



¹Brigid Costello: Artist Researcher

Reflecting in the process of making? I don't think anyone is capable of embroidering a sampler or making a loaf of bread without thinking about the quality of what they are creating or thinking about the intention of what they are trying to design. Being reflective makes you judge your work differently.

Brigid Costello is an artist and a researcher in equal measure who works in new media, web and game design ². Her research centres on interactive design with a particular focus on playful experience. Her recent book on rhythm, play and interaction design expands our understanding of this area through art and practice-based research³. The making of interactive artworks is central to Brigid's creative practice and the relationship between her practice and research is integral to the making process. Having completed a PhD⁴ she has developed a systematic approach to art making that produces practice-based evidence that informs her ongoing art making. Many of her artworks reflect particular research origins, for example, the nature of play and its multiple dimensions and the facilitation of playful interactive audience experience. For example, *Just a Bit of Spin* is an interactive work that invites the audience to play with a collection of phrases taken from political speeches in a contemporary re-working of a pre-cinematic moving image device known as a phenakistoscope⁵. As the participant spins a large black shiny disc, a male voice speaks snippets of political spin and at the same time, they can view animations designed to connect the spin politicians' give to simple words with the false promise of a win on a poker machine.



Figure 1: Person interacting with *Just a Bit of Spin* by Brigid Costello installed at the Powerhouse Museum Sydney in 2007 (Photographs by Brigid Costello).

Another work is *Blown Away* (Sydney, 365, 2014). On exhibition from 3rd September 2015 at Tsinghua University, Beijing China. Working with 365 days of pollution data from Sydney, Australia, *Blown Away* traces the intersection between wind and pollution expressed as rhythms of light and dark within a 3-dimensional grid of cubes.

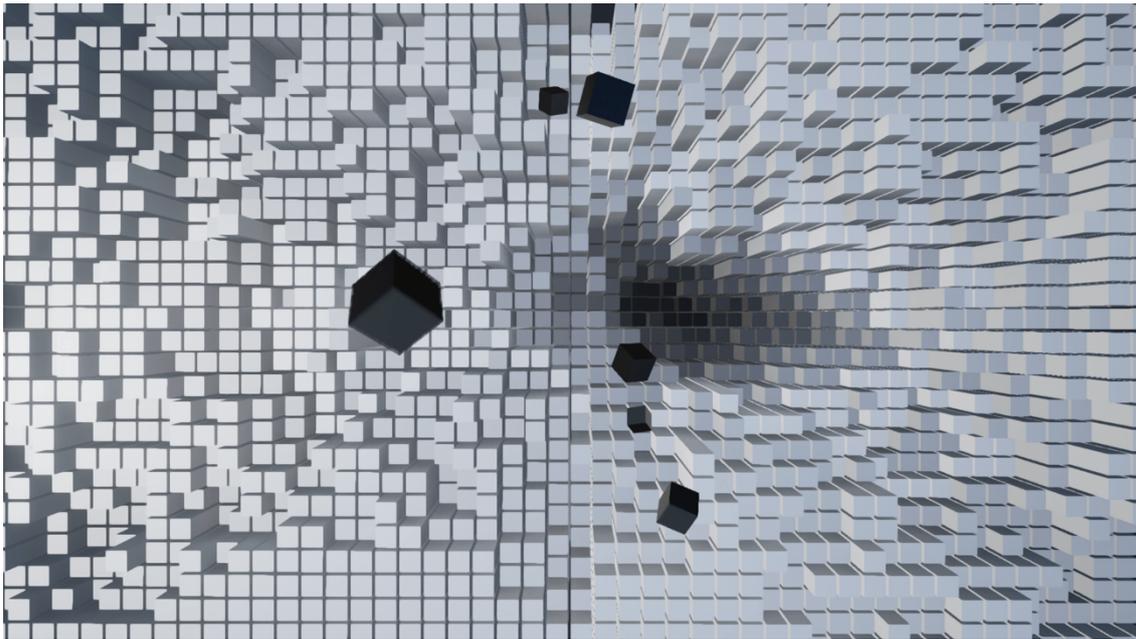


Figure 2 Screenshot taken from *Blown Away* (Sydney, 365, 2014) by Brigid Costello.”

Often the trigger for an idea for a work comes from research. The research centres on two key areas; the affective dimensions of interactive experience and methods for the analysis of audience response. The participant viewer and what can be learnt from observing interactive experience are important to the development of her practitioner knowledge. Her process has revealed strategies for incorporating audience evaluation into practice and how to ensure that this practice is still driven by artistic intentions. For her, ‘reflection for’ represents the kind of constraint identification typically found in professional design; this is followed by ‘reflection during’ the making process and then ‘reflecting after’ when what informs her future work.

An interview follows in which Brigid expands on the reflexive relationship between thinking and making and the role of research in her creative practice.

Interview

Q: As far as your creative practice is concerned, what would you say was the central work?

B: My work is definitely centred on human computer interactions and thinking about and experimenting with ways that they can be designed and the types of experiences they can produce. Another thread you can see if you look back at my artworks over the years is that they often involve experiments around the tradition of animation and different ways of bringing things to life. That focus has led me to my current obsession with rhythm and play. I make interactive installations. Installations that usually need audience interaction to complete the work. These artworks will generally involve some kind of visual output, often a screen, and some kind of audio output as well. But it is the audience who animate the audio-visuals, the audience who bring them to life. For example, I made a work called *Just a Bit of Spin* where the audience had to spin a disc in order to bring forth visuals and sounds: the spinning of the disc was a metaphor for political spin. When the audience spun the disc they heard different phrases and trigger different animations based on the speeches of politicians. Another recent work was called ‘Blown Away’ and, unusually for me, this had no audience interaction. This work was a 3D data visualisation of a year’s worth of pollution data from a weather station in Sydney Australia. In this case, the bringing to life was done by the computer which animated falling cubes in real-time based on each day’s wind patterns and pollution particle count.

Q: When you finish a work and it’s out there, how do you move on to the next one?

B: Because I am an academic, my life is very structured around semesters, workload formulae and certain amounts of research we are expected to produce every year. There are things within those structures that are trigger points. For example, there are two ideas for works in my head at the moment. One was triggered by getting something ready for a conference. I missed the conference deadline but I went far enough with the work that I think it will live on and go into another conference. Another one was triggered by an idea I had while doing research into game design. 'Blown Away' was made for a specific exhibition in China. When I was starting to think of what to make for that exhibition, I went back to the ideas journal I had for my PhD and looked through it to see if there were any ideas in there that might be useful.

I use a journal because I find that I get some of my best ideas for artworks when I am doing other work, say writing a paper or reading theory. When you get an idea, that's exciting, that's the one you write down. Those are the ideas that you feel inside, ideas where there is a shiver or tingle in your body that says 'this one is going to be a good idea!' Ideas that maintain that bodily tingle over time are usually the ones worth making. For me, practice often emerges out of theoretical thinking but I don't see it as a direct cause and effect relationship. The practice is not trying to represent the theory. It's definitely a more complex back and forth reflective process.

I have recently been working on rhythm and analysing it in interaction design, particularly in games. The work is theoretical writing but as I do it I keep thinking of practice ideas. For instance, one of the ideas that I had was a combo of two books I read- one back in 2007 and one in 2011, so there were a lot of thoughts coalescing across a span of time. This type of process is where I think theory meets practice effectively. It is not trying to make a practice piece that expresses what's written in a specific book but rather making something that expresses a tangential idea that came to you while you read the book and that perhaps intersects with other ideas. This idea was to record the rhythms of someone's hand interactions while they are playing a computer game, then to take those rhythms and work with a dancer and as a form of research, get them to do those movements and then improvise with them. If you make them bigger, what is the effect? If you transfer them to a different body part what is the effect? I was seeing it as a representation of computer gameplay where the dancer is dancing the actual movements the character makes on screen and also dancing the physical movements of the human player. The idea was sparked by a design research article that described using dancers to help generate interaction designs. This idea then crystallised when I, years later, read a theory linking the physicality of digital gameplay to dance. So it was the intersection of these two theories that provided the inspiration for practice.

When you start a creation process your initial reflections are about reflecting for the making process you are about to embark on. Reflecting for is mainly about reflecting about what the constraints of a project are. At the start of a project you are faced with an array of possible approaches and that can be paralyzing. So, when you say 'I am going to make something', you need to first make a few key decisions about practical constraints. For instance, is it going to be exhibited? How much time do I have? Do I have to send the materials overseas? Who is going to install it? All of those kinds of questions then crystallise into a concept. Following that there is the process of reflecting during while you are actually making the work. It won't end up necessarily as you have imagined the work at the start because you definitely change your ideas as you go along. The reflection during process is really about shaping the artwork to satisfy your artistic intentions. During that making process, the work transforms into what it will eventually be and then of course there's major reflecting afterwards.

Q: How much of a work changes as a result of the reflecting process?

B: In the case of the work 'Blown Away' I started from a position where I gave myself the constraints of working with a specific pollution dataset and making the work using a 3D gaming engine. I also decided I would use only black and white. The first major change was that I let grey scale in. That was because I quickly realised I needed more gradations of tone to represent the fine-grain of the dataset. This project was also the first time I'd worked with 3D rather than 2D. So that was a very new aesthetic for me. And because I am interested in how the tools of making can affect the creative process, I was also constantly reflecting on what did a 3D aesthetic mean? To be honest in the past I hadn't liked 3D aesthetics that much. There are a lot of them I am not very keen on so I was thinking 'Where's my place in this 3Dness? What does this tool do well?' and 'What do I need to do to take advantage of what this tool does? What am I ruling out with this tool? I could have used it in a 2D way but I didn't. I wanted to explore 3D.'

The other changes made during the process were a result of this reflection about 3D aesthetics and were more about the detail of what the work looked like. I originally had this idea that because of what 3D is the work had to look realistic in some way. My particles looked like little lumps of coal falling down and I got to a certain point when I thought, 'No. I am being influenced by everything else I've seen in 3D. 3D has this link to realism and I don't need that'. I went more abstract and used cubes to represent the pollution particles. Interestingly, this change process was made really obvious because I was working pretty close to the bone with the deadline and had to generate some publicity images before the work was finished. When I look back at those early images they are way too representational. I much prefer the abstract look I ended up with.

Q: What does it mean as a creative practitioner to reflect? How is it different from making?

B: I don't know that you can separate those two words out – making and doing, because the making is everywhere. Let's keep with the same piece, 'Blown Away'. I knew I wanted the level of pollution to change the colour of the cubes so I had a surface that was made up of a grid of small cubes, and then the pollution particles were falling as small black cubes from the sky. The direction they fell from was based on the prevailing wind of that day and the speed was based on the strongest wind gust of that particular day. They would shoot in from different sides of the screen - north, south, east, west - depending on the data. The cubes would hit the surface and where they hit the surface it broke away-revealing layers going from white to black with shades of grey in between. As more and more pollution landed, the surface got darker and darker but it also got eaten away.

There were two aspects to that. First, the colour shift as the surface got eaten away, thinking about the patterns of that colour shift and where they appeared on the surface. That was one thing to experiment with. The other thing was the wind speed and how to translate that speed into the cubes' movement as they fell. Related to the speed was deciding the point that the cubes dropped from and where that point was in space. These two things (colour and speed) were separate and were experimented with in different ways. And so, there's the *making* moment where you could be coding in say the target point where this cube drops from. But to me the 'making' happens in the whole process. It's in seeing what it looked like with the target point here and finding that wasn't right for a particular reason and deciding I should move it further to the right and then having a go and seeing if that worked. And that thinking and experimenting is all part of the making not just the single moment where you type in the code to put the cube at a particular coordinate. It's a complex interconnected web of multiple experiments, reflections and decisions that cycles iteratively until the work is complete.

Q: As you are doing that thinking...did you note the reason? I don't like that because...?

B: I did. And one thing you would see if you looked in my project folder on my computer is I do a lot of saving versions and going back to an old version and saying was that really better? Because you can sometimes go down a cul-de-sac where you end up ruining it completely. A painting analogy would be putting too much paint on. You can ruin it completely and it is a good idea every now and then to look back at an earlier version because you might suddenly go 'you know what I have over complicated things and it was much better when the work was doing that'.

Q: When you look back do you see it differently in the light of what you have done subsequently?

B: Perhaps. I suppose an earlier version might shine more in contrast to something later that doesn't work. The crucial thing is that you can't take the *doing* out- you can't just think about it: that won't work at all. The ability that you have to reflect on an earlier version and the quality of those reflections is influenced by all the doing and making that has occurred since.

Q: Did your post graduate research change your reflection processes?

B: Yes, definitely. Mind you I don't think anyone is capable of embroidering a sampler or making a loaf of bread without thinking about the quality of what they are creating or thinking about the intention of what they are trying to design. I would say that post graduate research gives you a more systematic way of doing it *and* makes you value it more. I know from speaking to other people that often when people come into post graduate research they are a bit suspicious about reflective practice and what it might mean for them. I definitely was. There is possibly a fear that too much thought can ruin something, a fear

they'll go too much into their disembodied head and lose the power of their making. For many people the impetus and knowledge that something is 'right' happens in a less conscious way and that's how they like to work. I found the experience of post-graduate research enhanced my practice. It especially gave me a way of connecting with, communicating to and thinking about my audience that was very valuable.

I do think that the fear about losing the creative power of making is sometimes warranted. I don't know how to phrase this in a way that people would understand but I've seen works created by students while at university that are created from what I call a point of theory. By 'point of theory' I mean their impetus comes more from a theoretical concern rather than coming from the desire to create. I've always felt that that approach doesn't work. There's something empty in the artworks that emerge out of it.

Q: It sounds to me as if reflecting during making (process) and the results of that making are very tightly bound together and the reflecting is a way of making it satisfy some kind of criteria... Is that right?

B: Yes, and maybe that is where we go back to that electrifying bodily tingle that a good concept can have. To satisfy a work's internal criteria is about keeping the spark of that concept alive. It's about maintaining the original concept's energy and liveliness in a way that hopefully allows that spark to also be felt by the audience. Reflection is about how successful you have been at preserving the spark of your concept. Lots of learning goes on too. Finding out unexpected things that work or don't work. Observing the myriad ways that people might interact or behave around a work. Often that feeds into other iterations of a work or into future things that you might create. I think that is a form of reflection...after the making process to reflect on what else can be done. And to generate a desire to take your ideas further...

Q: Does it matter very much that you see it in an exhibition and see people's reactions.

B: Yes, I think seeing people's reactions is especially important for interactive artworks. If you don't get to see an interactive work in front of an audience you have no idea whether anybody engages with it in any meaningful way. That was a big focus of my post graduate research. To develop methods for observing, recording and analysing audience engagement with interactive artworks. I've spent many hours in gallery spaces observing and recording audiences for my own and other's works. As with any practice, those hours have given me a much keener eye for noticing the detail of audience engagement. And of course, all that reflective thinking then feeds back into the things that I create.

Q: Is there a negative side to it in terms of the creative work in being too reflective?

B: If being reflective holds you up from making more work I think that would be a big negative. All creators are also harsh judges of themselves. You have to be brave and to keep on putting your work out there in the face of this self-criticism. But I think reflecting has actually helped me here. Unlike some artists I tend to make artworks that are quite different from each other in terms of theme and execution and I often criticise myself for this. I wonder if I do this because I don't have faith in what I have created and so want to always move on to something quite different and not stick with the same thing. In reflecting, particularly in the systematic way that I did during my post graduate research, I have started to see that on the surface the artworks I create don't look the same but there are still themes that run between them. Since the PhD my art practice feels more connected. I would definitely say that the more systematic processes of reflection I learnt to do through research have had a positive impact on my practice.

¹ Photograph: Brigid Costello

² Brigid Costello <https://sam.arts.unsw.edu.au/about-us/people/brigid-costello/>

³ Costello, B.M. (2018). *Rhythm, Play and Interaction Design*. Springer Cultural Computing Series, Springer-Verlag London Ltd.

⁴ Costello, B. (2009) *Play and the experience of interactive art*. PhD Thesis. Creativity and Cognition Studios, University of Technology, Sydney, Australia. <https://opus.lib.uts.edu.au/handle/2100/984>