readily available evidence of *how* things get designed and made.

However, listening to other people retrospectively reconstructing how they got from A to B is not perhaps the best way of making sure that your own journey is a success. Maps can give you some idea of what to expect, but they are only really helpful when they cover your own particular route in detail. Travel books can help you to spot what to look for, but they are never a substitute for using your own eyes and they are always out of date. In any case no design journey actually reproduces a journey already undertaken by someone else. does it? We need to learn to tell our own tales and then listen to them with a stranger's ear.

Otherwise, sooner rather than later, other, less great, men come along and distil designer travel tales into an even more suspect genre: designer textbook.

'This is how it should be. This is how you can get there.'

And before long, there we are, trainers of teachers, teachers, tempted into saying, or seeming to say,

'Look at this. This is how it should be. This is how you ought to get there. Get there this way.'

Or even,

'This is where you ought to be going. Take this train, at this time. And don't forget to pack your evaluation forms.'

Those who first make tales bring them to life through the richness of the experiences in which they are rooted. Those who hear them have to remake them from the experience available to

them. Travel books are always better to read when you know what it's like to be on the road. Somehow those who aspire to teach design have to build into their teaching lots of opportunities for design travel, as well as ways of recognising where the journey actually begins and how it comes to an end. They need to offer help with the language and customs of the foreign countries en route and to suggest ways of seeing clearly what might be there to be seen.

To do all this really well, they probably need to be travellers themselves.

References

- Forty, Adrian: *Objects of Desire — Design and Society 1750-1980*, Thames and Hudson, 1986.
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