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## **Focus groups in educational research: using ICT to assist in meaningful data collection**

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### **Abstract**

*Education research methods include the use of focus groups for gathering qualitative data. Focus groups consist of small groups of informed people addressing research questions and are a form of 'group interview'. Focus groups in education research can be considered to be conversations that are initiated by the researcher for the specific purpose of obtaining data relevant to the specified research outcomes. Traditionally, approaches to data collection in focus groups use tape and/or video recorders and note takers. These approaches however, can be intrusive to the small group processes employed in gaining responses to the focus group questions. This paper discusses some of the issues and benefits of using focus groups in education research. It draws upon Australian research that explored educational leaders' views about the relationships between school leadership and teaching and learning with information and communication technologies (ICT) in which the data was collected through face-to-face focus groups, and where ICT was incorporated into the research method. This paper examines the processes required to incorporate ICT into the focus groups and outlines ways in which ICT can assist in data collection for education research.*

### **Education research**

The Australian Association for Research in Education (AARE) in 1992 defined 'education research' as 'a systematic and disciplined endeavour to produce knowledge about curriculum and pedagogical processes in educational contexts' (in Lingard & Blackmore 1997: 2). This AARE definition focuses on the fundamental components of education: curriculum and pedagogy; but the field of 'education research' can be considered more broadly. For the purposes of this paper 'education research' is conceptualised to be the conduct of planned, systematic, creative and communal acts to investigate and understand questions and problems concerning the education of individuals, communities and societies.

Research in school education has attributes that make it distinctive from other disciplines. Education research has consistently been characterised by its diversity, complexity and multidisciplinary character (cf Keeves 1987; Lingard and Blackmore 1997; Johnson & Christensen 2004). Education research is often complex, in part because both the conduct of, and outcomes from school education research concerns young people who are legally minors; and because of the dynamic and inherently social, political and cultural nature of school education. Both

quantitative and qualitative approaches to education research have their place; the choice of method being dependent upon the problem or issue to be investigated. The complexity, diversity and multidisciplinary nature of many education research problems however, justify qualitative approaches to the research.

The complexity of education research in Australia over the past two decades has been compounded by the changing context within which such research is undertaken. Throughout the 1990's, State, Territory and Commonwealth government Departments of Education tended to commission the conduct of short, specific pieces of education research and evaluation studies (cf Lingard & Blackmore 1997; McTaggart & Blackmore 1990). This tendency has continued into the 21<sup>st</sup> century. A cursory look at the 'tender' pages in the websites of agencies such as the Department of Education, Science and Training (DEST) illustrates the point.

Government sponsored research brings with it complexities in addition to the specific problem or issue to be investigated. Government-funded education research requires an understanding of the complexities of educational policies and practices from the micro to the macro. Such research sits in the 'tension' between educational policies and practices (Lingard and Blackmore 1997). Furthermore, undertaking research projects on behalf of government agencies often requires the researcher to collect and analyse data within short timeframes. A challenge for education researchers undertaking government-funded research is how to marry government requirements for the conduct of research in short spaces of time, with gathering meaningful qualitative data.

The purpose of this paper then, is to outline how face-to-face focus groups that include technologies can be used as a method of robust data collection ready for analysis, and how they can assist in the timely conduct of education research. This paper draws on the experiences of the 2005 national *Leadership and Learning with information and communication technologies (ICT)* research project, which was sponsored by the Australian Government funded agency *Teaching Australia: the Australian Institute for Teaching and School Leadership*. Before discussing the nature of focus groups that include ICT as an integral part of the data collection processes however, an overview of focus groups as a qualitative research method is outlined.

## **Focus groups as research conversations**

Meaningful education research contributes to understandings of social constructions of reality and social constructions of reality occur with the use of language (Berger & Luckmann 1966). Language then, has a central place in education research, since the practice of research can be considered to be a textual practice (Usher 1996) where the use of language is fundamental for undertaking education research (Herda 1999). 'Textual practices' are interpreted broadly here, and include verbal conversations that have been recorded and then transcribed into written texts.

Focus groups consist of small groups of informed people who are engaged in social processes premised upon the collection of conversations as data. The purpose of focus groups is to elicit participants' feelings, attitudes and perceptions about a particular topic through conversations (Puchta & Potter 2004). In education research focus groups can be used to stimulate conversations around carefully constructed questions that are initiated by the researcher for the specific purpose of obtaining data relevant to the specified research outcomes.

Focus groups are a form of 'group interview' (Merton, Fiske & Kendall 1990; Puchta & Potter 2004), where the conversations generated in focus groups can be considered as 'research conversations'. Interviews are primarily linguistic occurrences, and the main characteristic of interviews is discourse: 'meaningful speech between interviewer and interviewee as speakers of a shared language' (Mishler 1993: 10-11). Conversations are speech acts that occur in social contexts (Herda 1999). Conversation is a basic form of human interaction (Kvale 1996), and focus groups established for the purpose of research are founded upon a skilled researcher facilitating conversations where the speech events are based upon the notion of transaction or exchange about the topic of the research under question. The transactions are carried out in conversations that are premised upon mutual assumptions about how the communication should be undertaken.

'Research conversations' form the location or the 'construction sites' (Kvale 1996) for research data. At these 'construction sites' there is an interdependence between human interaction and data production, with those taking part in the 'research conversations' (Herda 1999) being the constructors of the research data. In addition, 'research conversations' generated through focus groups can be considered as professional conversations where discussions occur on questions, topics or themes, at predetermined times. These activities can be considered akin to what Burgess (1988) refers to as 'purposeful conversations'. The meanings of the questions and answers held within these conversations are contextually grounded (Mishler 1993), and the conversations are used to establish meanings that are jointly understood.

In focus groups the conversations are facilitated so that the discourse is oriented to the interpretative context established for the focus group. The collection of this data usually occurs through the use of recording devices: often with a tape recorder along with notes taken by an observer (Krueger 1988). The tape-recorded conversations are then transcribed and coded, turning the conversations into texts. The written notes taken together with the transcripts of the focus group conversations become the data ready for analysis. Thus conversations in educational research can be captured through focus groups.

### **Strengths and weaknesses of focus groups**

There are strengths and weaknesses to conducting focus groups as a qualitative research approach. The benefits include the flexibility of the format, which allows the researcher to explore unanticipated issues and encourages interaction among participants. Discussions in the focus groups can enable clarification of issues and enable views to be both challenged as well as accepted.

Focus groups use people's voices as part of a research methodology which affects the power relationships between the researcher and the participant: to listen to people is to empower them (Casey 1995). Listening requires the researcher not to dominate and control the airspace but to share it, and to attend to the messages being told. Such an approach requires constructing the relationships between the researcher and the participants in the research so that the researcher moves away from a position of a 'neutral observer' to that of being engaged in a relationship (albeit temporarily), with the people with whom the questions forming the research are being discussed (cf Casey 1995; Herda 1999). To achieve this sort of relationship between the researcher and the participants requires consideration of where the power lies within the research method and how that is reflected in the structure of the research conversations (Casey 1995). It requires the researcher to recognise that he or she is not accorded an elite or privileged external position from which to conduct the discussions, but requires the researcher to be conversant with the issues in order

to hold meaningful, and meaning-making conversations with the participants in the research.

Weaknesses of traditional focus groups include that the discussions can be sidetracked or dominated by a few vocal individuals and the collection of data cumbersome. Central to fostering a dynamic focus group is an environment that is conducive to conversations being relaxed and free-flowing (Krueger 1988). But collecting data through tape recorders and note takers can be disconcerting to the participants and the transcriptions laborious for the researcher. Tape recordings can also be problematic for recording group conversations as they pick up extraneous background noises such as feet tapping, planes flying overhead and the like. The use of recording devices can also inhibit some participants' conversations.

Cognisant of the benefits and some of the practical difficulties of conducting focus groups, the *Leadership and Learning with ICT* research project adapted the focus group approach to education research, and included the use of ICT as an integral part of the research method. In the *Leadership and Learning with ICT* research, issues such as the time and place to conduct the conversations, and the potential for unequal power relationships between the researcher and those participating in the research conversations, were actively considered. An outline of how the research was conducted and a discussion about the ways in which ICT can assist in data collection for qualitative education research, now follows.

### **Focus groups in the *Leadership and Learning with ICT* project**

The *Leadership and Learning with ICT* research project was conducted in 2005 to investigate the question: 'how does educational leadership support learning with ICT in Australian schools?' It was a national research initiative aimed at developing deeper, more specific knowledge about the nature of educational leadership required in Australian schools for the integration of ICT into teaching and learning. The data collection focussed upon the relationships between school leadership and the integration of ICT into teaching and learning. An aim of the design of the *Leadership and Learning with ICT* project was to ground the research in the world of lived experiences of school leaders (Denzin and Lincoln 2000), by developing an understanding of the contributions made by the people with whom the 'research conversations' were held.

Detailed planning of the focus group questions, the processes to be used with the groups, and the roles the respective 'actors' were to play in the research, were all fundamental requirements to be considered in order to achieve the desired research outcomes from the conversations.

### **Including ICT into the research method**

The researcher wanted to model the integration of ICT into the research method given the topic of the research was about ICT in school education. As such, the researcher chose to facilitate each focus group with the assistance of the software *Zing*<sup>1</sup>. The *Zing* software system is an Australian developed product and it was used in this research to collect the data. The inclusion of *Zing* and its associated technologies was constructed as an integral part of the focus group processes. Including the *Zing* system as a seamless component of a research method for data collection however, required that the planning was both robust and detailed.

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<sup>1</sup> Further information about Zing is available of <http://www.anyzing.com>.

The *Zing* software enables a network of multiple keyboards to be linked to a single portable computer with each keyboard allocated its own self-contained space on the screen of that computer. That is, several cursors are all able to work on the same screen at once. To gather the data *Zing* was set up with 12 keyboards linked to a portable computer which allowed a total of 13 cursors to operate at once on the same screen. With the use of a datashow and large screen, the focus group questions were shown visually and participants were asked to undertake a process of 'talk-type-read-review'. That is, the participants were encouraged to discuss the focus group questions with each other to clarify their ideas and then the participants recorded their views by directly entering them into the computer with the use of one of the keyboards, and without mediation from a third party. Once the participants had completed their responses to the focus group question, with the aid of the *Zing* software, the responses were read through with the whole group, and participants were invited to make observations, identify themes and add further comments.

### **'Actors' in focus groups**

Prior to conducting the focus groups, the researcher actively considered the respective roles in the research of the 'actors' in the research. Data for the *Leadership and Learning with ICT* research project was collected between June and September 2005 through 40 focus groups conducted in all Australian states and territories, with 414 participants consenting to take part. There were two sets or groupings of people who held key roles within the focus groups: the participants in the focus groups; and the researcher/facilitator.

#### *Focus group participants*

Focus groups require the attendance and involvement of participants. Two problematic issues with which to contend when establishing focus groups can be firstly, how to get participants to attend a focus group; and secondly, how to get the 'right' participants to attend (Krueger 1988; Stewart 1990). In the planning stages of the *Leadership and Learning with ICT* project, it was determined that for the research, informed leaders in the field of ICT in schools were to be sought as participants. It was anticipated that such people would have one or more of the following characteristics. They would be

- A school leader; or
- A school system or sector leader; or
- An 'ICT leader'; or
- An academic working in the field of ICT in schools; or
- A student, parent or industry representative with an established interest or involvement in the field of ICT in school education.

To ensure the types of participants being sought did indeed attend the *Leadership and Learning with ICT* focus groups, school education leaders within each Australian state and territory were directly invited to participate. The researcher/facilitator organised the focus groups using the following concurrent strategies:

- Arranging the conduct of focus groups as part of the agendas of pre-existing national meetings that involved key jurisdictional representatives from the government and non-government schools and sectors around Australia;
- Running 'conference workshops' that were structured as focus groups at national and state peak professional association conferences; and
- sending letters of invitation to attend one of the focus groups, signed by the Chief Executive of *Teaching Australia*,
  - to key focus people in all state and territory school education jurisdictions; and
  - to the respective principal and teacher professional associations in each state or territory.

All correspondence sent out inviting participants to attend a focus group included an information sheet about the research project. The information sheet included an outline of the purpose of the research and an overview of the research problem being investigated: that is 'how does educational leadership support learning with ICT in Australian schools?' Three or four focus groups were conducted in each location. Prospective participants were asked to respond either by telephone or email if they were intending to attend one of the focus groups, and to specify the time of choice from the options provided for attending one of the focus groups.

The participants who attended the focus groups came from a cross section of the government and non-government school education community and collectively covered the breadth of year levels, subject and across-curriculum areas found in Australian schools. The majority of the participants were educational leaders with experience in planning, using and/or integrating ICT into their work and the work of schools, and were located in schools, systems or sectors, or in universities. Participants ranged from chief executives of government agencies through to system and sector officers at Commonwealth, national, State and Territory levels; officers in teacher and school registration organisations; academics in universities; representatives from principals and teacher professional associations; parent associations; and individual principals, in-school leaders and teachers from both primary and secondary schools. Table One (below) provides an overview of the diversity of school education leaders who participated in the focus groups.

**Table One: Percentage of total participants according to leadership category**

<b>Participants' leadership category</b>	<b>Percentage of total participants</b>
Chief Executives: Government agencies	1%
System and sector leaders: ICT, Curriculum, Leadership	25%
School principals	22%
In School Leaders – Deputy Principals, Assistant Principals, Heads of Department, ICT Directors	16%
Association representatives/professional leaders	16%
ICT Teacher-Leaders	12%
Academics	8%
Adult students, Parents & Industry representatives	1%
Teacher and school registration boards	1%
TOTAL	100%

Participants straddled a diverse and fulsome cross section of 'content areas' ranging from Maths to Music, Dance, Art, Design, English, Languages other than English, English as a Second Language, Science, and Studies of Society and Environment. Participants also included representatives concerned with cross-curriculum issues including special education, Aboriginal education, multicultural education, girls' education and teacher librarians.

*The Researcher/Facilitator*

The other key 'actor' in the conduct of focus groups is the group facilitator. In the *Leadership and Learning with ICT* research project, the researcher was also the facilitator of the focus groups. To undertake 'research conversations' in focus groups requires the researcher/facilitator to have an understanding not only of the issues identified for discussion, but also have an understanding of the 'self' in the research (Herda 1999). As Michael Apple (1995) has argued, understanding the self as a researcher is required in order to be an honourable researcher. In the planning

stages of the *Leadership and Learning with ICT* research project, the researcher reflected upon the critical role of the researcher/facilitator in facilitating the focus groups.

Focus group processes require an expert facilitator to ensure the group processes meet the research objectives and the participants stay focused on the research task (Krueger 1988; Puchta & Potter 2004). The skills of the researcher/facilitator are also important if focus groups are to be constructed as 'research conversations', and as briefly discussed earlier, where research methods include the use of 'research conversations', the importance of listening as a research tool (Forester 1980; Herda 1999) becomes paramount.

'Research conversations' place an emphasis on talking and listening to people about how they interpret, understand and explain their world and their experiences of their world. These conditions highlight the important role of the researcher in fostering conversations held in small group situations, as they require the researcher/facilitator to listen to the voices of the participants: to listen to them talk about their choices and constraints in their daily working lives, and to listen to how they explain their own worlds of social reality. This is to listen to their experiences; to heed their words. As Reinharz observes,

*before you can expect to hear anything worth hearing, you have to examine the power dynamics of the space and the social actors. Second, you have to be the person someone else can talk to, and you have to be able to create a context where the person can speak and you can listen. That means we have to study **who we are and who we are in relation to those we study**. Third, you have to be willing to hear what someone is saying, even when it violates your expectations or threatens your interests. In other words, **if you want someone to tell it like it is, you have to hear it like it is** (Reinharz in Fine 1994: 20, Fine's emphasis).*

People like being listened to as it legitimates their experiences which often get related as stories (Bruner 1986; Casey 1995). Placing an emphasis on listening, and on the joint construction of meaning though (Mishler 1993), requires that the role of the researcher moves away from being an interviewer or participant observer, to a co-conversant, able to intelligently listen to, and where necessary, discuss the topics under discussion in the focus group.

### **Focus group environment**

As indicated earlier, to construct focus group conversations that allow for the open exchange of ideas requires the participants to feel they are freely able to contribute to the conversations (Puchta & Potter 2004). Collecting data through research conversations generated in focus groups then, requires the researcher to establish conditions that are as comfortable as possible for meaningful talk in groups to occur. In the *Leadership and Learning with ICT* research, it was assumed that since the participants in the research were identified leaders in the field of ICT in school education, that entering an environment which included technologies would not necessarily be alienating to the participants, and given their background experiences could contribute to making them feel comfortable in the research setting.

All focus groups in the *Leadership and Learning with ICT* project were conducted in comfortable surroundings suitable for the conduct of the focus group: usually in a conference room hired and set up specifically for that purpose. At all focus group sessions coffee, tea or a soft drink and biscuits were available to the participants throughout the session. Care in the selection of the venue was exercised so that, as

appropriate, any sectorial or 'political' interests were avoided, with comfortable, well-ventilated, 'sector neutral' venues selected. Consideration was given to the accessibility of the venue to the participants likely to attend. Wherever possible, cheap or free car parking was easily available to the venue.

As the data collection processes included the use of the *Zing* software and its associated technologies, the researcher/facilitator arranged to arrive at each venue for the focus groups up to two hours prior to the first focus group. The purpose of the early arrival was to set up the equipment and check that the technologies were all working as they should without putting the researcher/facilitator under any pressure as a result of lack of preparation time. It also allowed time for the researcher/facilitator to undertake any trouble-shooting with the technologies, should it be required

### **Gaining informed consent**

All participants who attended a focus group were provided with an informed consent form and the information sheet as they arrived at the venue. Each focus group session began with an explanation about the research project and the purpose of the informed consent form. Each informed consent form had a unique number and the participant was asked to use that number rather than his or her name when logging onto the *Zing* system. This ensured each participant's anonymity when recording his or her views to the focus group questions, but allowed the researcher to identify the data of each participant that completed an informed consent form, and should it be required, enabled the withdrawal of a specific person's data if at some later stage he or she withdrew consent.

Participants were asked not to submit the signed informed consent form until the end of the focus group session so they were in a position to reflect upon the processes and their comments, (albeit that their comments were recorded anonymously), so they could assess whether they were indeed willing to give informed consent. The process of linking the log-on to the *Zing* system with the processes of acquiring and managing the processes of informed consent, made these processes seamless within the overall processes of each focus group. Only six people withheld their consent and so their data was not included in the research.

### **Focus group questions**

The quality of the data collected in focus groups is, in part, dependent upon the quality of the focus group questions developed (Puchta & Potter 2004). In addition, the quality of the questions can put under scrutiny the credibility and legitimacy of the researcher/facilitator by the focus group participants, and so the questions must be seen to be meaningful by the participants.

In the *Leadership and Learning with ICT* research, the focus group questions grew out of a background paper prepared to investigate the policy context and existing research within Australia and from overseas concerning the relationships between school leaders and the integration of ICT into teaching and learning (Moyle 2005). The purpose of the background paper was to assist in the development and clarification of what was to be researched. It was considered important that the focus group questions commenced from what was already known about the relationships between school leadership and the integration of ICT into teaching and learning in school education, and that the questions intersected with the lived experiences of the participants.

The first draft of the focus group questions was trialled with two school principals. The second draft of the questions and the focus group processes were 'road tested' with a

cross-section of ICT leaders drawn from the Catholic, State and Commonwealth government education sectors, and from universities. The final version of the focus group questions was approved by a small reference committee established to provide input into the *Leadership and Learning with ICT* research project.

Open-ended questions were used to encourage discussion among the focus group participants. The questions were also developed with the specific purpose of generating 'practical' rather than 'policy-type' responses. A consistent suite of focus group questions was employed across the focus groups. Each focus group session concluded with the question: 'is there anything else you would like to add?'

In the planning stages of the *Leadership and Learning with ICT* research project it was ascertained through the processes of developing the background research paper, and trialing both the research questions and the data collection method, that an optimum time for maintaining the group's commitment and concentration to the task was to conduct the focus group over a period of 90 minutes. As such, the final selection of questions was developed so that the questions could be reasonably addressed within an hour and a half session, and each focus group session was scheduled and conducted in 90 minutes. Between one and two hours was left between each session in order for the researcher/facilitator to save the data from the previous focus group and to become refreshed before facilitating the next session.

### **Focus group processes**

Undertaking 'research conversations' in focus groups, means that as researchers, we enter into relationships with those who are participating in our research. The *Zing* software enables the data recorded through all the keyboards to be converted into a word-processed document with a few computer commands. The software also records comments according to each keyboard. As each consenting participant used the number allocated on his or her respective informed consent form, the transcripts generated kept all participants names anonymous to other participants, but could be cross-checked to each individual by the researcher.

Following each focus group all participants of that particular group were made the offer by the researcher, to have the transcript from the focus group session in which they participated emailed to them, if they so requested it. Participants were invited to include their email address on the informed consent form if they wanted to receive the transcript. All participants requesting a transcript received their copy within a week of taking part in a focus group. This strategy meant that the participants received something back for their participation in the focus group, rather than it simply being a one-way activity where they 'give' and the researcher 'takes'. Both the conversations and the captured data were thereby transacted.

The use of the datashow to project onto a large screen the responses of each participant provided the members of each focus group with a sense of distance from the responses. Given that each participant logged onto the *Zing* system using a number to identify his or herself rather than their real name meant that all the responses, although projected onto a screen, were anonymously presented. This approach allowed all the members of the focus group to see the responses of their respective colleagues but did not enable the identification of given comments to specific people. In this way, while the discussions in the focus groups could enable both assent and dissent, each individual could present his or her views to a focus group question, without fear of intimidation or ridicule from others. Indeed, an advantage of using the *Zing* system to capture the conversations from the focus groups was that it gave each voice equal weight, as each participant was able to record his or her own views through the keyboard, irrespective of other

discussions going on within the group. Several participants reflected on this aspect of the research method by recording sentiments similar to the following two responses to the question: 'is there anything else you would like to add?'

*I liked this system - gives each person a chance to voice their opinion.*

*Not just the loudest that get to have their say. You can have your say anonymously without worrying about what others think or are going to say.*

## **Analysing the data**

While this paper is focused specifically on the processes of qualitative data collection through focus groups, a brief outline of how the data collected through the use of *Zing* in the *Leadership and Learning with ICT* research project may be beneficial here.

There was an emphasis in the *Leadership and Learning with ICT* research on the researcher facilitating the conversations that reflexively provided opportunities for the focus group participants to develop interpretations, understandings and explanations of their own, to each of the focus group questions. As the researcher was also the facilitator of the focus groups, she attended all 40 focus groups and listened to the conversations the participants held. Facilitating the groups with processes of 'talk-type-read-review' enabled the researcher to become familiar with the common themes emerging through the focus groups. In addition, the transcripts of each focus group session generated through the *Zing* system were coded by the researcher and analysed for the major themes that emerged for each question (cf Denzin & Lincoln 2000; Ezzy 2002). These transcripts provided the basis for the development of the findings from the research outlined in a separate paper<sup>2</sup>.

## **Conclusion**

The *Leadership and Learning with ICT* research project, conducted in 2005 under the auspices of the Australian Government-funded institute, *Teaching Australia*, confirmed for this researcher, that focus groups are beneficial in education research for gathering qualitative data. In planning the conduct of the research project, it was recognised by the researcher that traditional methods of data collection in focus groups such as tape recorders, video recorders and note takers, can detract from the nature and depth of the conversations being held and thereby adversely influence the extent and quality of the data being collected. To address these potential failings in existing focus group methods, the *Leadership and Learning with ICT* research project, introduced the software *Zing* and its associated technologies to assist in the data collection in focus groups. The research methods employed enabled the participants in the focus groups to be frank in their responses to the focus group questions and to take part in processes where they contributed their views and in return received a transcript of their focus group session. The researcher found that the use of *Zing* for data collection enabled her to conduct a major, national research project in a timely manner, while concurrently being able to collect meaningful data.

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<sup>2</sup> The findings from the *Leadership and Learning with ICT* research are reported in Moyle 2006.

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