

# Representation and Reflexivity in ICT for Development (Telecentre) Research

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**Abstract.** The author argues there is insufficient discussion of representation (the problems of showing the realities of the lived experiences of the observed settings) and reflexivity (the relationship between knowledge and the ways whereby knowledge is produced) in ICTD literature, particularly regarding telecentre users and non-users. It first reviews six papers from 2007-8 in *Information Technologies and International Development* and find that the process of research methods and theorizing from findings could be analyzed in more detail. It then shares how deconstructing the research process affected findings in *Our Voices* telecentre, the author's own case study.

**Keywords:** telecentre, telecentre users, representation, reflexivity, research method.

## 1 Introduction

In a 2004 paper, Kanungo [1] states that his objective is to discuss barriers to emancipation through a rural telecentre in a neohumanist paradigm. The aim of his research is to discuss the empowerment of those who use the MSSRF village knowledge centres (or telecentres<sup>1</sup>) in Pondicherry, India. His paper praises the approach of the MSSRF project, stating that project staff lived in the setting and understood the issues thoroughly. Yet, the author states that limited direct interaction took place with users. Kanungo does not appear alone in purporting to research themes such as participation, empowerment and the use of telecentres, but not expanding on the research methods used in terms of direct interaction with users and non-users, and how his findings were reached. This paper reviews literature on representation (the problems of showing the realities of the lived experiences of the observed settings) and reflexivity (the relationship between knowledge and the ways whereby knowledge is produced). We then ask if in ICTD literature, especially in telecentre research we pay enough attention to representation and reflexivity by conducting a review of telecentre papers for the past two years in one of the main IT and development journals *Information*

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<sup>1</sup> Telecentres are usually non-profit physical spaces that provide public access to ICTs, ostensibly for development. This review will also cover papers on for profit cyber cafes in developing countries, as there is growing literature that argues that cyber cafes and as likely to contribute to development as telecentres, as they are potentially more sustainable (\*\*\*).

*Technologies and International Development*<sup>2</sup>, gauging the extent of representation and reflexivity. The paper then offers some practical suggestions, applying these to the case of the *Our Voices* telecentre in India, conducted as part of the author's doctoral research.

## 2 Literature Review

How do we know what we know? Epistemology is concerned with knowledge and how knowledge is required. In information systems, it is generally accepted that there are at least two epistemological perspectives when conducting research: positivism and interpretivism<sup>3</sup>. Positivism implies that an objective world exists independently of humans [2] and that as this world exists, it can be reached through value free and objective research [3]. Interpretivism argues that distinguishing facts and beliefs/values is subjective in itself and there is no such thing as an objective world, as it is constructed by the researcher's perspective [2]. The American anthropologist Clifford Geertz (1973) puts it simply, saying that what we call our data are really constructions of other people's constructions of what they and their compatriots are up to [4]. Deeper within interpretivism, those concerned with representation and reflexivity argue that in our research, many of us do not question how we represent our subjects, how we have reached that conclusion, essentially how we know what we know.

The issue of *representation* deals with the problems of showing the realities of the lived experiences of the observed settings [5]. Enmeshed with representation is the issue of *voice*, or to what extent it is the research subject's view or the researcher's view that is being portrayed. In researching telecentres, what appears particularly problematic is obtaining the views of telecentre users and non-users, and how this is portrayed by authors. One challenge, according to [6], is that when conducting research, telecentre researchers may inadvertently offer suggestions for the use of the telecentre, which the research subject may simply agree with. Another challenge, given the often remote location of many telecentres, is that several voices may be involved in telecentre research, from the principal researcher, to the research assistant, interpreter, transcriber and so on. The worldview, or *Weltanschauung*, of each of these would be implicated in the research. Finally, the author's voice can also be moulded and perhaps constrained by their research discipline/faculty/publication outlet.

*Reflexivity* delves deeper into how the problems of representation can be addressed. According to [7] reflexive researchers are interested in assessing the relationship between knowledge and the ways whereby knowledge is produced. Reflexivity acknowledges that research is shaped by various factors, including linguistic, social,

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<sup>2</sup> Initially, this review covered five years and included the journal *Information Technology for Development* but had to be edited due to space restrictions.<sup>2</sup> Further, there are undoubtedly many other outlets for telecentre papers, including *Information Society*, *Information Technology and People*, *New Media and Society*, *The Electronic Journal of Information Systems in Developing Countries*, as well as conference proceedings such as from *IFIP 9.4*, *ICTD*, *HCI*, and *CHI*, but due to space restrictions, the review focuses only on *Information Technologies and International Development*.

<sup>3</sup> Two other perspectives include critical theory and critical realism [2].

political and theoretical elements [7]. The reflexive researcher asks themselves what preconceptions they may be bringing into their research. According to [8], in the social sciences there is only interpretation. Nothing speaks for itself. Reflexivity asks if the findings can be understood in a different way [9, 7]. Alvesson and Kärreman [9] suggest asking can I construct/make sense of this material in another way than suggested by the preferred perspective/vocabulary. Can I let myself be surprised by this material? Can it productively and fairly be constructed in a way that kicks back at my framework and how we-in my research community-typically see and interpret things?

Why should representation and reflexivity matter at all? Firstly, there is the issue of ethics, that we have an obligation to our research subjects to represent them as honestly as they would like to be represented. Secondly, greater discussion of research methods avoids the assumption that data exists and simply reflects reality. Thirdly, it makes the research process and findings more thoughtful and creative, playing with different possibilities and the potential richness of meaning [10]. Fourthly, it questions the authority of the researcher and sees it simply one representation amongst many [7]. Ultimately, findings may be very different if attention is paid to representation and reflexivity. In ICTD research, the issues of representation and reflexivity are particularly important as the world views of the researcher and the research subjects are likely to be very different.

### 3 Reviewing Representation/Reflexivity in ITID

This brief analysis gives some indication of the extent of representation and reflexivity in telecentre papers in *ITID*. In all the papers, the research question/objective is important as it establishes who should be interviewed. In this sense, it is acceptable not to necessarily interview telecentre users if the research question is something such as the formation of telecentre policy [12], although even here it would have been useful to interview telecentre users and non-users to see if they had been involved in policymaking. This aside, five out of the six papers above deal with issues of sustainability, empowerment, social equity, adoption and trust-all issues which directly relates to users and non-users. Therefore it is critical that both groups are interviewed (representation) and further, the authors discuss how their findings are reached (reflexivity).

In terms of representation, only three of the papers explicitly mention interviews with users [13, 14, 15]. One mentions interviews with users, but with other projects and not with the actual project being researched [16]. Only two mention interviews with non-users [13, 14]. In terms of reflexivity, there is some discussion, such as recognition of author bias [11, 16] although this was either seen positively in terms of

**Table 1.**

Paper	Research question/aim	Representation		Reflexivity
		Interviews with users	Interviews with non-users	

**Table 1.** (Continued)

[11]	Why were some, but not all of the SARI telecentres in India unsustainable?	No	No	Footnote that this author was a director of the board of the SARI project and participated throughout its lifetime. The research reported here benefited from the access this position afforded. Every attempt has been made to ensure that this paper is evidence-based and free from bias. But does not state how. States that two trained interviewers (whose spoke the local language) were used, but it does not say how they were chosen, who they were trained by, whether they were old, young, male or female and how long they stayed in the field.
[12]	What is the process by which the UNDP-Ministry of Science and Technology tele-centre project has been established in rural China?	No	No	States that failure to facilitate such involvement [of villagers] may leave the public unaware of project's potentials and risks and unable to recognize its relevance to their interests but does not appear to have conducted any such interviews with villagers-all interviews with UNDP/Chinese government respondents. Does not appear to have visited any of the telecentres mentioned in the article.
[13]	What is the impact of the Internet through telecentres on social equity in Colombia?	Yes-100 randomly selected telephone interviews, and 28 selected interviews	Yes-102 households from four neighbourhoods	Implies that the authors did not conduct the surveys, in which case who did? How were the surveyors selected? How many were there? Were they from the area /outsiders? Were 100 users truly randomly selected? How were the 102 non-users selected? How did the surveyors report back to the researchers/authors?

**Table 1.** (Continued)

[14]	How does the Diffusion of Innovations framework explain the adoption of telecentres (communal computing facilities) by the urban poor in South Africa?	Yes-23 at centres A, B and C plus 17 one year later at Centre C	Yes-11 at centres A, B and C	<p>States that authors do not have affiliation with the project initiators. Clarifies that two graduate student groups conducted most of the interviews . Were the research questions for the graduate students different from the questions posed by the authors? What was the interaction between the graduate students and the subjects?</p> <p>Observations were conducted by a research assistant and the lecturer (author). States that to ensure quality information, the research assistant had a meeting with the lecturer for each observation session and was briefed within 24 hours.</p>
[15]	How does the Internet lead to female empowerment in Egyptian cybercafes?	Yes-25	No	<p>25 interviews conducted in five neighbourhoods, but does not explain breakdown of demographics in those neighbourhoods. Clarifies that the research assistant is Jordanian (but does not expand further on how this may impact), female, Muslim, a former resident of Cairo and questions asked in Arabic. States that ethnographic research has been conducted but only evidence of interviews. How much time did the researcher spend immersing themselves in the phenomenon? 28 questions are asked, but there is no explanation of how these were construed as symbolic of empowerment.</p>

**Table 1.** (Continued)

[16]	How does trust between citizens and intermediaries affect e-governance through telecentres in India ?	Am-biguous-30 out of 249 total inter-views are conducted with users of Kissan and FRIENDS, but not Akshaya	No	The researcher has had direct association with the project but sees this only in a beneficial light in terms of gaining access. States that the paper is an empirical study of Akshaya but users and non-users of Akshaya itself are not interviewed.
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gaining access, or claims that attempts have been made to minimise bias [11]. Similarly, in four papers [including 16], there is insufficient discussion of how the users have been chosen, who conducted the actual research, what preconceptions they had and the interactions between them and the research subjects. Some papers are more detailed about the research methods such as [14], which clarifies that graduate students conducted the research and that the research assistant had a meeting with the lecturer within 24 hours of conducting research, but this still does not enter into details of how findings and theorising were reached -was it a process of negotiation and shared understanding between the assistants and lecturer or did the latter have the final say? What was the process of interaction between the graduate students and the research subjects, who would have been close in age? How could this potentially impact on the findings?

The next section shares some of the challenges of representation and reflexivity when conducting research at the *Our Voices* centre.

**4 Representation and Reflexivity in Our Voices**

*Our Voices* is a community radio and telecentre initiative established by a donor agency in 2001 in a village in India. Six months were spent here researching participation in the centre (the thesis discussed the various meanings given to the word participation). The full findings of the research will be available in this author's PhD thesis. The intent here is not to be prescriptive, but to share some of the challenges in representing and being reflexive in the research design, data collection, analysis and writing up of telecentre research.

Firstly, in terms of research design, [9] recommend an open ended approach to research, rather than defining narrow themes. This leaves one open to what they call breakdowns in understanding, which occur when empirical data challenge any theoretical assumption. This breakdown should be represented *honestly* , as a surprising finding (they give an example of how when investigating gender in an advertising agency, it was the men who emerged with more *feminine* traits, such as being intuitive, emotional, sensitive to interpersonal relationships, family orientated even at work, but also recognize the irony of such labels). In the case of my research, having

read much literature extolling the virtues of *Our Voices*, it was surprising to find that nothing was working. My initial reaction was to find another project to research, but I was encouraged by others to explore the *surprising finding*. My research therefore presents the juxtaposition of how *Our Voices* was portrayed in policy and research literature, and the reality during my fieldwork.

Another element of reflexive research design is allowing for what [7] call polyphony - multiple voices and alternative narratives, rather than the grand *narrative*. In terms of telecentre research, it was imperative for me to research both users and non-users and not just telecentre managers or policymakers. Several findings appeared from researching alternative narratives, such as non users complaining why don't they build a factory here instead of the centre.

Secondly, in terms of data collection, the reflexive researcher can think about how one's own position might be interpreted by the research subject. Drawing upon Goffman, [17] make the point that the interview is a stage, with both the interviewer and interviewee performing. Further, as several authors have stated, the interaction between respondents and researcher is influenced by factors including status, age and gender [18, 19]. An older researcher may be treated with more respect, but they may be greater expectations from the interviewee, particularly of something tangible. A younger researcher may not be treated with so much respect but may therefore have a deeper insight through informal conversations. Female researchers may not be taken seriously, particularly by village headmen [20] but are likely to have greater access to female respondents than male researchers. Further, most telecentre researchers are almost inevitably urban, and may therefore be regarded with skepticism by users of rural telecentres. In my case (a female of Indian origin living in the UK), I did face challenges in interviewing village headmen, and it was easier to talk to women, but the latter also doubted my ability to understand their existence, as I was an urban foreigner. All these factors therefore affected the findings, for example fewer and less satisfactory interviews with village officials.

If the researcher does not speak the language of the respondents, the issue of how the research was conducted would also be discussed by the reflexive researcher. Did the researcher learn the language? Or was an interpreter used? If an interpreter was used, how were they found? Are they from the same area? What preconceptions do they have? How many interpreters were used, as each new interpreter means building a new relationship with interviewees? Is the interpreter older/younger/male/female/ from a different class or religion (or in the case of India, a different caste)? In my case, five interpreters had to be used as one was not available for the entire six-month period. Various complications arose with each-for example two of them were Christian and a mutually distrustful relationship arose between them and interviewees (mainly Hindus), not only affecting findings, but also illustrating the prejudices within Indian society.

Moving on to interviews, reflexivity means awareness of several factors such as: the location of the interview-is it conducted in a public or private space? A private interview might be preferable as sensitive matters such as income can be discussed and interviewees may not be intimidated [18]. For example, a telecentre nonuser may be intimidated by the presence of a telecentre manager. In the early days of my research, the centre management would send an escort with us to interviews, ostensibly to help us. However, this intimidated users and they provided more free answers

further on in the research, therefore presenting a large discrepancy between answers in the early part of research and later.

Can the interview be supplemented by observation, allowing for a more natural interaction [19]? [3] states that observation is even helpful when interviewing. That is, the posture and/or tone of the interviewee is important. For example, an interviewee may say that the telecentre is very useful but say it in a bored voice and with a shrug. This particularly emerged later, as respondents revealed they had suffered from interview fatigue from previous researchers.

Finally, in terms of data analysis and writing up, we can think about our own position and how it is likely to influence the research- for example, would the research findings be couched differently if they were analyzed by a black/white/male/female/local/foreign researcher? [20] recommend adopting a reader response strategy, where the researcher reads for himself/herself in the text, trying to understand if and how their response is related to their background/history/culture/experiences. To mitigate this, we can work with other researchers from another cultural background (although there is no guarantee that a researcher from the same country as the research location will have any greater understanding than one who is not from that country, and on the contrary may have greater biases). We can also work with researchers from other disciplines and/or with different theoretical frameworks. This was harder to do in doctoral research but has been attempted subsequently by co-writing with authors from different disciplines, such as economics and anthropology.

## 5 Conclusion

Why is representation and reflexivity relevant in HCI? I would argue that it is fundamental in understanding the interaction between humans and computers, and how that interaction is interpreted by subjects as well as the researchers, and other voices in between. Suggestions outlined in this paper can be generalized in conducting research for other ICT and development subjects, for example mobile phone and television usage. Inevitably, however, there are several critiques and challenges of representation and reflexivity. Firstly, it is argued that for a subject that aims to deconstruct and diminish the sole voice of the researcher, reflexivity can ironically lead to narcissism in a research paper, where the author focuses extensively on how the research was conducted and what in his/her mind were the breakdowns, and how it may be conducted differently (again, only the author's suggestions) [7]. Secondly, being reflexive can weaken the author's perspective and development of their theory: the more reflexive, the less we know [7]. A more pragmatic challenge is that most research simply does not have the time or space needed for such reflexivity and neither do most publication outlets, given such banalities as funding and word restrictions. Yet, as we conduct telecentre research, if we could think about how we ourselves would like to be represented, or how others might represent us (much harder), it may make us more reflexive researchers.

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