Title: Cultural Probes in Ethnography: Pitfalls and Possibilities

Stream: New Ethnographies and Critical Creativity

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1

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Abstract

Cultural probes are a relatively new method of data collection that has been used extensively in design-based research since its initial inception by Gaver, Dunne and Pancetti in 1999. Based on notions of "uncertainty, play, exploration and subjective interpretation" (Gaver et. al. 2004: 53), cultural probes are essentially purposefully designed packages of mixed media materials, such as disposable cameras, diaries, photo albums, postcards and tape recorders that are given to participants to explore and complete in their daily environments. In this paper, I will discuss and evaluate the adaptation of cultural probes for use in an ethnographic qualitative study on migration. Through discussion and analysis of my experiences using probes for research into international students who become skilled migrants, I will make some suggestions on how probes can enhance and enrich data when used alongside more traditional ethnographic methods such as in-depth interviews. My hope is to inspire other researchers in the field to consider experimenting with this method, and to provide some guidelines on the pitfalls and possibilities of probe research, grounded within the context of real-world research experience.

Probing What: Background to the research

In the context of an increasingly knowledge-based economy, governments of migrant-receiving nations are beginning to recognize the global movement of students as a significant dimension of the movement of human capital, and as resource that can be tapped to put them ahead in the global race for skills. Binod Khadria (2001: 45) aptly dubs students "the semi-finished human capital" and notes that researchers of skilled migration should consider their exodus alongside the movements of the fully trained and educated. With this recognition of the link between international education and skilled migration, a wide variety of policy responses are emerging from key migrant-receiving and skill-hungry nations. Australia has been one of the first nations to explicitly link international education and skilled migration in policy (Ziguras and Law 2005), and now recruits a great deal of its skilled migrant intake from the large numbers of international students who complete courses at Australian higher education institutions each year.

My research is based on the premise that these students-turned-migrants represent a 'new wave' of migration to Australia, with a distinct set of experiences and characteristics that warrant ethnographic exploration. The research is grounded in a reflexive, interpretive methodological framework, and attempts to explore this phenomenon through the theoretical lens of transnationalism. In migration terms, the adoption of a transnational perspective means a fundamental rejection of migration as a one-way, linear, and permanent movement across borders into a new and nationally bounded social space (Basch et. al. 1994, Glick Schiller et. al. 1992, Vertovec and Cohen 1999). My research thus aims to illuminate not only how and why individuals forge and sustain links across national borders, but also how these links colour their decisions, their perceptions of their experiences and their perceptions of themselves. The central research question is: what is the significance of and relationship between study, residency, belonging and transnationalism for international students-turned-migrants in Australia?

Initially, my research design was based around the classic qualitative method of in-depth interviews, combined with a research diary of reflexive observations. However, I was somewhat wary of the distancing and contrived nature of interview situations, and thus began to explore whether there were more creative ways to approach the collection of

data, that would give participants some scope for response away from the gaze of the researcher. It was this desire for a greater depth of data, as well as an interest in harnessing my own and my participants' creativity that led me to consider using cultural probes. My central aim was to embed the method of cultural probes within a wholly sociological study, and to utilise this relatively new and experimental method alongside semi-structured, in-depth interviewing in order to enhance the depth and breadth of both data and analysis. This paper will give some insight into the process of constructing the research design and implementing the probes as a method.

Prior Probing: Background to the development of probes as method

Cultural probes generally consist of individual packages of mixed media materials that are given to research participants in the early stages of data collection. They consist of materials and tasks that have been carefully constructed by researchers to allow participants to document and record elements of their daily lives and thoughts that reflect the themes of the research. Generally, they are used in an exploratory way, and rather than asking concrete questions, they are rather designed to amuse and inspire participants, and to provide researchers with a more layered insight into participants' experiences. Due to the fragmentary nature of the data that they collect, they are often followed up or combined with other methods such as interviews or participant observation.

Cultural probes were first used by Gaver, Dunne and Pancetti in their 1999 design project that required the input and collaboration of the elderly in several diverse European communities, and have since been adapted and used by researchers in a variety of contexts.   For example, they have been used as exploratory devices in care settings (Crabtree, Hemmings and Rodden 2003), to gain a holistic and empathic understanding of people who exercise for wellbeing (Mattelmäki and Battarbee 2002), to explore intimacy in Human-Computer Interaction (Kjeldskov et. al. 2004) and to investigate how families stay in touch (Horst et. al. 2004). Each of these projects has carefully adapted the probe model to suit the characteristics of their participants and the specific needs and aims of their projects, and the papers they have produced that reflect on the processes and successes of this method have been of invaluable use to my research design.

4

However, despite the success of many of these projects, the development and adaptation of the method has not been without contention. William Gaver, one of the original creators of the probe method, has expressed some concern that some researchers who have adopted the probes have imprudently tended to 'rationalise' them, and have designed them to address concrete questions and produce unambiguous results (Gaver et. al. 2004).   Gaver states that the original probes were based on the notion that "knowledge has limits", and need to be recognised as a "purposely uncontrolled and uncontrollable approach," (2004: 53-54) that opens up new avenues of meaning but does not provide rational and objective results. Throughout my research, I have thus maintained an awareness and acknowledgement of the probes as encapsulating empathy, engagement and subjectivity over rational and concrete responses.

Probing How: The design, construction and implementation of the probes

The probes were essentially designed to fulfil two purposes in this study. One was to act as a precursor to the interviews, in order to engage the imagination of the participants, provide prompts for the interview and to bridge some of the distance between researcher and participants. The other was to provide "fragmentary data" (Gaver et. al. 1999: 22) that could be analysed concurrently with the interview transcripts. The probes were not asking the same questions as the interviews, they were organised more to reflect the inherent themes of the research and were designed to elaborate on them, give background to them, and allow them to be recorded and represented in an alternative way. They contained questions directly related to the research themes, but also more ambiguous questions that "were not designed to gather preset or specific information, but rather to be inspirational and provocative and project unpredicted views" (Mattelmäki and Battarbee 2002: 1-2).   The probes and interviews were carefully designed to complement each other without being repetitive, and naturally issues that could not be adequately addressed in the probes were examined more thoroughly through the interviews and vice versa.

Figure 1. A probe package

In this study, cultural probe packages were distributed to participants approximately one month prior to the interviews. The probe packages consisted of four elements; maps with accompanying labels, disposable cameras, postcards and communication log books. These all included instructions and suggestions for use, and were all packaged and presented in an engaging and visually appealing fashion.

The cameras

I chose to include cameras in the probe packages as a means to create an opportunity for non-verbal expression, and to gain a deeper understanding of the significance of places and objects in the lives of participants. The prompts for photographs generally asked participants to visually capture sites and objects of significance to their personal migration journey, such as the site of a memorable event in Australia or an object that reminds them of their country of origin. However, in keeping with the 'playful' tone of the method, I also gave some other, less obvious and more ambiguous prompts, such as their favourite meal or their favourite gadget. The number of exposures outnumbered the prompts, giving participants several 'free' photographs that they could take of anything they liked. Often, it was these unprompted photographs that gave the most highly illuminating glimpses into participants' daily lives. Through these images, I was able to build incomplete, yet intriguing pictures of their lived environments, tastes, and experiences.
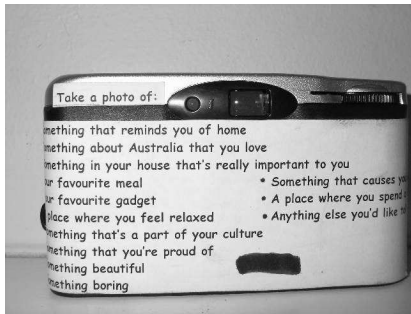
Figure 2. The camera (back)

Figure 3. The camera (front)

The photographs, rather than being independently analysed, were used in Harrison's (2002: 861) terms, as "a kind of field note that (requires) the collaboration of the participants to 'translate' its meaning." Thus, the significance and personal meaning of the photographs were discussed at length in the interview, allowing the meaning to be co-constructed in a meaningful and collaborative fashion between the interviewee and myself. Furthermore, they provided unique and effective prompts for directing the discussion in the interviews, and provided visual glimpses into the lifeworlds of participants.

The maps

The maps were essentially designed to allow participants to construct a visual representation of their networks and connections overseas. This task was intended to shed light on the key research question concerning the significance of transnational interactions as well as on subsidiary themes such as mobility and belonging. I provided a simple, up-to-date, political world map, along with several different coloured labels and a key to determine what each colour represented. The key included 'places I have lived', 'places where I have family', 'places where I have friends, 'places I have visited,' and 'places I would like to live in the future.' I ensured the labels were small enough for several to be placed on one location, as I was certain that many locations would represent multiple categories. As an example, I included a completed map depicting my own transnational connections in each probe. This functioned as a model to help them complete their own map, yet also allowed the process of engagement between researcher and participant to be two-way. By giving them some information about

myself, I was able to establish a connection with the participants, and similar travel experiences were often and good starting point for interviews.
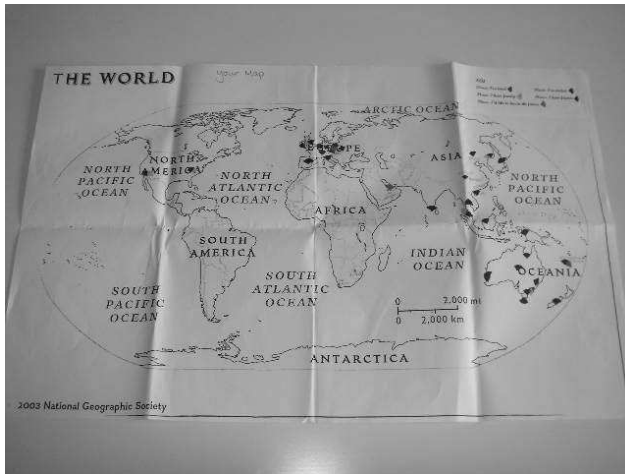

Figure 3. The map

Furthermore, the maps provided a visual focus when discussing the extent and significance of complex networks of places in the interview. They also provided a kind of chart of the individuals' past, present and future, in terms of where they had been, where they were, and where they wanted to go. The maps also required a great deal of collaborative, co-interpretation during the interviews, and I found it helpful to make notes on the map itself as we discussed the significance of each site and connection.

The log books

The log book was used by participants as a daily record of any communication that they had with friends, family or other associates overseas. They recorded the date, time, purpose of communication and method of communication (such as phone call, text message, email or letter), as well as how specific communications made them feel or react. We then discussed the impetus behind and significance of these feelings and reactions in greater depth during the interview. As with the maps, I made some entries based on my own life as examples, but stressed that participants could record the information in different forms if they wished. Not only did the log books give an overall view of the frequency of overseas contact and the methods most often used to maintain contact, they also allowed us to compare how different modes of technology functioned in the development and maintenance of transnational social interactions in their daily

lives. The log books were also an essential prompt during the interviews, particularly in exploring family relationships enacted over distance. Even the absence of entries was illuminating. Some participants commented that they felt guilty about the lack of contact they had initiated with friends or family over the month, while others noted that keeping the log book made them realise that they more frequently instigated contact than their families or friends.
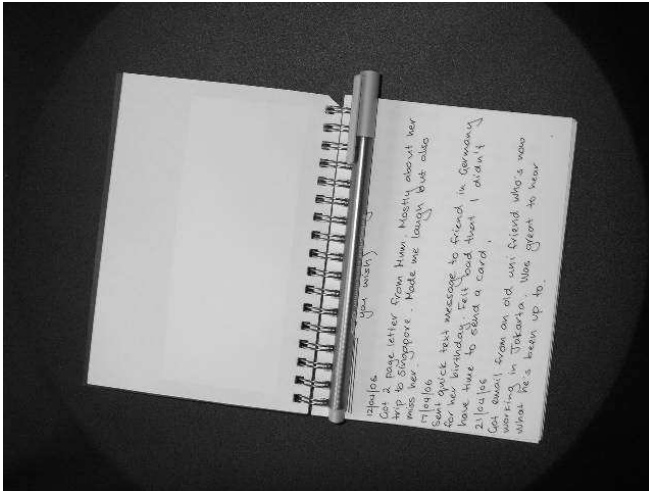

Figure 4. The log book

The postcards

The postcards were an element of the probes that use both a visual and a written prompt to encourage participants to express certain feelings and their connection to certain significant events in their migration journey. Each postcard displays an image, and an unfinished sentence for participants to complete.

The images on the cards were one of the biggest challenges of the probes' design. I wanted them to be visually appealing, without providing a specific image that could unduly influence the user's response. Furthermore, as my study deals with participants from a wide variety of cultural backgrounds, the design of my probes also had take into account the need to present images that were as culturally unbiased as possible, would not alienate or exclude any participants. Ultimately, it helped greatly to keep in mind the aesthetics of Gaver et. al.'s original probes, which they described as "delightful, but not condescending or childish…the aesthetics were somewhat abstract and alien in order to encourage from participants a slightly detached attitude" (Gaver et. al. 1999: 25). I thus

chose to incorporate artwork that was contemporary and somewhat whimsical, depicting a variety of human-like figures surrounded by shapes and patterns suggestive of urban and natural environments. The scenes depicted were almost dream-like and indefinite. As their connection to Australia was the common factor in all the migrants' experiences, there were one or two whimsically vague symbols of Australiana, such as a sheep and a hill's hoist, but the intention was always to keep the symbolism light and playful. Each image did not connect directly to the written prompt, but rather served to amuse and inspire the user in a more ambiguous way.

Figure 5. The postcards

Probing Why: Justification and rationale for using the probes

There are several pertinent reasons why I believe the use of cultural probes has enhanced the outcomes of my research. I also believe that these benefits could be more widely applicable, and may be similarly effective in other sociological contexts. Here I will discuss some of the rationale behind using the probes, and give some suggestions for their use.

Triangulation of data

Firstly, the collection of data through two complementary methods allows for a triangulation of data; a practice often cited by qualitative theorists as a technique that can enhance a study's credibility (Rapley 2004), which is one of Lincoln and Guba's (1985) criteria for trustworthiness. The cross-validation of the data fragments gathered

by the cultural probes with the interview data ultimately strengthens the validity of my study. While the probes were not used to collect the bulk of the data, they supplement and enhance the core data gleaned from the interview process by providing material that can be cross-referenced, including data in non-verbal forms.

Bridging distance

Secondly, as stated by Crabtree et. al. (2003: 4), the probes are essentially "provocative resources" which are designed "to overcome some of the distance between researchers and users." This sense of 'distance' is in some ways bridged by the probes in that the completed materials served to give me some clear ideas about the experiences and thoughts of the particular participant prior to the interview. Rather than going into the interview 'cold', the completed probes allowed me to adjust the interview schedule and my manner to better suit the needs and specific context of each particular participant. Furthermore, the inclusion of my own experiences as examples in the probes allowed this engagement between researcher and participant to be two-way. In my experience, this resulted in a deeper and more quickly established rapport and sense of understanding between the interviewer and interviewee, thus ultimately producing more fruitful data.

Moreover, the concept of bridging distance that is raised by Crabtree et.al. could also be applied to the way in which the probes also function to overcome some of the initial distance between the users and the themes or content of the research. The probes allow participants to engage with the themes of the study in a meaningful way prior to the interviews. They thus come to the interviews having already considered many of the themes, are able to reveal in more depth given this preparation. In feedback sessions, many of my participants agreed that the probes allowed them valuable prior reflection, making them feel more 'ready' for the interview and less apprehensive about what to expect from the questions.   It is therefore clear that the probes provide the opportunity for 'groundwork' to be set before the interview, providing opportunities for both the researcher to engage with the subject and for the subject to engage with the material of the investigation prior to the interaction in the interviews. Ideally, the completed materials should be present at the interview in order to fulfil their function "as a memory trigger and as communication medium" (Mattelmäki and Battarbee 2002: 2).   In my study, this prior engagement gave the interviews more depth and focus, and allowed

each interview to be more specifically tailored to the individual narratives and personalities of each participant. Furthermore, the probes allowed this engagement to occur in a playful, informal and creative form, which also positively benefited the atmosphere and focus of the interviews.

Offsetting 'officialdom'

I think it is important to recognise that the official regalia surrounding the beginning of research participation, such as consent forms, plain language statements and business cards, although unquestionably necessary from the point of view of ethical rigour, are not likely to inspire or enthuse participants. In fact, the official nature of such documents may even be intimidating for some. Presenting participants with probes alongside the official documents goes some way towards framing the research in a more creative and inspirational way. This was another comment that came through in feedback, with participants noting that the playful nature of the probes allowed them to feel more relaxed about participating in the research, establishing that there were not 'right or wrong' responses, and that their subjective experiences were of core value to the study.

Innovation through immersion

Aside from the benefits that the completed probes created in the collection of data, I personally found that the actual design and construction of the probes was useful to my own development as a researcher. In considering the content of the probes, I was required to think 'outside the square' in terms of the issues and the research questions. Sourcing the material for the probes, thinking about the content, and constructing the packages was physically and mentally a very different kind of process than typing out an interview schedule. As I browsed through maps and images, searched the city for appropriate materials, and physically cut, pasted, folded and wrote each part of each probe, the research themes were constantly being processed in my head. The creation of the probes thus required a real immersion into the themes of the research, in a fairly abstract and innovative way, which I found was very productive in terms of the generation of new ideas and previously unconsidered perspectives. For example, in constructing the maps and creating my own map of transnational connections, it became very apparent to me that factors such as travel, international education and family migration history can stretch an individual's transnational links beyond a limited two-way engagement between home and host countries and into multiple, scattered locations.

This concept has ended up being quite a central theme in my analysis, which might not have emerged until much later if I had not spent time constructing the probes.

Representing and recording data

There are also some distinctly pragmatic reasons why the probes were a useful data collection tool for this particular investigation. Data such as the complexity of transnational networks across space are not easy to depict verbally or to record simply using words. Likewise, recording the frequency and nature of multiple overseas communications would be tedious and time-consuming in an interview, and would require participants to access their memories (not always the most reliable of instruments) to dictate when, where and how the communications occurred. By using the log books and maps instead, complex, detailed or repetitive data was easily recorded and represented by the participants themselves, and this was referred to during the interviews as a means of focussing or prompting discussion. This left more time in the interview for exploring feelings and interpretation of significance, rather than just the recording of facts.

Beyond the verbal and the textual

Perhaps most importantly, the probes allowed participants to represent their experiences in non-verbal ways using the maps and cameras, and to respond to non-verbal prompts using the postcards. One of the limits to creativity in social science methodology is undoubtedly a disciplinary obsession with the textual and the verbal. As qualitative social scientists, our research tends to revolve around the conversion of the verbal (interviews) or the visual (observation) into the textual (transcripts and field notes). Interpretation and analysis is also almost solely undertaken through written forms. This can sometimes lead us to neglect the fact that the production and analysis of text and talk may in fact be a narrow way of interacting with the people we hope to understand. In my case, the probes allowed some extension of my interaction with participants into non-verbal and non-textual forms.

In my study, the engagement with the non-verbal media provided different or more interesting responses than the interview questions, and allowed participants who were not necessarily verbally oriented to have a more equal 'voice' in the study. In their exploration of exercise for wellbeing, Mattelmäki and Battarbee (2002: 3) found that

"using ambiguous stimuli for users to respond to and allowing expression verbally, visually and through action also allows the participants to express their emotions easier [sic]." This observation that emotional responses are more readily obtained through a variety of means of expression was an instrumental influence in the design of the probes for my study. Pink (2001: 18) makes note of "the sensory nature of human knowledge and experience," and the probes utilise images and objects in order to tap into the possibility of a sensory element, beyond written or spoken communication.

In addition, the probes, most particularly the postcard element, asked much more about feelings and emotional responses than the interview schedule. Questions about feelings can often be awkward, uncomfortable or difficult to answer in a face to face situation, and some may also contain material that is inadvertently culturally sensitive. I hoped that recording emotional responses on the postcards or capturing emotionally significant images with the camera would perhaps be less confronting for participants, in that they could record these responses privately and in their own time, and could also privately decide if there are any questions they would prefer not to answer or prompts they would prefer not to respond to. By using the probes to mediate the expression and representation of emotions in a variety of non-verbal ways, the participants were given not only a greater scope for creative expression, but also less confrontational mediums through which to express themselves.

Observation without intrusion

Another key element that the probes brought to this study is the ability of participants to contribute to data away from the gaze of the researcher and the artificial environment of the interview room. As they completed the probes in their own time and their own environments, this seemed to provide freer responses, or different kinds of responses from those gathered through traditional techniques such as observation or interviewing. As Mattelmäki and Battarbee (2002: 1) attest, probes are "given to the potential users to document their private lives, contexts and experiences." The probes thus give the researcher a glimpse into the private worlds of the participants, without having to physically intrude into these environments to observe them. While the fragments of data gathered by the probes obviously could not reveal the whole scope of the participants' experiences, they provided a certain amount of access to the private realm that cannot

be replicated in an artificial research setting, where the gaze of the researcher is always apparent.

Probing with caution: Some warnings on the limitations and dangers of probes

Ethical issues

Probe research, while undoubtedly stimulating creativity from both participants and researchers, admittedly encapsulates some rather thorny ethical issues. The diverse forms of data that the probes produce must be treated with the same ethical rigour as more traditional data sets. The artefacts must remain secure and confidential, and the boundaries on access to and use of the data must be made transparent to the participants through the plain language statement.

Another problematic issue is ownership. As much of the probes consist of tasks in which the participant creates artefacts of data, it could well be argued that the completed artefacts belong to the participant. I made it clear to all participants that they would be able to request that their probes be returned after analysis and that any copies of the material would be kept securely and then destroyed along with interview data after five years, as per the university's policy. Most of my participants did not request that their materials were returned, although some requested copies of particular photos to keep for their personal collections, which I was more than happy to oblige. As with any qualitative data, participants must also have the right to have any items purged from the research at any time.

Another issue that arose was the fact that participants, as well as their families and friends, could be incidentally identified in the data. The log book and postcards turned out to be not too much of a problem, as participants tended to only identify others through their relationships, (my mother, my sister, or my best friend) rather than by name. On the odd occasion someone was identified by name, it was only a first name, which could be changed to a pseudonym in any publications, and physically erased or blacked out from the raw data. When photographs of people emerged, I ensured that these remained secure and were not included in any publication. Naturally, it is also feasible to acquire official consent from participants and their loved ones to publish their

images, but in the context of my research I preferred to err on the side of caution and chose not to publish any identifying material at all.

The third key issue is that of the copyright of any images or artwork that are used in the design and construction of the probes. I was fortunate enough to have some very talented and accommodating creative contacts, who allowed me free use of their work. However, other researchers might like to note that there are a number of other ways to deal with the issue of copyright. One, of course, is seeking consent from the creator outright, and in this case express written permission is always essential. I would personally suggest that wherever feasible, this is a great opportunity for some cross-disciplinary collaboration, and it is always worthwhile seeking out creative minds at your university or within your community who would be willing to collaborate on the design.

'Slippery data'

Data obtained from probe research is a very different kind of data from that which is collected from traditional ethnographic methods; it is different in its aims, its nature and its limitations. I like to refer to probe data as 'slippery data', as its flexible, mutable and difficult to 'fix' into set typologies or systems of coding and analysis. There is a great danger in expecting fixed or simple answers from probe research, and although it can undoubtedly enrich ethnographic research, it is helpful to view probe data as 'inspiration' rather than 'information' (Hemmings et. al. 2003). Attempting to use probes to get overly direct answers tends to deduct from their usefulness as an inspirational tool, and they will become just another mundane set of questions that a participant must answer.

Probe data is also clearly co-constructed. The researcher's influence on the meanings generated is not only apparent through interpretation and analysis, but also through the construction of the prompts and materials themselves. The content and construction of the probes will be hugely significant to the kind of data that they ultimately produce.   It is naïve to assume that because the probes are completed away from the gaze and direct contact of the researcher, that they are somehow more inherently 'truthful' in bringing meanings from the participants themselves. The best way to analyse probe data seems to be through a strong commitment to dialogue between the user and the researcher, in allowing the user to discuss and explain the artefacts that they have produced.

Probing the possibilities: Conclusion and reflections

In my project, which sought to ethnographically explore the complex relationships between study, residency, belonging and transnationalism in the lives of international students who become skilled migrants, I used cultural probes as a tool to deepen and complement the primary data collected from in-depth interviews. While some elements of the probes, such as the maps and the log books, were a pragmatic way to record data about transnational communication and transnational links, all the parts of the probes required a co-constructive interpretation during the interview sessions for their meanings to become apparent through the perspective of the participant. My own engagement and the participants' engagement with the probe materials deepened both our level of reflection on the themes of the research and our level of mutual rapport. Furthermore, the visual elements in the probes allowed me and the participants a means of creative expression and communication that transcended the verbal or textual, which provided new perspectives and unexpected results, and allowing participants to complete the materials in their own time and own spaces created an intimacy in the data that could not be replicated through traditional methods. Overall, the probes provided richer data through their multiple functions as an empathy tool, an individualised set of interview prompts, and a means to intimately observe without physical intrusion.

Probes have already been adapted and used by researchers in a variety of other disciplinary contexts, and I believe it would be beneficial to the discipline if probes were to be embraced more widely in qualitative social research. However, they are clearly "primarily concerned with understanding people *in situ*, uniquely, not abstractly *en masse*" (Hemmings et. al. 2004: 6) and are thus best suited to projects and researchers who are looking to evolve new methods of exploring small groups of individuals creatively and in a great deal of depth. As with any method, there are practical, epistemological and ethical challenges involved, and despite their 'playful' nature, they must still adhere to the required standards of academic and ethical rigour, to ensure the integrity of the method and the wider project.

Nevertheless, while they are risky and challenging, they are also intriguing, effective and ultimately highly rewarding. They are a way for researchers to broaden their

methodological arsenal, stretch their creative and analytic abilities, and come to understand the interpretation of participant experience in new and fascinating ways. My own experience with probe research has without doubt not only enhanced and enriched the outcomes of my research, but also challenged my creative abilities as a researcher. My study has grown from a very traditional and 'safe' qualitative project to something I hope can promote innovative and inspiration in the field.

Bibliography

Alvesson, M. and K. Skoeldberg (2000). <u>Reflexive Methodology. New Vistas for Qualitative Research</u>. London, Sage.

Baas, M. (2006). "Students of Migration: Indian Overseas Students and the Question of Permanent Residency." <u>People and Place</u> **14**(1).

Banks, M. (2001). <u>Visual Methods in Social Research</u>. Thousand Oaks, CA, Sage.

Basch, L., Glick Schiller, N. and Szanton Blanc, C. (1994) *Nations Unbound: Transnational Projects,
Postcolonial Predicaments and Deterritorialized Nation-States*. Langhorne, PA: Gordon & Breach.

Castles, S. (2003). <u>The Age of Migration</u>. New York, Macmillan.

Crabtree, A., T. Hemmings, et al. (2003). <u>Using Probes as Exploratory Devices in Care Settings</u>. Eighth European Conference of Computer-Supported Cooperative Work, Helsinki, Finland.

Denzin, N. K. and Y. S. Lincoln, Eds. (1998). <u>The Landscape of Qualitative Research. Theories and Issues</u>. Thousands Oaks, California, Sage.

Gao, J. (2002). "The Role of Primary Social Groups in Migration Decision-Making: A Case Study of Chinese Students in Australia." <u>Asian and Pacific Migration Journal</u> **11**(3): 375-389.

Gaver, B., T. Dunne, et al. (1999). "Design: Cultural probes." <u>Interactions</u> **6**(1): 21-29.

Gaver, W. W., A. Boucher, et al. (2004). "Cultural Probes and the Value of Uncertainty." <u>Interactions</u>: 53-56.

Glick Schiller, N., Basch, L. and Blanc-Szanton, C. (eds) (1992) *Toward a Transnational Perspective on
Migration*. New York: New York Academy of Sciences.

Gupta, A. and J. Ferguson (1999). Culture, Power, Place: Ethnography at the End of an Era. <u>Culture, Power, Place: Explorations in Critical Anthropology</u>. G. A. and F. J. London, Duke University Press**:** 1-29.

Fitzgerald, A. (2000). <u>Going digital 2000: legal issues for e-commerce, software and the internet</u>. St. Leonards, NSW, Prospect Media.

Harrison, B. (2002). "Seeing health and illness worlds- using visual methodologies in a sociology of health and illness: a methodological review." <u>Sociology of Health and Illness</u> **24**(6): 856-872.

Hemmings, T., A. Crabtree, et al. (2003). <u>Probing the Probes: Domestic Probes and the Design Process</u>. Participation and Design Conference, Malmoe.

Horst, W., T. Bunt, et al. (2004). Designing probes for empathy with families. Dutch directions in HCI, Amsterdam, Holland.

Khadria, B. (2001). "Shifting Paradigms of Globalization: The Twenty-first Century Transition towards Generics in Skilled Migration." International Migration **39**(5): 45-71.

Kjeldskov, J., M. R. Gibbs, et al. (2004). Using Cultural Probes to Explore Mediated Intimacy. OzCHI, University of Wollongong.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Beverley Hills: Sage.

Mattelmäki, T. and K. Battarbee (2002). Empathy Probes. Participatory Design Conference, Malmoe, Sweden.

Pink, S. (2001). Doing Visual Ethnography. Images, Media and Representation in Research. London, Sage.

Pink, S. (2004). Visual methods. Qualitative Research Practice. C. Seale, G. Gobo, J. F. Gubrium and D. Silverman. London, Sage**:** 392-406.

Rapley, T. (2004). Interviews. Qualitative Research Practice. C. Seale, G. Gobo, J. F. Gubrium and D. Silverman. London, Sage.

Rizvi, F. (2005). "International education and the production of cosmopolitan identities." RIHE International Publication Series **9**: 77-92.

Vertovec, S. and Cohen, R. (1999) `Introduction', in Vertovec, S. and Cohen, R. (eds) *Migration,*
Diasporas and Transnationalism. Aldershot: Edward Elgar, xiii- xxviii.

Wimmer, A. and N. Glick Schiller (2003). "Methodological nationalism, the social sciences and the study of migration: an essay in historical epistemology." International Migration Review **37**(3): 576-635.

Ziguras, C. and S. F. Law. (2006) "Recruiting international students as skilled migrants: the global 'skills race' as viewed from Australia and Malaysia." Globalisation, Societies and Education **4**(1): 59-76.