

## **Introduction**

The case study for this paper is an explorative, qualitative study of a rapidly increasing group of migrants to Australia: international students who apply for residency upon the completion of their degrees. Initially, the research design was based on the classic qualitative method of in-depth interviews, combined with a research diary of reflexive observations. However, as the many complex layers of the research questions began to unfold, the realisation emerged that interview data alone might not provide enough scope to deeply explore the participants' lives.

Wary of the distancing and contrived nature of interview situations, I thus began to explore more creative ways to approach the collection of data. Of particular interest were methods that would give participants opportunity 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 the creativity of both the researcher and the researched, that led to the consideration of cultural probes: individual packages of mixed-media materials that are given to research participants to allow them to document and record elements of their daily lives and thoughts. The central aim was to embed this relatively new and experimental method into a qualitative, sociological study of migration. Probes were thus used alongside the more conventional technique of semi-structured, in-depth interviewing to enhance the depth and breadth of data collection and analysis. As the research progressed, using the probes influenced the progress of the analysis and my own outlook as a researcher in ways that I had not foreseen. The purpose of this paper is thus to use the experiences of my own research to provide some reflections upon the probes as a method of qualitative inquiry, and to consider some of their possibilities as a research tool along with some of their challenges and limitations.

### ***Probing What: Background to the Research***

Recent times have seen an unprecedented increase in the scale and scope of human movement across the globe; we are without doubt in the midst of an "age of migration" (Castles, 2003). Furthermore, in the context of an increasingly knowledge-based global economy, a competitive race amongst nations to attract highly skilled workers is apparent. Thus, 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 a resource that can be tapped to put them ahead in the global race for skills. Khadria (2001) has aptly dubbed students "the semi-finished human capital" (p. 45) and noted that

their exodus must be considered alongside the movements of the fully trained to reveal the complete picture of global skilled migration. A variety of policy responses to this link between international education and skilled migration are emerging from key migrant-receiving and skill-hungry nations. Australia, as a leading receiver of both international students and skilled migrants, has been one of the first nations to explicitly link these two groups in policy (Ziguras & Law, 2006). Skilled migration policy in Australia now favours those with a local degree or diploma, and Australia now recruits a great deal of its skilled migrants from the large numbers of onshore international graduates.

This 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 exploration. The complex processes of individual adaptation and decision-making that characterise the shift from student to migrant are largely neglected in migration research. This research thus aims to use an in-depth, qualitative exploration of the experiences of students-turned-migrants from a variety of backgrounds to shed some light on these issues. The research is grounded in a reflexive, interpretive methodological framework, and explores this phenomenon through the theoretical lens of transnationalism.<sup>1</sup> In migration terms, the adoption of a transnational perspective means a fundamental rejection of migration as a one-way, linear, and permanent movement into a new, nationally-bounded social space (Basch, Glick Schiller & Szanton Blanc, 1994; Vertovec & Cohen, 1999). Transnationalism acknowledges that migrants may in fact sustain significant ties within countries of origin and settlement, creating transnational social spaces that stretch their daily interactions across multiple localities. This 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 nature of the student-turned-migrant experience, and how can we describe the ongoing transnational connectedness of students-turned-migrants?

Most prior research in this area focuses on participants from particular source countries, usually China and India, who supply the highest numbers of students to Australia (Baas, 2006; Gao, 2002; Rizvi, 2005). For this research, however, a deliberately diverse sample of participants was chosen. Rather than focussing on one ethnic or national group, this research instead aims to understand how the shared experience of the student-to-migrant process impacted similarly or differently the lives of people from diverse backgrounds and contexts. As such, my sample consisted of 20 participants from 13 different countries: Taiwan, China, India, Malaysia, France, Venezuela,

Colombia, Sri Lanka, Bangladesh, the United States, Hong Kong, Japan, and Thailand. The sample was fairly evenly balanced by gender, with nine male and eleven female participants. While a majority of the participants were in their mid- to late 20s, their ages ranged from early 20s to early 40s.

Participants were chosen who were at various stages of the student-to-migrant process. Some were recent graduates, waiting for their residency applications to be finalised, while others were professionals or post-graduates who had already been in Australia for up to ten years. The main prerequisites for participation were that they had completed a degree or diploma course in Australia prior to applying for residency, and that they had begun their application after the introduction of legislation that favoured international students as potential migrants in 1998. They were recruited in Melbourne through advertisements placed on university noticeboards, the email newsletters for international alumni, and the staff intranet at two large companies. Once the first few interviews were conducted, the snowball sampling method was used, as the initial participants recruited or suggested friends and colleagues. Essentially, in choosing participants, I sought a range of backgrounds, contexts, and aspirations. I was not seeking to examine a particular culture or bounded social group, but rather to examine, using semi-ethnographic techniques, the social phenomenon of the student-migrant experience from a variety of individual perspectives.

### ***Prior Probing: The Development of Probes as Method***

In this section, I will review the extant literature on cultural probes to trace the development of the method, and to place my own research within emerging debates. 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. As such, the initial conceptualisation of the method was very much “located in the philosophical tradition of the artist-designer” (Hemmings, Crabtree, Rodden, Clarke, & Rouncefeld, 2003, p. 2) The creators used cultural probes as an inspirational tool to inform their design project, and have stressed that they were intended as a “purposely uncontrolled and uncontrollable approach” (Gaver, Boucher, Pennington, & Walker, 2004, pp. 53-54), designed to elicit “inspiration” rather than “information.” Gaver et al. (1999) thus conducted no formal analysis of their probes, instead using what they had learned from the materials to inform the design process in a relatively informal way. This original approach to the probes is best understood through a postmodern lens, embracing values of “uncertainty, play, exploration, and subjective interpretation” (Gaver et al., 1999, p. 53).

Probes have since been adapted into different disciplines and used in multidisciplinary projects, with some researchers extending or reframing their purposes as research tools. Crabtree, Hemmings, Rodden Cherverst et al. (2003), for example, have noted the usefulness of probes in informing design in sensitive settings, in which access to participants and their environments is problematic. While still a design-based study, their project aimed to use the probes as a social research method, to gather practical information about participants' daily activities and circumstances to better understand their needs. As such, they expanded the packages to contain a more comprehensive set of materials and more direct instructions for use. Normark Vesterlind (2003) has also used probes as a mode of social inquiry. In exploring children and roadside interaction, this project required an interdisciplinary approach, which used the probes to combine sociological approaches with engineering and design issues.

Probes have now been used for a diverse set of research projects. For example, they have been used to gain a holistic and empathic understanding of people who exercise for wellbeing (Mattelmäki & Battarbee, 2002), to explore intimacy in Human-Computer Interaction (Kjeldskov et al., 2004), and to investigate how families stay in touch (Horst, Bunt, Wensveen, & Cherian, 2004). Each of these projects has carefully adapted the probe model to suit the characteristics of its participants and the specific needs and aims of the project. The materials of the probes themselves have been reframed and renamed, with the development of "mobile probes" (Hulkko, Mattelmäki, Virtanen, & Keinonen, 2004), "digital probes" (Mattelmäki 2005), and "technology probes" (Hutchinson et al. 2003) providing participants with more sophisticated instruments for self-documentation. Much of this research, like that of Crabtree, Hemmings and Rodden (2003) and Normark Vesterlind (2003), has combined "inspirational" and "informational" purposes for the probes.

However, the development and adaptation of the method has not been without contention. The original creators of the probes have expressed concern that some researchers have tended to "rationalise" the probes, designing them to address concrete questions and produce unambiguous results (Gaver et al., 2004). In this view, the use of the probes as an analytical, rather than inspirational, tool is contrary to their epistemological underpinnings that value play, uncertainty, and ambiguity.

In this case study, I have maintained an awareness of the probes as encapsulating empathy, engagement, and subjectivity, while still adapting them to suit the needs of my research project. I argue that an adaptation of the probes to provide engagement, rapport, *and* some level of analysable data is in keeping with the intellectual foundations of the discipline in which I am working. Moving the probes from a design to a

sociological context does inherently repurpose them. No longer intended to inspire a design project, they are instead intending to provide extra layers to the “thick description” of participants’ lives and experiences. It is also worth noting that giving participants self-documenting tools, such as cameras and diaries, is a technique that is not exclusive to probe research. Self-documenting tools have been used broadly in the social sciences, particularly in ethnographic studies. These techniques are thus embedded in traditions of qualitative social research, and utilising them through probe packages in a sociological study is in concert with methodological traditions of the discipline.

The philosophy of this case study, therefore, is to find a balance between the probes as inspiration and as information. While I have integrated some elements of the probes, such as the log books, into the systematic analysis of the interview data, other elements, such as the cameras, were designed to elicit more playful and oblique responses. I have been wary of over-rationalising the probes, and allowing them to slip into the mundane, by keeping many elements of the content and design whimsical and abstract. Not intended to provide large volumes of concrete data, the probes were primarily used to supplement and enrich the interview data by creating rapport, engagement, and empathy between the researcher and the researched, and by adding layers to the data through “fragmented illustration and narratives” (Jääskö & Mattelmäki, 2003). While researchers disagree on whether the main aim of the probes is inspiration or information, they concur that they provide a more layered and comprehensive understanding of participants’ life-worlds. As such, despite some contention surrounding their methodological purpose, I believed they could translate effectively into a qualitative study of migrants’ lived experiences.

### ***Probing How: Design, Construction, Implementation, and Analysis***

As discussed above, the probes were essentially designed to fulfil two purposes in this study. One was to act as a precursor to the interviews. In this role, they were intended to engage the imagination of the participants, provide prompts for the interview, and bridge some of the distance between researcher and participant. The second purpose was to provide “fragmentary data” (Gaver et al., 1999, p. 22) that could be analysed concurrently with the interview transcripts. The probes were not asking the same questions as the interviews. Instead, they were organised to generally reflect the themes of the research: to elaborate, to give background, and to allow responses 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 & Battarbee, 2002, pp. 1-2). The probes and interviews were carefully designed to complement each other without being repetitive.

Cultural probe packages (see *Figure 1*) 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 packaged and presented in an engaging and visually appealing fashion. Participants were encouraged to view the instructions as suggestions, and to use the probes in other, creative ways if they wished. While it was suggested that participants spend around 5 to 10 minutes a day on the materials over the 4-week period, I stressed that they were free to commit as much time as they wished, and to spread the activities over the month however they saw fit.

**Figure 1: The Probe Package**



In constructing the probes I faced the creative challenge that I can assume many qualitative researchers would also face in implementing probe research: having to design packages without any design expertise. While larger or more comprehensively funded projects could easily procure design consultation from external sources, I would argue against “professionalising” their creation. This is because, fundamentally, the aesthetics of the packages do not have to be flawless. The original creators of the probe concept presented their packages as

“aesthetically crafted... [but] not too professionally finished. This gave them a personal and informal feeling, allowing them to escape the genres of official forms or of commercial marketing” (Gaver et al., 1999, p. 26). This philosophy seemed just as apt for the needs of the current project, which similarly aimed to use probes to “break down” some of the formal barriers between researcher and participant. In adhering to Gaver et al.’s (1999) principle of informality, and with some collaboration and input from colleagues, I was able to stretch my creative abilities to envision and construct probes that looked appealing, yet unofficial. Ultimately, while aesthetics such as colour and artwork can certainly prompt inspiration and engagement, it is the careful consideration of the content of the probes that will ultimately produce the richest data.

Functionality was also a key issue in the design of the probes. The packages were constructed to be easily transported between participants’ homes, workplaces, and/or leisure sites. Each element of the probe could also easily be removed from the package and transported separately, and each was small enough to fit into a handbag or briefcase. Each probe was returned before the scheduled interview, allowing time to analyse the completed materials and adjust the individual interview script accordingly.

### *The Cameras*

Cameras were included in the probe packages as a means for nonverbal expression, and to gain a deeper understanding of the significance of places and objects in participants’ lives. The disposable cameras were repackaged to visually match the other elements of the probes and included instructions for use and suggestions for the themes of photos on the casing (see *Figures 2 & 3*). In this way, the camera could be removed and carried separately from the rest of the package, with the references for use intact. 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 reminded them of their country of origin. However, in keeping with the “playful” tone of the method, I also gave some other less obvious prompts, such as their favourite meal or their favourite gadget. The number of exposures outnumbered the prompts, giving participants several “free” photographs.

The cameras were the element of the probes that provided some of the most unexpected and creative results. For example, one participant chose to use existing digital photographs from her own collection to construct a digital slideshow of images with captioned comments connecting to the research themes. She presented me with this on disc when she returned the probe. Another gave the camera to her

children and allowed them to take random photographs around their home and neighbourhood. The sets of photographs submitted included diverse images such as pets, musical instruments, armchairs, coffee mugs, bookshops, and views from apartment windows. Often, it was the 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)**



The photographs, rather than being independently analysed, were used in Harrison's (2002) terms, as "a kind of field note that (requires) the collaboration of the participants to 'translate' its meaning" (p. 861). 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 collaborative fashion. They provided unique and effective prompts for directing the discussion in the interviews, as well as visual glimpses into the life-worlds of participants.

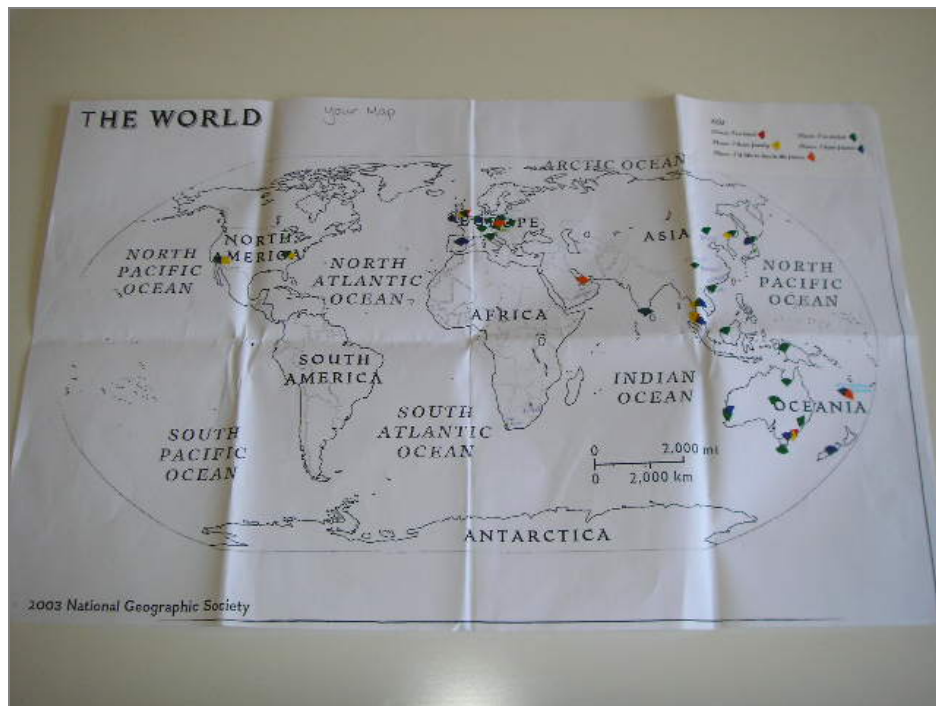
**Figure 3: The Camera (front)**



### *The Maps*

The maps were designed to allow participants to construct a visual representation of their networks and connections overseas. This task was connected to the key research question concerning the significance of transnational interactions and the themes of mobility and belonging. The probe contained a basic world map, along with several different coloured labels and a key to determine what each colour represented (see *Figure 4*). 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.” The labels were small enough for several to be placed on one location, as single locations could 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 participants complete their own map, yet also allowed the process of engagement between researcher and participant to be two-way. By giving participants some information about myself, I was able to establish a connection with them, and similar travel experiences often created good initial rapport in interviews.

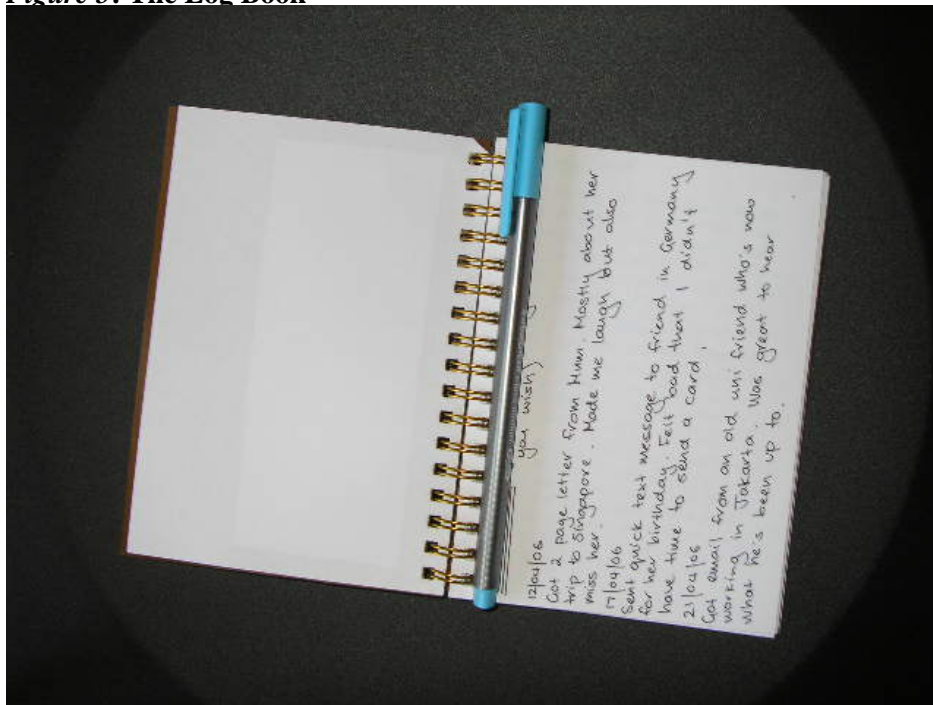
**Figure 4: The Maps**



The maps not only gave a visual representation of individuals' networks, but also facilitated prompting in the interviews, particularly with regard to the emotional significance of the various places. They provided a visual focus when discussing the extent and significance of networks. In general, the maps produced much denser and more complex networks of places than I had anticipated. 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. As such, they became a unique means to follow the life story of each participant throughout the analysis process.

#### *The Log Books*

The log books were used by participants as a daily record of any communication that they had with friends, family, or colleagues overseas (see *Figure 5*). They recorded the date, time, purpose of communication, and method of communication (such as phone call, text message, email, or letter). Participants were also encouraged to briefly record how specific communications made them feel or react. We then discussed these 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.

**Figure 5: The Log Book**

As De Longis et al. (1992) have noted, diaries are useful as a methodological tool in that they allow participants to record responses to events immediately, without the element of retrospective reflection inherent in interviews. This advantage was particularly apparent in the context of this research, as people's immediate emotional responses to telephone calls or letters from loved ones were often very powerful. The log books also allowed multiple communications over the month to be recorded. It would have been impossible to replicate this in an interview setting through memory alone, and similarly unfeasible to achieve this volume of data through participant observation. 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 a comparison of how different modes of technology functioned in the development and maintenance of transnational social interactions. The log books were also an essential prompt during the interviews, particularly in exploring family relationships enacted over distance.

As Sanders (2001) notes, diaries enable research participants to reflect on their experiences daily, which allows them to enter any subsequent collaborative sessions prepared to discuss and analyse what they have recorded. This was very much reflected in the interviews and feedback sessions. Some participants commented that keeping the diary made them acknowledge the guilt they felt about the lack of contact they initiated with friends or family over the month; in this case even the absence of entries in the log books was illuminating. Others noted that

keeping the log book made them realise that they more frequently instigated contact than their families or friends, which opened up discussions about obligation and reciprocity in their transnational relationships. During analysis, I have used the log books to compare the various ways different modes of communications technology are used for different purposes and with different results. They have also been instrumental in unpacking some of the feelings associated with the communications, such as guilt, obligation, worry, openness, and concealment.

### *The Postcards*

The postcards were an element of the probes that use both a visual and a written prompt to encourage participants to express feelings regarding significant events in their migration journey. Each postcard displayed an image and an unfinished sentence for participants to complete (see *Figure 6*). The sentences fell into three types. Type A questions, such as “I feel homesick when...” provided an emotive prompt and required participants to access a memory or situation that correlated with the emotion. In contrast, Type B questions, such as “When I visit my country I feel...” provided a situational context and required participants to provide the corresponding emotion. Type C prompts were open-ended and required descriptive answers, for example, “Studying here was....” A roughly equal spread of Type A, B, and C prompts were included in order to vary the type of memory and response, and thus to enhance the diversity of engagement with the probes.

The images on the cards were one of the biggest challenges of the probe design. They needed to be visually appealing, without providing overly specific images that could unduly influence the user’s response. Furthermore, as my study deals with participants from a wide variety of cultural backgrounds, the design also had to take into account the need to present images that would not alienate or exclude participants through cultural bias. The initial intention was to depict figures that were ageless, genderless and racially neutral: a universal figure upon which all participants could project their individual experiences. This turned out to be a formidable task, as most neutral figures seemed aesthetically bland or overly simplistic. Ultimately, Gaver et al.’s (1999) original aesthetic was informative. They described their probes as “delightful, but not condescending or childish...the aesthetics were somewhat abstract and alien in order to encourage from participants a slightly detached attitude” (p. 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 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 to keep the symbolism light and playful. Whether participants recognised these cultural symbols or not was immaterial. 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 6: The Postcards**



### *Analysis Techniques*

The analysis of the probe data was ongoing, and continued throughout the different stages of data collection. A preliminary analysis of each probe was made prior to the corresponding interview, in which extensive notes were made and the probe material was used to readjust the interview script. At this stage the aim was not to project a great deal of interpretive meaning into the artefacts, but instead to note elements for further exploration and discussion. This undoubtedly began to build empathetic links before the interview. Small details, such as that a participant liked a certain type of music, or had a cat, became knowledge that positively influenced the level of engagement in the interviews. As more probes and interviews were completed, I began to compare some aspects of different probes, again by using notes or by making copies of different elements from the probes and filing them according to different themes. Each original probe was kept with all four elements complete.

When coding interview transcripts, it was an excellent memory trigger and analytic tool to keep the probe materials for that particular participant on hand, allowing easy cross-referencing.

However, because the probes were used so extensively as tools to prompt communication during the interviews, the two methods were ultimately very much integrated. Explanations and discussions of images and words from the probe material were apparent throughout the interview transcripts, making the cross-validation of the data quite holistic and to a certain extent “built in” to the analysis of the transcripts. As the data grew, I entered the written elements of the probes such as the log book entries and the postcard text into the NVivo program (a software package used to code and store qualitative data) to be coded alongside the interview data. However, the original material was kept and referred to continually during analysis. Even small visual elements, such as the way someone’s handwriting changed, or the doodles and symbols they drew, provided tiny pieces of the overall picture of the participant’s experiences.

### ***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 qualitative, sociological contexts. Here I will discuss some of the rationale behind using the probes, and give some suggestions for their use.

#### *Triangulation of Data*

First, 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 from the cultural probes with the interview data ultimately strengthens the validity of this 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 nonverbal forms.

#### *Bridging Distance*

Second, as stated by Crabtree, Hemmings and Rodden (2003), the probes are essentially “provocative resources” which are designed “to overcome some of the distance between researchers and users” (p.4).

This sense of “distance” was bridged by the probes in that the completed materials gave 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 script and my manner to better suit the specific context of each 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 probes can 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, and this prior engagement can lead to richer revelations in the interviews. In feedback sessions, many participants agreed that the probes allowed them valuable prior reflection, making them feel more prepared for the interview and less apprehensive about what to expect. It is therefore clear that the probes provide opportunities both for the researcher to engage with the subject and for the subject to engage with the material of the investigation. Furthermore, the probes allowed this engagement to occur in a playful, informal, and creative form. The completed materials should of course be present at the interview in order to fulfil their function “as a memory trigger and as communication medium” (Mattelmäki & Battarbee 2002, p. 2).

### *Offsetting “Officialdom”*

The official regalia surrounding the beginning of research participation, such as consent forms, plain language statements (the letters provided to participants that explain the research in plain terms), and business cards, although ethically necessary, are unlikely to inspire or enthruse 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. For participants, the probes established early on that there were no “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, 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 laterally about 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 script. As I browsed through maps and images, searched for appropriate materials, and physically cut, pasted, folded, and wrote each part of each probe, I was constantly processing the research themes mentally. The creation of the probes thus required a real immersion into the themes of the research, in an abstract and innovative way. This 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 that factors such as travel, international education, and family migration history can stretch an individual's transnational links beyond a two-way engagement between home and host countries and into multiple, scattered locations. This concept has ended up being quite a central theme in the analysis, and 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 explain verbally. Likewise, recording the frequency and nature of overseas communications would be tedious and time-consuming in an interview, and would require participants to access their memories 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. This left more time in the interview for exploring feelings and interpreting significance, rather than just recording facts.

### *Beyond the Verbal and the Textual*

The probes also allowed participants to represent their experiences in nonverbal ways, and to respond to nonverbal prompts. 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. We are, for the most part, skilled in verbal and written modes of interpretation and communication. This sometimes leads us to neglect the fact that the subjects we are studying may not be similarly skilled, and 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. Pink (2001) has made note of “the sensory nature of human knowledge and experience,” (p. 18) and in the case of this research, the probes allowed some extension of my interaction with participants into sensory forms. In particular, this allowed participants who were not necessarily verbally oriented to have a more equal voice in the study.

Observations from prior research about the usefulness of alternative mediums in eliciting emotional responses were also an instrumental influence in the use of the probes. In their exploration of exercise for wellbeing, Mattelmäki and Battarbee (2002) 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]” (p.3). The probes, most particularly the postcard element, asked much more about feelings and emotional responses than the interview script. Discussing emotions can often be culturally sensitive, or generally awkward, in a face-to-face situation. Privately recording emotional responses on the postcards or capturing emotionally significant images with the camera was perhaps less confronting for participants. By using the probes to mediate the expression and representation of emotions in a variety of nonverbal ways, the participants were given not only a greater scope for creativity, but also less confrontational mediums for expression.

#### *Observation without Intrusion*

Another key element that the probes brought to this study was the ability of participants to contribute to data away from the gaze of the researcher and the artificial environment of the interview room. Allowing participants to complete the probes in their own time and their own environments seemed to elicit freer responses than those gathered through traditional techniques. As Hemmings et al. (2002) have noted, they give the researcher a glimpse into the private worlds of the participants, without having to physically intrude into these environments. This kind of access to the private realm is difficult to replicate in an artificial research setting.

## ***Probing with Caution: 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. Researchers implementing probes must ensure that the diverse forms of data produced with the probes are treated with the same ethical rigour as any other kind of data collected from human participants. Naturally, the data 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.

The first 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. As such, participants in this research were able to request that their probes be returned after analysis. Any copies of the material would be kept securely and then destroyed along with interview data after five years, as per the university's research ethics policy. Most of my participants did not request that their materials be returned, although some requested copies of particular photos to keep for their personal collections. As with any qualitative data, participants retain the right to have any items purged from the research at any time, which must apply to probe artefacts as well as interview transcripts.

Another issue that arose was the fact that participants, as well as their families and friends, could be incidentally identified in the data. For example, participants might choose to photograph or write about loved ones in the probes, perhaps without their express consent. The log book and postcards were not too much of a problem, as participants were able to identify others through their relationships (my mother, my sister, or my best friend) rather than by name. On the odd occasion when someone was identified by name, it could be changed to a pseudonym in any publications, and physically erased or blacked out from the raw data.

The photographs were a greater challenge, as images of people are inherently identifying. While most of the prompts suggested images of objects and places, some photographs of people were included. I ensured that these remained secure and were not included in any publication. It is obviously also feasible to acquire official consent from participants and their loved ones to publish their images. I preferred to not 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. This is particularly pertinent to the cross-over of probes into use by non-design-based researchers, who may choose to source images externally. I

was fortunate to have creative contacts who allowed 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 written permission from the creator. This can be a great opportunity for some cross-disciplinary collaboration, as researchers can seek out creative minds within the university or community in which the research is based. Copyright-free images are also quite readily available online, but must be explicitly marked as such. The absence of a copyright notice or the digital altering of an image does not denote that the image is in the public domain (Fitzgerald 2000).

### *Return Rates*

One of the frustrations of working with probes is that the return rates can be disappointing, especially considering the amount of time that goes into construction and design. In this case, about 50% of participants completed their probes fully, and another 20% completed certain elements only. Those who did not complete them generally cited a lack of time or a lack of interest in the materials. Although the probe tasks were designed to be as time-effective and accessible as possible, many participants, juggling the demands of family, study, and work, felt that even 10 minutes a day was difficult. Furthermore, some participants (about 15%) stated that they simply did not engage with the materials.

Researchers implementing the probe method thus have to acknowledge that it is one that will be unfamiliar to most people, and that there will be ambivalent reactions. Although it can be disappointing to have carefully constructed probes returned untouched, this has to be accepted as a general hazard of social research, just as participants may be unforthcoming in interviews or return questionnaires unanswered. The main problem that this presented was a possible discrepancy in the depth and quantity of data from different participants. As the study consisted of a relatively small number of participants, I was concerned that my analysis could be skewed towards the experiences of the individuals who had completed the probes. Attempts to remedy this included extending the interviews with the “non-probe” participants, and using follow-up phone calls to check or add to their set of data. Ultimately, however, as the probes were designed to provide fragments and background, rather than answer key questions, it was still possible to gain sufficient balance in this way.

However, there may be alternative ways to increase return rates. The flexibility of completing the probes in their own time may have led many participants to postpone completion. One way to combat this might be to set up an appointed time in which to visit each participant and to complete some of the probes. Alternatively, a kind of focus group session could be set up in which participants meet together to discuss

and work on their materials. However, although these structured times might increase return rates, they would also remove some of the spontaneity from the probes, and would to varying extents remove the privacy and intimacy of the process. Individual researchers need to negotiate ways to maximise returns without unduly limiting the effectiveness of the probes, and these decisions must naturally be based on the epistemological and methodological specifics of the study at hand.

### *“Slippery Data”*

Data obtained from probe research is a very different kind of data from that which is collected by traditional qualitative methods; it is different in its aims, its nature, and its limitations. I like to refer to probe data as “slippery data,” as it is flexible, mutable, and difficult to fix into set typologies or systems of analysis. There is a great danger in expecting simple answers from probe research, and although it can undoubtedly enrich qualitative fieldwork, it is helpful to avoid the desire to over-rationalise (Gaver et al., 2004). Attempting to use probes to source only direct answers tends to diminish their usefulness, and introduces the danger that they will become 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. Therefore it is naïve to assume that because the probes are completed away from the gaze of the researcher, that they are somehow more inherently “truthful” in drawing 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, specifically in allowing the user to discuss and explain the artefacts that he/she has produced.

### ***Probing the Possibilities: Conclusion and Reflections***

Essentially, I believe that probe data is applicable in a wide range of qualitative projects. Although in this case study probes were utilised by an independent researcher exploring a small sample of participants, they could also be utilised in larger-scale collaborative projects. The interest that the probes sparked amongst the participants’ children shows that their creative and playful nature could have great applications in educational research. This is further confirmed by design-based probe research involving children (Normark Vesterlind, 2003; Iversen &

Nielsen, 2003). I can also confirm Crabtree, Hemmings, Rodden, Cheverst, et al.'s (2003) assertions of their usefulness in any setting in which physical access to participants is problematic or time-consuming. The development of fully digital probes, utilising digital cameras, weblogs, wikis, and email to create packages that are completed and returned digitally also has the possibility of enabling participation from individuals in various locations. This could be a boon to researchers working transnationally, especially those with limited resources to travel for fieldwork. Creating wikis or webpages for participant contribution would also be a way to expand probe research into a collaborative participatory project. Users could log on and respond to the artefacts created by other users, stimulating dialogue and collaborative discussion. This kind of project certainly provides its own set of logistic and ethical concerns, but could function well for the right project.

In this case study, which sought to qualitatively explore transnationalism in the lives of students-turned-migrants, the probes were used as a tool to deepen and complement the primary data collected from in-depth interviews. All the elements of the probes required co-constructive interpretation during the interview sessions for their meanings to become apparent through the perspective of the participant. Some elements, such as the maps and the log books, were also a pragmatic way to record data about transnational communication and transnational links. My own and the participants' engagement with the probe materials deepened both our level of reflection and our level of mutual rapport. Furthermore, the visual elements in the probes allowed a means of creative expression that transcended the verbal or textual, which provided new perspectives and unexpected results. Moreover, 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 if they 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., 2003, p. 6). They are thus best suited to researchers who wish to evolve new methods of exploring groups of individuals creatively and in a great deal of depth. As with any method, there are practical, epistemological, and ethical challenges involved. Despite their "playful" nature, they must still adhere to standards of academic and ethical rigour to ensure the integrity of the method. Nevertheless, while they are risky and challenging, they are also intriguing, effective, and

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 exciting 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.

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### **Notes**

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