

Challenges in Conducting Educational Research: The Case of a Developing Country

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This paper examines challenges in conducting educational research in a developing country, Bangladesh. Data have been drawn on from my experiences of field work in Bangladesh as a part of my doctoral research, which explored how scientific literacy is promoted through school science education. This research followed a mixed methods design where qualitative approaches, including interviews with teachers, lesson observations and focus group interviews with students, dominated the overall research process. The issues I encountered in my field work included difficulties in getting permission from key authorities, recruiting intended participants and using survey questionnaires. The experiences shared in this paper might be used as a point of reference for future research to be conducted in similar contexts.

Introduction

In this paper, I present my reflections on some challenges that I encountered during my field work in Bangladesh for my PhD research, which was completed in Monash University, Australia. In the following sections, I present research context, methodology used in my PhD, the challenges I encountered, and my reflections on the challenges.

Context – Bangladesh

Bangladesh is a South-Asian country of over 160 million people (July 2013 estimated), of whom about 31 % live below the poverty line (Central Intelligence Agency [CIA], 2013). According to CIA, in Bangladesh, the literacy rate is 56.8 % (age 15 years and above can read and write) and education expenditure is 2.2 % of GDP. Whilst Bangladesh still has the issues that Knamiller (1984) described as the characteristics of developing countries, for example, overpopulation and lack of nutritious food, fuel, water and sanitation, health care, housing and jobs, it has made tremendous strides over the last decades to being a middle income country through focussing on education (The Asia Foundation, 2013).

Along with other parts of South Asia, Bangladesh was a British colony from 1757 to 1947. During this ruling period, in 1954, a British education model was introduced in the Indian subcontinent by the colonizers, based on Wood's Despatch (Ghosh, 1975), which recommended an improved education system for the entire subcontinent. In independent

Bangladesh (after 1971), education reform has been largely informed by the British-dominated education system. Most education reform initiatives in the country have been supported by foreign aid agencies in association with the government. As reported elsewhere with my colleagues (Siddique, Begum, Roshid, Sarkar, & Majumder, 2011), the country relies heavily on organizations such as the World Bank, the Asian Development Bank and other UN organizations for most of its financial support and, therefore, is obliged to follow their recommended strategies for research, which might be designed simply to accomplish their agendas. In this paper, I will report how conducting academic educational research in such context may be challenging.

My PhD

My PhD thesis explored how scientific literacy is promoted through school science education in Bangladesh. It looked at four areas: teachers' perspectives of scientific literacy; the translation of their perspectives into teaching practices; the values they consider in science teaching in relation to scientific literacy, and the issues they perceive as challenging in their teaching for promoting scientific literacy.

This study was guided by the set of beliefs that I have about the world indicating my philosophical worldview. I believe that realities are "socially constructed" (Mertens, 2005, p. 12). We construct our own understanding from an event. This understanding is subjective and hence varies from person to person (Creswell, 2009). Moreover, these constructions are alterable as they are open to new interpretations as information and sophistication of understanding improves (Guba & Lincoln, 2004). According to Guba and Lincoln, knowledge is created through interaction amongst the researcher and participants. The researcher's goal is to understand the multiple social constructions that the participants hold, thus research "must employ empathic understanding of those being studied" (Tashakkori & Teddlie, 2003, p. 705). I strongly espouse these views, which are also consistent with the views associated with the constructivist research paradigm. Thus my worldview for this research has been a constructivist one, aimed at building an understanding of teachers' perspectives of scientific literacy, translation of their perspectives into classroom teaching, the values they consider in their teaching for scientific literacy and the issues they perceive as challenging in their teaching. In order to do so, I listened carefully to and observed the practices of my research participants. In tune with my constructivist worldview, I developed a research approach that would permit exploration of teachers' perspectives, practices and challenges along with opportunities to consider how these have been shaped.

My constructivist worldview suggested I could consider either a qualitative approach or an approach combining qualitative and quantitative methods (see, Mackenzie & Knipe, 2006), since these approaches help researchers understand the multiple social constructions that the research participants hold. However, often a more complete picture of human behaviour and experience could be constructed by using a combination of qualitative and quantitative methods within a research study (Gay, Mills, & Airasian, 2006). It was therefore assumed that a mixed methods approach could give more complete and sophisticated understanding of the research problem.

With this assumption, in this research, a mixed methods approach was adopted, where both quantitative and qualitative data were collected and used to shed light on the research problem and provide responses to the research questions in an appropriate manner. However,

the demands of the research questions led this research to adopt a “dominant/less dominant status design” (Tashakkori & Teddlie, 2003) with the domination of qualitative methods.

This research first employed a questionnaire to gather responses from a number of school science teachers in Bangladesh. The questionnaire data (largely quantitative in nature) were used to gain an overview of teachers’ perspectives, practices and challenges in their teaching for promoting scientific literacy. The questionnaire data were further used to select appropriate participants to invite to be involved in the detailed qualitative part of this research. In the process of this qualitative phase, six teachers’ science classes were considered as six cases for gaining an in-depth understanding of the research problem, using qualitative methods, such as interviews with teachers, lesson observations and focus group interviews with students. The rationale for considering multiple cases is that individual cases would share some common and contrasting characteristics that would provide an in-depth understanding of the research problem (Stake, 2006).

In the case studies, I conducted a pre-lesson semi-structured interview with each participant to explore his/her perspectives of scientific literacy and the values he/she considered pertinent to scientific literacy. Then I acted as a passive observer of a series of classroom lessons (3 – 4 lessons for each teacher) to understand how they translated their perspectives into classroom teaching. These observations provided rich examples of these teachers’ practice in action in the classroom and were an additional data source to their verbalised practices indicated in the initial interviews. Each teacher was interviewed again at the end of classroom observation to gain further explanation of what happened in the classroom. In addition, 6 – 8 students from each class were interviewed in focus groups to understand how they perceived what was taught in their science class. Focus group interviews were used as supporting data sources to understand teachers’ practices in the science classes. Figure 1 illustrates an overview of how these data sources were used for the case studies.

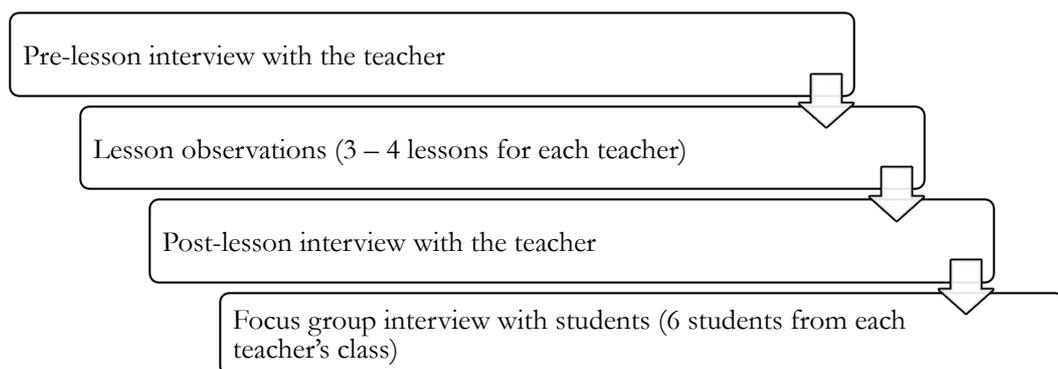


Figure 1: Data sources used for the case studies

Challenges encountered

Challenge 1: Getting permission for collecting data

As part of my ethics application in Monash University, I sought a general permission letter from the education office in Bangladesh. The challenges I faced in this regard were the bureaucratic process maintained in the education office in Bangladesh, gatekeepers’ concern about ‘information trafficking’ and their limited understanding about academic research and

its purposes. To follow the required procedure of the education office, I prepared an application letter to the head of the office, a gatekeeper with the power to say 'yes' or 'no' to me. The application needed to be authorized by a director before proceeding to the head; however, despite being sent to many of the large number of directors in the office, I had difficulty finding the appropriate director for the authorization. After several days, I located the appropriate director, but he was too busy to listen to my request. Fortunately, after convincing his personal secretary, I was able to talk to him. After listening to my explanations about my intended research, the director expressed his doubts about 'information trafficking', as my research was being conducted with a foreign university.

Challenge 2: Recruiting intended participants

I intended to recruit science teachers representing a range of geographical locations, school types with different class sizes, lengths of teaching experience and educational qualifications. The head teachers in the selected schools, however, insisted me to recruit the teachers who they perceived 'good' teachers. Same happened in recruiting students for focus group interviews. Head teachers wanted high-performing students to participate, whereas I wanted to recruit students of different abilities and performances. They were worried that their weaknesses would be exposed if I selected underperforming teachers and students, and they might get into trouble with parents and/or higher authorities.

Challenge 3: Problems in using survey questionnaires

Because of the time and cost-saving benefits of mailed questionnaires (Creswell, 2009), initially, I planned to mail the questionnaires to the respondents. In order to test the applicability of the plan to use mailed questionnaires, I mailed the questionnaire to 15 schools with an explanatory statement, consent form and permission letter to collect data along with the postage-paid return envelope. However, I received only one questionnaire back after two weeks had elapsed. In order to increase the response rate, I sent follow-up mail invitations to the participants, but no improvement in response rate occurred. I discussed this issue with some experienced researchers in Bangladesh and my PhD supervisor in Australia. After reflecting on their expert suggestions, I changed my plan from using mailed questionnaires to arranging several seminars for in-service science teachers where they were requested to respond to the survey.

Although the questionnaire clearly stated that teachers' own perspectives would be valued and that there were no right or wrong answers, I noticed that the participants still seemed to search for the 'right'/'desirable'/'positively valued' answers rather than expressing their own views. For example, I found some participants asking others sitting nearby what the right answer would be to some questions. In order to respond to this issue, I probed the participants about my intentions of using the questionnaire and my expectations of them as participants. At this point, many of the teachers indicated that they had not noticed what the questionnaire expected from them as written in the beginning of the questionnaire or in the explanatory statement. I got a feeling that my written statement of the purpose of the research could not communicate to the research participants their role in the research.

My Reflections

The *Challenge 1* exemplifies how the slow bureaucratic process common in Bangladesh necessitates a huge amount of time and labour if one is to gain permission from gatekeepers. It further illustrates how a researcher from a foreign university might encounter additional

challenges in getting access to research information. As noted previously, in Bangladesh, research in education or other social science arenas is often conducted using funds from different foreign agencies. In these circumstances, the gatekeepers can be concerned about disclosing data that they believe might dissatisfy the fund providers, which might, in turn, impede foreign funding.

The head teachers' concerns to show a desirable picture, as illustrated in *Challenge 2*, might be shaped by school inspection traditions in Bangladesh. Since colonization, authorities have inspected schools in Bangladesh using methods that create a climate of suspicion and control (Siddique, et al., 2011). In my research experience in Bangladesh, I observed inspectors making unexpected school visits during which they observed teachers' classroom performance and sought to assess students' learning by asking some questions. These inspectors have the ultimate power over decisions on teachers' promotion, suspension or transfer and on school funding. Consequently, when I asked for information regarding the school or teachers' teaching practices for my research purposes, respondents were sceptical about the intent behind the query and considered the research to be a type of inspection.

One possible explanation for participants' tendency to provide answers in socially desirable ways, as illustrated in *Challenge 3*, might be – Bangladesh's examination-driven education system. In Bangladesh, the success of teachers and schools is measured by students' results in the exams (Tapan, 2010). As the school exams mostly demand memorisation and recall of the content from the textbooks, and only 'correct' answers are valued (Tapan, 2010), the power of exams reinforces teachers to encourage students in rote learning and providing 'correct' answers, rather than developing and expressing their own ideas. My participating teachers, products from such examination-driven environment, showed tendency to provide answers in socially desirable ways. This also provided me with a feeling that a clearly written statement of the purpose of research may sometimes not be able to communicate to the research participants their role in the research process; rather a verbal communication may be necessary. Whilst I was not sure if my verbal communication with the participants was sufficient to address the issue, I felt that it would increase the possibility of getting their own authentic views rather than 'fabricated' views.

Concluding Remarks

In this paper, I present my reflections on some challenges that I encountered in collecting data in Bangladesh for my PhD research. These challenges are embedded in differences in cultural values, beliefs and norms, as well as differences in orientation to research. Researchers in countries with colonial past (or similar socio-economic contexts) may find some context-specific information on challenges of doing educational research in such contexts and gain insights from this paper.

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