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Probing in qualitative research interviews: Theory and practice

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ABSTRACT

The effective use of probing in research interviews is central to eliciting rich, deep data from participants. Probing achieves access to this extra level of detail and depth via verbal prompts to clarify, elaborate, illustrate or explain a prior answer to an interview question that the participant has already given. This article presents a four-part theoretical framework of narrative theory, self-disclosure theory, autobiographical memory theory and attribution theory, which together provide a sense-making structure for why probing works and why it is important to research interviews. I then summarise a taxonomic model, entitled the DICE approach to probing. DICE is an acronym that stands for four types of probe based on first letters: 1. Descriptive Detail Probes, 2. Idiographic Memory Probes, 3. Clarifying Probes, 4. Explanatory Probes. This is followed by a critical consideration of probing in relation to Yardley's evaluation criteria for qualitative research.

KEYWORDS

autobiographical memory;
data collection; interviewing;
probing; self-disclosure

Introduction

The science and practice of conducting research interviews in the social sciences has been evolving for over four decades (Brinkmann and Kvale 2018; Gorden 1975; Mishler 1986; Roulston 2010; Wengraf 2001). Probing has been / recognised in this literature as a central element of the research interview process, due to the fact that it helps to elicit rich, deep and detailed data. Probes are questions or requests that ask the participant to provide additional information about their previous response (Given, 2012). If probes are used systematically throughout a research interview, the conversation between interviewer and interviewee moves into sensitive and salient areas of discussion that it is unlikely to access otherwise. Probes can be laddered, which means they can be linked in sequence such that the interviewer probes the response to the previous probe, and so on. This leads down a series of proverbial rungs into the deeper or concealed layers of autobiographical narrative that usually remain hidden from others (Price 2002).

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Several taxonomies of probes have been provided before (Gorden 1987; Russell Bernard 2013). These schemes have been important to the development of probing within research interviews; however, they have limitations that point to the need for a new approach. The current article aims to move the literature on probing forward by presenting a theoretically informed taxonomy of probes, based on four theoretical domains: narrative theory, self-disclosure theory, autobiographical memory theory and attribution theory. These together provide a sense-making framework for why probing functions to enhance depth and detail in interviews. The taxonomic model, entitled the DICE approach to probing (DICE stands for Descriptive/Idiographic/Clarifying/Explanatory) is summarised prior to a hypothetical example of using probes within a research interview exchange. Finally, I present a critical consideration of probing in relation to ethics and epistemology.

Existing frameworks for probing

A widely used framework for probing was devised by Gorden (1987). He proposes a set of probe types that serve two overarching functions; to (1) motivate participants and (2) steer them towards giving relevant, complete, and clear responses. Gorden's framework includes six forms of probes. The first of these is the *silent* probe. This functions by way of leaving a silence when the interviewee stops talking. The interviewee assumes that the silence is an implicit message to continue talking, so they may then continue to follow the train of thought that was being explored prior to the silence. The second probe type is an *encouragement* prompt, such as 'Really?' 'Yes, I see' or a similar phrase that suggests interest or praise on the part of the interviewer. This is designed to enhance motivation in the interviewee. The third kind is the *elaboration* probe, in which participants are asked to elaborate on what they have said. Typical probes of this type are 'Can you tell me more about that?'. The fourth kind is the *clarification* probe, which involves a request to clarify a word or phrase that was used. The fifth kind is a *recapitulation* probe, which involves taking a participant back to the beginning of the time period that is being covered for a second telling of particular aspects of the narrative. The assumption is that this will lead to further depth and detail while filling in any apparent blanks. Finally, the *reflective* probe involves repeating back a phrase that a participant has used, but as a question. For example, if an interviewee said 'The main reason I came to the college was that it appealed to me a lot.', a reflective probe would be 'It appealed to you a lot?' (raising voice).

Another widely used taxonomy of probe types was developed by Russell Bernard (2013), partly based on Gorden's approach. As with Gorden, Russell Bernard includes the silent probe. Then there is the *echo* probe type, in which the interviewer repeats the last point the interviewee has said (similar to Gorden's reflective probe). A third type is the *affirmation* probe, which is

the same as Gorden's encouragement probe. The third type is the *tell-me-more* probe, which is the same as Gorden's elaboration probe. Probes that are specific to Russell Bernard's approach include *directive* probes, which use phrases that might be considered leading, such as 'did it make you feel bad?' (rather than 'how did it make you feel?'). Finally, Russell Bernard refers to *baiting* probes, which are designed to imply that the interviewer knows the answer to the question, on the basis that this leads some respondents to then provide their own answer to the question.

There are limitations to these existing probing taxonomies that point towards the need for a new and improved approach. One problem is that there are interview techniques included within these probing taxonomies that are arguably not probes. For example, in both taxonomies, silence is mentioned. Silence is a technique that interviewers can use, but it is not a form of probing *per se*. Confronted with silence, participants may start talking about something new, rather than going back to a previous point in more depth, thus it does not meet the definition of probing. Also, in Gorden's scheme, encouragement probes are described. These are phrases of encouragement and expressions that imply personal interest from the interviewer. They may lead the participant to keep talking if they see positive responses in the person opposite them, but they also do not meet the definition of a probe.

Russell Bernard's taxonomy also includes statements that are designed to be directive and to push participants in particular directions. Bernard argues that this can help elicit certain kinds of information, but the downside is that it can lead to co-constructed interview data that has been distorted by the interviewer's leading probes. Also, it is unclear how a baiting probe would work in practice.

As a final issue, both these probing taxonomies miss out several crucial probe types, such as explanatory probes and idiographic probes, the importance of which is shown when presented through the theoretical framework set out below.

A four-part theoretical meta-structure for probing

The probing framework that I propose is embedded within four theoretical domains: (1) narrative theory, (2) autobiographical memory theory, (3) self-disclosure theory and (4) attribution theory. This framework is illustrated in [Figure 1](#). In this section, I briefly discuss the four domains and how they act to make sense of the utility of different kinds of probes.

Narrative theory and inner/outer descriptive detail probes

The theory of narrative cognition developed by Bruner (1990) states that when people convey their own lives in words, they present the narrative via a selection of episodes from the life course, each of which has a *dual landscape*. One half of the dual landscape is the landscape of outer events and actions –

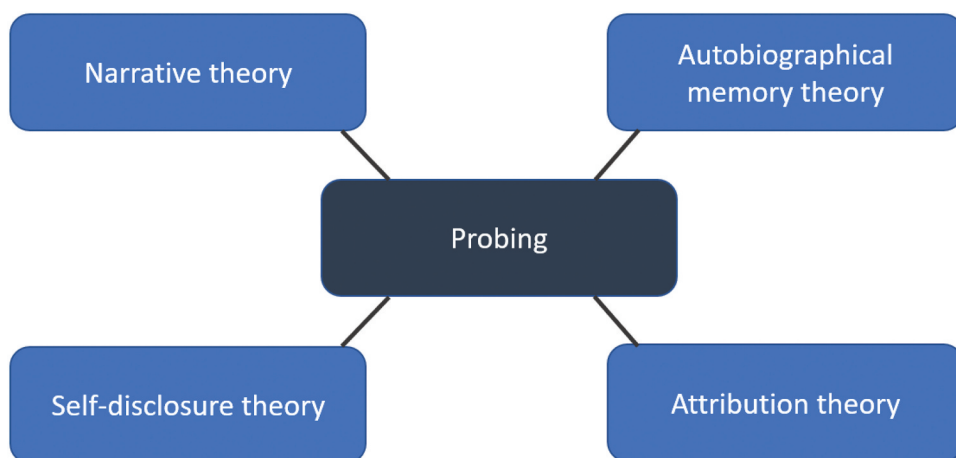


Figure 1. A four-part theoretical framework for probing.

the external, public domain. The other half is the inner landscape of consciousness – the private, subjective landscape. Another key aspect of the narrative theory that frames interviewing is the idea of narratives as *co-constructions* by the teller and the listener/prompter (Gorden 1987; Pasupathi 2001). An interview is always a co-construction and contains at least two voices.

Within a research interview, the balance and depth of the inner and outer landscapes conveyed depend in part on the interviewer's questions and probes as integral features of the co-constructed narratives. The interviewee will look for signs and prompts that demonstrate they are expected to divulge across both landscapes. When an autobiographical event or episode is initially described by the interviewee, the interviewer should probe into both landscapes, requesting further descriptive information on these different but interactive levels. As will be discussed more in the section on self-disclosure theory, the private inner landscape of memory usually contains more sensitive information than the outer landscape, and so will be less likely to be divulged spontaneously, making probing a vital means of accessing the subjective layer of the narrative. External probes are equally important to ensure a detailed account of the temporal, physical and interpersonal features of the event itself.

External descriptive probes about a past event or episode include probes such as: 'Who else was present/When did it occur/Where were you/What were you doing at the time?'. They also include probes to elaborate descriptively, such as 'Could you tell me more about ...'. *Contextual* external probes are also helpful; they include phrases such as 'What else was going on in your life at the time', or 'What was happening in the run-up to [the event/episode]'. The aim of these probes is to gain increasing

amounts of rich, deep data about the recalled public facts of the occurrences under discussion.

In contrast, *internal* descriptive probes ask about the subjective emotion, cognition and motivation recalled as part of a past episode, such as ‘how did you feel at the time’, ‘what do you recall thinking about at the time’, or ‘what did you think [the action] would achieve?’. A related line of probing is asking the participant about the perceived subjective experiences of *other* individuals involved in the episode, such as ‘what do you think that [pronoun or name] was feeling at the time?’ Probing the perspectives of others on the episode, has also been shown to help recall, hence is frequently used in the cognitive interviewing process with eyewitnesses (Fisher et al., 1989).

Autobiographical memory theory and idiographic probes

When interviewing people about past experiences, the information being sought is stored in the interviewee’s autobiographical memory. Literature on autobiographical memory identifies subtypes of such information (Brewer 1986; Conway 2005), for example the distinction between generic memories and specific memories about past events (Thomsen and Brinkmann 2009).

Generic memories are abstracted memories that summarise across repeated similar experiences, like ‘I used to take the train to work in the morning’, or ‘before the divorce, I sometimes went with the children to the local cinema on Saturdays’. In qualitative research, interviewers should be cognizant of the fact that generic memories represent an averaged or compound memory and thus will lack temporal and narrative detail (Thomsen and Brinkmann 2009). The interviewer should aim to get the interviewees beyond generic memories and into specific memories. This latter type of memories includes recollections of time-framed episodes from an individual’s past (Conway 2005). Specific memories are characterized by detail, affect, and a strong sensory component (Conway and Pleydell-Pearce 2000). They are stored in narrative-like structures, hence allow for being recollected and told in storied form more naturally than generic memories.

A probing strategy for accessing specific memories, particularly when generic memories are the dominant response form in an interview, is *idiographic probing*. This kind of probe is worded to ask the interviewee to convey one specific event that illustrates the generic memory they have been referring to. The term idiographic is used here for memories that are descriptive of a single instance, following usage of the term in studies on idiographic memory such as Rottenberg, Hildner, and Gotlib (2006). This is a similar meaning to the word idiographic when it is used to denote research methods aimed at eliciting information about a specific instance or case (Smith and Osborn 2003).

One type of idiographic probe is the example probe, which requests an idiographic example, such as ‘You mentioned [X], could you give me an example of a specific time when that happened?’, or ‘Can you describe an example of when you felt that?’. Idiographic probes facilitate a cognitive shift into specific memory recollection, which in turn opens up the rich narratively formed information that sits within this layer of autobiographical memory (Thomsen and Brinkmann 2009).

Time-specific probes are another type of idiographic probes that can also be used to direct the interviewee towards specific memories. These probes don’t ask for an example, but rather direct the participant to describing a particular timeframe or event. For example, if an interviewee is referring to a period of time when they were hospitalised for an illness, and are using generic, non-specific phrases, then time-specific probes can direct towards a particular temporal moment within that episode to bring the participant into their specific memory layer, for example, ‘So tell me what you recall about the week after you left hospital’.

Self-disclosure theory and clarifying probes

Self-disclosure theory states that people communicate information about themselves in layers of progressive depth, depending on levels of trust and/or intimacy with the person they are communicating to (Littlejohn and Foss 2008). West and Turner (2009) propose that as self-disclosure increases in this way, there is increasing *breadth and depth* of disclosure. Breadth refers to the number of topics discussed while depth refers to the time spent on communicating these topics and the detail provided.

Jourard (1971) theorised that self-disclosing memories and experiences to another human being is conducive to psychological health, particularly where those memories contain strong emotions. Therefore, there is a motive to self-disclose, which interviewers can tap into. This is partly because the promise of anonymity in research interviews can offer an opportunity for cathartic self-disclosure. Participants may conclude they will feel better after sharing the information and that no-one will know about it beyond the research team (Hunter 2014).

Participants may disclose sensitive information in this way if two conditions are met. Firstly, a *collective privacy boundary* must be set (Petronio 2012), whereby both parties have agreed to share and protect information within a defined interpersonal space (Derlega and Chaikin 2001). This boundary is put in place via assurances of confidentiality and a trusted contractual agreement that the participant’s identity and/or identifying information will not be attached to any output and not disclosed beyond the research team. Secondly, the participant must view the interview as an opportunity for cathartic self-disclosure (Hunter 2014), whereby they get to externalise sensitive

information in a way that helps them to feel emotionally better. The interview can emphasise this by reminding the participant that there are no right or wrong answers, and that it is an opportunity to disclose whatever is on their minds, without fear of consequence.

Once a collective privacy boundary is set in such a way that the participant trusts that it will remain intact, probing then facilitates the process of self-disclosure. All the probe types can help with this process. For example, the use of internal descriptive probes, as described in the prior narrative theory section, encourages the sharing of personal feelings and thoughts, which may not be shared spontaneously without the right kind of probe. Another important probe that facilitates enhanced self-disclosure is the *clarifying* probe. Clarifying probes are designed to unpack a previously stated word or comment in more detail, by requesting the divulgence of implicit meaning or unspoken detail. Example clarifying probes are ‘you mentioned [word or phrase], can you tell me more about what you mean by that’, ‘what do you mean by [word or phrase]?’ or ‘Could you clarify what you meant by [word or phrase]?’ Such probes, particularly when laddered sequentially, are designed to facilitate the divulgence of meanings and details that are usually concealed.

Attribution theory and explanatory probes

Attribution theories provide a theoretical framework for how people interpret the causes of events in their lives and the lives of others (Kassin, Fein, and Markus 2010). Perceived causes can be proximal (close to the event) or distal (in the past), can be stable or fleeting, and can be internal or external to the self. Research suggests that causal attributions are affected by cognitive biases, such as the self-serving bias, which involves attributing negative outcomes of actions to others, rather than to the self (Shepperd, Malone, and Sweeny 2008). Causal attributions are subjective judgements, but they have tangible effects on emotion and behaviour, thus are important to understand as part of the sense-making cognitions that surround and permeate autobiographical memories.

Tilly (2008) argues that perceived causes are usually not narrative. Examples he gives are convention-based explanations, technical cause-effect explanations, or explanation by rule. However, he is of the view that some explanations *are* conveyed in narrative form. For researchers seeking to understand how their participants make narrative attributions of why a phenomenon occurred, they can employ *explanatory* probes (DeJonckheere and Vaughn 2019). Example explanatory probes are as follows: ‘Why do you personally think x happened?’, ‘What do you feel were the reasons for x occurring?’, ‘In your view, what were the causes that led to x?’, ‘Are there events in your past that you feel contributed to causing x to happen?’. Explanatory probes should be worded in a way to emphasise the personal nature of the causal attribution so that interviewees do not feel that they are being asked for an objective cause.

Explanatory probes are not universally popular. Kvale (2007) argues that questions can lead to over-reflective and intellectualised responses and suggests interviews should stick to descriptive information. While I agree with Kvale's caution in asking for perceived explanations, sometimes understanding perceived causality is integral to the research questions and in other instances it can uncover information that helps to make sense of complex emotional responses. As an example of explicitly studying narrative causes, a study looked at explanations of entrepreneurial failure via 18 semi-structured interviews (Mantere et al. 2013). They found forms of explanation including *Catharsis* (accepting personal responsibility for the failure and portraying the failure as a learning experience); *Betrayal* (failure caused by others, whose actions betrayed the interviewee); *Mechanistic* (non-human narrative attributions, traced back to the non-human features of the organization) and *Fate* (attributions of external, uncontrollable causes where unexpected market development forced the organization out of business).

In another study, which focused on attitudes and opinions rather than personal autobiographical memory, causal attributions of mental illness in Jamaica were explored via focus groups (Arthur and Whitley 2015). The five most commonly endorsed causal attributions of mental illness were: (a) drugs as causes, including marijuana; (b) biological causes such as chemical imbalance and 'bad blood'; (c) psychological causes, such as stress and thinking too much; (d) social causes, such as relationship problems and job loss; and (e) spiritual or religious causes, including Obeah (a system of belief characterized by the use of magic to ward off misfortune or to lead to harm).

In other studies, narrative causal attributions emerge spontaneously as part of autobiographical stories that have strong emotions tied to them. For example, a qualitative study on the phenomenon of maternal guilt found that if the mother believed that she was even partially causally responsible for their child getting hurt, this led to painful emotions (Rotkirch and Janhunen 2009).

The DICE approach: A new theoretically informed probing taxonomy

The prior section on theory and probing presented four basic types of probe – descriptive, idiographic, clarifying and explanatory, and conveyed how the functions of each type can be understood through a theoretical lens. Given that the four first letters of the types make out the word DICE, the probing framework is referred to as the DICE approach. The name has the benefit of being a useful mnemonic for interviewers, when working out what probe to ask within an interview. Table 1 presents the four types of probes, a summary of the function of each type, gives subtypes within the type, and provides examples of the probe type for use in interviews.

Table 1. Summary of the DICE taxonomy of interview probing.

Type	Function	Subtypes and Examples (X represents the topic or point just raised by the participant)
Descriptive probe (internal/external)	Developing an in-depth description and contextualisation of an episode across outer and inner landscapes	External descriptive: <i>Tell me more about what happened when X was going on.</i> External contextual: <i>What else was going on in your life when X was happening.</i> Internal descriptive (self): <i>What do you recall feeling at that time?</i> Inferred internal descriptive (other): <i>What do you think other people involved felt about X?</i>
Idiographic memory probe	Moving participants from generic memories to time-framed specific memories, hence accessing greater detail and depth of recollections	Idiographic example-type probe: <i>You mentioned you were experiencing X from time to time. Can you tell me through an example of when that happened?</i> Time-specific probe: <i>You mentioned X happened. Can you describe what was going on for you in the month after it happened.</i> (this probe can be as specific as appropriate, e.g. focus on a day/week/month)
Clarifying probe	Eliciting implicit meanings and depth; facilitating self-disclosure in the process	<i>You mentioned X, can you tell me what that means to you?</i> <i>What do you mean by X?</i> <i>Could you clarify what you meant by []?</i> Or simply repeat the word or phrase they used with a rising tone of voice.
Explanatory probe	Eliciting perceived explanations and causal attributions for an episode or outcome	Externally-focused explanation: <i>Why do you think that X came about?</i> Internally-focused explanation: <i>Why do you think you felt that about X?</i> Reasons: <i>What do you think are the reasons why X came about?</i>

From the perspective of the DICE approach, the keys to probing across these four types are balance and maintaining a problem-focused approach. There should at all times be an aim to elicit in-depth, detailed descriptive memories, with additional probing about perceived meaning and explanation where appropriate. In terms of the practical order of such probes within an interview, descriptive and idiographic memory probes are better earlier in the interview, as trust and rapport is being built, with the more challenging probes – clarifying and explanatory – about meaning and attributions of causality – reserved for later in an interview, at which point the interviewee is likely to be ready to divulge more and make more complex inferences and convey subjective opinions.

Example of probe types within the context of a research interview

To provide an example of how these probes can be used within the flow of a semi-structured interview, below I present two annotated extracts from the second half of an interview on the transitional experiences and challenges of leaving university and finding work with a young woman who had left university and experienced a developmental crisis in the subsequent year

(Robinson 2019). The crisis episode was defined by a struggle to find work, with multiple rejections, and then difficulties in several temporary jobs within her chosen field of human resources. During this time, she was intensively questioning herself and her identity, while also re-negotiating a challenging relationship with her mother. After each probe shown below, I present in brackets what kind of probe this is and why it was used.

Extract 1 – includes idiographic memory probe (time-specific type), descriptive detail (inner and outer) probes and explanatory probe

Researcher: So take me back to January of last year; what do you remember then? *[This is an idiographic probe aimed at moving the participant towards more time-specific and chronologically encoded memories. The participant was referring to generic memories before this probe.]*

Interviewee: Um, it feels so long ago. Okay so from January last year, where do I begin? So my role at the company was a contract role. I was hoping . . . it was a one-year contract initially so my hope was I would be made permanent but they just extended it by six months.

Researcher: What did you feel about that? *[This is a descriptive inner probe to elicit some of the emotional content of the narrative]*

Interviewee: I wasn't best pleased. I like to feel settled. I like to have a routine and I'd had a routine since April. Yes so yeah I wasn't very happy. It kind of felt like it was a personal attack against my HR ability . . .

Researcher: Why do you think you felt that, at the time? *[This is an explanatory probe at eliciting some causal cognitions about the experience]*

Interviewee: Because I'd started my time there feeling very, not very, confident with my HR skills and I felt not very confident within myself and at work and to then find out after I'd been with the company for so long and I thought I was doing a good job to kind of be told you're not really doing a good job, we're just going to extend your contract but not make you permanent. So, looking back . . .

Researcher: OK, tell me more about your personal life at that time [*This is a descriptive external probe aimed at eliciting more information about the episode in question that is outside of the job context discussed so far*]

Interviewee: Personal life-wise in January, everything was stable, everything was settled. Um, still with my boyfriend, still living at home with my mum.

Extract 2 – includes clarifying probe and idiographic (example-type) probe

Interviewee: I've learnt that it's okay to be selfish. I think, I don't know, like for example when I went through the, this depressive phase in August/September, no, lets go from before then, before then I remember sometimes I'd feel lonely and on my own and I'd cling to people. So when I was in a relationship he was the person I clung to especially when I felt lonely.

Researcher: That makes sense. So, tell me more about what you mean by 'it's okay to be selfish' [*This is a clarifying probe to elicit more information about a phrase used by the interviewee that seems to contain much implicit meaning that can be unpacked further*]

Interviewee: I, by my nature, I like to help people and I like to please; I'm a people pleaser. I like to yeah, I go over and above for people and then what would usually happen is when I realise people aren't treating me the same I would feel hurt and feel offended.

Researcher: Can you give me an example of where this happened and you found yourself learning that it is OK to be selfish? [*This is an idiographic example-type probe to focus the interviewee on a more specific instance to help bring this generic point into clearer focus – it elicits a fairly long response, as shown below*]

Interviewee: Yeah, this one time where my friend ignored my phone call when I've picked up every single call that she made at 3am to cry about her boyfriend. Now I know that if I don't want to answer my phone or I don't want to reply then I will not and I would never, but that was never my mentality before. I still sometimes feel a bit bad if I see someone calling and I know I'm not in the mood to talk, I feel a bit like I think I don't want to

answer it and I say well I can, it's my choice, I can pick up and talk for two seconds or so and sometimes if I am feeling a bit, it's not weak but I'm going to say weak, if I'm feeling a bit weak I'll pick up and say that 'now is not a good time, can I call you back?'. But I've kind of learnt who are leeches, I call them, so I have, I know the words friends I should use quite loosely but there are, I do have some leech types."

The DICE approach to probing: Supporting quality criteria in qualitative research

One of the most widely cited and extensively used sets of quality criteria used for judging the merits of qualitative research studies and for promoting best practice is Yardley's (2000) scheme. One of the practical benefits of Yardley's approach is its parsimony in distilling down the many quality criteria against which qualitative research can be evaluated into four domains; *sensitivity to context*, *commitment and rigour*, *transparency and coherence*, and *impact and importance*. In this section, I critically consider how the DICE approach can be used to ensure these four criteria are supported, as part of a general approach to best practice research design.

Sensitivity to context

Being sensitive to context as a qualitative researcher involves being aware of the socio-cultural context of the research, the linguistic sensitivities and contexts of the participants, and the diversity and individual needs of the participants involved. To ensure that sensitivity is maximised during a semi-structured interview, the direction and intensity of probing should be informed by a general understanding of the cultural norms of the participant group, to ensure that there will not be any perceived transgression into unacceptable discussion points. If done in a sensitive and appropriate manner, probing *demonstrates* to the participant that the interviewer is listening intently and consciously to what they are saying, which in turn provides an important source of affirmation and confidence in the context of an interview.

Yardley (2000) points out that the more sensitive and intimate the information that is discussed, the more stringent the ethical processes needed to ensure anonymity and confidentiality. Probing is a key mechanism for accessing information that is normally not disclosed to others, and given this, it is an interviewing skill that should not be left to chance (Kvale 2007). The DICE taxonomy contains guidance on the theoretical assumptions underlying probe types, on how to use probes, when to use them and in which order (for example, I present ideas early in the article

on which probes tend to work better towards the beginning of the interview or towards the end). This in turn helps to ensure that the probing process is conducted in a structured and considered way, which in turn ensures the participant feels that they have been listened to and respected (Russell Bernard 2013).

Commitment and rigour

Commitment and rigour refer to the methodical thoroughness of data collection, analysis and reporting. The sub-criteria that Yardley (2000) stipulates for this domain are (1) in-depth engagement with the topic, (2) methodological competence/skill, (3) thorough data collection, and (4) depth/breadth of the analysis. In the process of conducting semi-structured interviews, the probing process is in large part responsible for moving the discussion into in-depth coverage of topics that might otherwise be moved over quickly, while ensuring that all parts and layers of the narrative are drawn into the interview discussion. Thus, effective probing clearly supports sub-criterion 1 and 3. Furthermore, to have mastered the skill of probing to a sufficient extent to manipulate it sensitively and effectively in interviews is an important methodological tool for researchers, thus it also supports sub-criterion 2.

Transparency and coherence

Yardley (2000) points to the importance of transparency and the overall fit of method and theory for this criterion. Transparency of process is provided by explicitly detailing and reporting the exact approach taken to data collection and analysis. By using an explicit approach to probing such as the DICE framework, this integral aspect of the data collection process can be referenced to the reader, who can in turn read about the approach for more in-depth information about its assumptions, its taxonomic types, and its methodologically flexible ethos. In terms of coherence, the four-part framework of the DICE approach, which is based on a singular common definition of probing (which may be lacking in other approaches, as mentioned earlier), lends this potentially complex and multi-faceted research process a latent unity.

Impact and importance

Yardley (2000) outlines a number of ways in which qualitative research can have impact and utility. This can be theoretical impact, practical impact or broader socio-cultural impact. She references the importance of interviews in relation to ensuring that impact is maximised, as follows:

Despite the relevance of talk . . . there is a real risk that the interview (or focus group discussion) could become the qualitative counterpart to the questionnaire – a convenient method of sampling opinion, but one that is divorced from the context of real-world action and interaction. (p.224)

Probing is central to potential impact as described by Yardley above, as it is a key to unlocking depth and unspoken layers of memory and personal narrative and thus a means of ensuring that interviews do not remain at the prosaic level of opinion elicitation that is, in essence, an in-person questionnaire. The potential impact of the DICE approach itself is worth reflecting on critically too. The semi-structured interview has become a pillar of contemporary qualitative research in the social sciences and beyond, yet the training provided in interviewing tends to be focused on question wording and rapport building rather than the dynamics of probing (e.g. Brinkmann and Kvale 2018; Silverman 2013). The potential impact of a refined and improved approach to probing based on theory is considerable. Kurt Lewin (1943) famously said that nothing is as practical as a good theory. I understand this maxim to mean that by grasping the often-undiscussed theoretical assumptions of applied techniques, the use of those techniques can then be flexibly applied in a more advanced way, based on a deeper understanding of axiomatic *principles*, rather than just a surface knowledge of what works. This article is the first that I am aware of to make explicit links between theory and probing, and it is my belief that it will provide a means for improving interview training in this essential and transferrable skill.

Summary

Probing has a range of theoretical bases that justify and guide its use. Narrative theory emphasises using descriptive probes to tap inner and outer landscapes. Self-disclosure theory emphasises using probes that facilitate the expression of sensitive or concealed information. Autobiographical memory theory emphasises using probes that push participants away from generic memories towards specific memories. Attribution theory provides guidance on when and how to probe for personal explanations of events or feelings. These four domains come together within the DICE approach to probing, which provides an integrated framework for deploying descriptive, idiographic memory, clarifying and explanatory probes within semi-structured interviews. The appropriate and ethical use of probes within interviews is a skill that should be intensively developed by qualitative researchers, and the hope is that this article will support that skill development.

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