

Chapter 1: A preview of the inquiry – *Tuning in*

1.1 Introduction¹

¹Please view Addendum 1 on the accompanying CD prior to reading this chapter. It serves as a visual introduction to the study and its context. I have also used cinematic jargon in my writing to strengthen the television metaphor.

Why do learners refrain from asking questions during instructional broadcasts even though technology allows for synchronous, oral presenter-viewer interaction? This question, born in studio corridors and repeatedly echoed in my head, is the principal thrust and academic puzzle of this research effort.

Since the inception in 1994, of the *TeleTuks*² Schools project initiated by the University of Pretoria (UP), South Africa, informal feedback by the teleteachers indicated that learners were not interacting freely with the presenter during broadcasts. Despite several measures taken to encourage participation e.g. offering incentives to phone in as well as limiting possible technological intimidation by explaining how the equipment works, the level of interaction did not increase. As presenters were uncertain why viewers were not phoning in, concerns started growing that no one was actually even watching the lessons.

The viewers' silence primed the strident noises in my head.

Was there anyone out there watching? I knew that although my institution was a local pioneer in technologically supported learning, we did not have the same sophisticated equipment that is available in some of the industrialised countries and certainly nothing comparable to multi-site linkages and two-way video channels. Yet this alone could not have accounted for the poor responses. Why did the studio only receive one call now and again? Why were we disproportionately excited about that single call? Was interaction really so important? Previous personal experience of using television as an instructional delivery mode to remote adult learners mirrored the current phenomenon of poor viewer participation. Yet our expectations had been that young learners would be eager to phone in. The traditional transactional model of communication customarily used in face-to-face education

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²TUKS is the original name of the university given in 1908 (Transvaal Universiteitskollege) and the nickname by which the institution is commonly known in popular parlance. The alliterative link was deemed an appropriate name for the institution's instructional television channel.

environments was not in tune with this context. The expected learner feedback did not follow after presenter-initiated questions. So what was hampering the communication process during televised lessons? This intellectual riddle, spawned by experience, begged solution and I conducted a formal investigation of this poor learner response during a winter school in July 2001 while still the project manager of *TeleTuks Schools* initiative in the Department of Telematic Learning and Education Innovation (TLEI) (R. Evans, 2001).

My study draws on the findings of the pilot study as well as on recent developments in the field to help answer the research question. The study examines the *TeleTuks Schools* community project offered by the University of Pretoria, and is a natural corollary to the initial investigation done in 2001. Its purpose is to explain possible reasons for poor learner-presenter interaction during televised instruction, even though the supporting technology permits bi-directional audio links.

This chapter presents a preview of the inquiry and is divided into four parts. In the first section I describe the research rationale. I then contextualise the inquiry within the domain of public television as utilised in select developed and developing countries. Thereafter, I narrow the focus down to educational and instructional television and introduce the concept of interactive television. I have also defined certain key terms as well as the contexts in which I use them. Next I demarcate the scope of this inquiry and explain its research design and methodology. The chapter concludes with my acknowledgment of anticipated limitations as well as a visual representation outlining the organisation of this study.

1.2 Rationale

My interest in the field of educational television arises from extended personal involvement in various aspects of local television and video production, starting in 1973 when initial groundwork was being done for the launch of South Africa's first television channels. In 1983, I was commissioned by the then Director of Education for the Transvaal³ region (the same geographic setting as this study – see Addendum 2) to design and present training videos for secondary school teachers of English Second Language as part of a provincial in-service drive called *Project 10*. A manual accompanied this set of videos (15 lessons totalling 220 minutes) and was prepared for use in teachers' own time. Although I did not

³ Prior to 1994, South Africa was geographically divided into four provinces, the largest being the Transvaal – a mineral rich region originally claimed by colonial pioneers. Post-apartheid South Africa has nine provinces, four that make up the original Transvaal viz. Gauteng, Limpopo, Mpumalanga, and North West provinces.

design the programme with any real-time instructor-student interaction in mind, this experience helped me understand how a viewer could interact with content or how a presenter could initiate intra-action within the viewer.

In late 1995, I was again afforded the opportunity to work with the medium of television on a major national project⁴ that aimed to give adult learners a second chance at obtaining their matriculation certificate. Learners had enrolled with the Independent Examinations Board (IEB) and were preparing to sit this national examination. Apart from the weekly interactive broadcasts, learner support comprised a very comprehensive Learner Guide, phone-in slots, additional Question-and-Answer broadcasts and newspaper supplements as well as regular, facilitated contact sessions. Not only did I develop the learning materials used in the courses, but I also presented the lessons live on television. Again presenters of the various subjects were intrigued to note that oral learner participation was poor during broadcasts. In most cases, the studio crew feigned questions. Even the opportunity to interact asynchronously with the presenters via a toll-free phone-in line was under-utilised⁵.

My most recent experience as project manager of *TeleTuks Schools* once again gave me invaluable exposure to using television as a delivery mode for content. Between 1996-2001, I presented a fundamental module via ITV to post-graduate students taking a course in African Languages as well as many English grammar and creative writing slots to the young viewers participating in the *TeleTuks Schools* project. Anecdotal evidence from other presenters continued to endorse my experience of low learner interaction. It was this unanticipated lack of verbal response that prompted me to investigate the possible reasons for low synchronous interaction during *TeleTuks* broadcasts.

A cursory review of the literature in preparation for a local conference presentation, offered many studies conducted in the United States of America (USA), Britain (UK) and Australia. These described similar projects albeit in technologically advanced contexts. At the time, I was unable to trace any studies associated with projects in developing countries. Despite a profusion of publications on interactive television (ITV) used in instructional contexts (L. P. Anderson, Banks, & Leary, 2002; Bader & Roy, 1999; Chu & Schramm, 1967; Cirtin, 1996; Cornell & Ingram, 1997; Daunt, 1997; Department of Employment, 1998; Edmonds & Reed, 1997; C. P. Fulford & Sakaguchi, 2001; Heiens & Hulse, 1996; Hodge-Hardin, 1998; Jelfs & Thomson, 1996; Kruh & Murphy, 1990; Lyons, MacBrayne, & Johnson, 1994; Mackin & Hoffman, 1996; McDevitt, 1995; McKenzie, Witte, Guarino, & Witte, 2002; Oliver & Grant,

⁴ *PowerMetric*, initiated by Africa Growth Network and sponsored by large corporate companies.

⁵ Private correspondence dated 4 October 1996.

1995; Ostendorf, 1989; Pamerleau, 1996; Pool, 1996; Ranstrom, 1997; Rao & Dietrich, 1998; Seay, Rudolph, & Chamberlain, 2001; Silvernail & Johnson, 1992; Westbrook & Moon, 1997; Wheatley & Greer, 1995), the incidence of interaction is either not addressed or well conceptualised in existing research, especially within developing country contexts. Oliver and McLoughlin (1997) purport that “the actual communications and interaction that occur with these technologies, demonstrate in many instances an under-utilisation of the opportunities” (p. 360) endorsing sentiments that at its worst, interactive television makes it harder for the teacher to interact and easier for the student to disengage. Such claims acknowledge the complexity of televised interactions but do not shed light on the reasons for this lack of oral interaction. I attempt to address this gap.

A comprehensive body of research on interaction in distance learning exists; a sizable portion deals with instructional television. However, I found it unsettling to note that the trend in this literature is descriptive, rather than exploratory. Wolcott and Okey (1990) also maintain that there is negligible evidence of research and theory in the design of distance instruction although several “think pieces” (p. 8) reflect current opinion and concur that it would serve the ITV domain to produce more reports based on formal research. Practical suggestions for initiating or improving interaction abound (Cyrus & Conway, 1997; Greer, 1995; Klivans, 1994; Lawyer-Brook & McVey, 2000; Lochte, 1993; Ostendorf, 1989; Wheatley & Greer, 1995). Few sources (Lyons *et al.*, 1994; Oliver & McLoughlin, 1996) refer to the frequency of interaction but none that I read, had focussed on reasons for poor interaction although two University of Pretoria surveys (De Vos, 1999; Motsau, 2000) undertaken among adult viewers indicated that several cultural and even technical factors acted as hindrances to interaction. In addition to these barriers, initial propositions deduced from the pilot study that warrant further in-depth investigation include the:

- nature of television as a communication channel
- complexities of presenting televised lessons with special reference to the degree in which the presenters’ role and the instructional design of an ITV lesson affect the rate and nature of interaction
- hypothesis that the limited language proficiency of the viewers in the medium of instruction is a key explanatory value of poor learner interaction.

Furthermore, speculations that the legacy of a teaching culture which does not encourage questioning or challenging the “omniscient” teacher, need to be verified. Although not a specific aim of the study, findings from this research may also shed more light on the nature and assumed significance of interaction as a core characteristic of any educational transaction. Finally, judging by the plethora of publications in the field of communication

studies, it seems that current theories are firmly rooted in a Western academic tradition (Kovacic, 1997; Littlejohn, 2002; Martín-Barbero, 1993; Mattelart & Mattelart, 1998; Paterson, 2004a; Redman, 2000; Samovar & Porter, 1991; Steinberg, 1995; Tubbs & Moss, 1994; Van Staden, Marx, & Erasmus-Kritizinger, 2002; Verderber & Verderber, 1998; Watson & Hill, 2003). A South African-based inquiry may enrich these views by adding the experience of presenters and learners who live in a developing and diverse country context. The academic rationale, which evolved from my personal interest and has led to this investigation, is thus to determine which factors impede the reciprocal interaction that ought to take place during *TeleTuks* broadcasts.

1.3 Contextualising this study

In order to place this study relating to instructional television within a broader context, I offer a brief overview of the rise of television as a mass medium in the industrialised contexts of the United States of America and Britain, and sketch the progress made with the introduction of television in select developing countries. Addendum 3 presents a more detailed description. I also explain the difference between educational and instructional television, introducing too, the concept of interactive television.

1.3.1 The evolution of television

Television is commonly considered to be the first invention by committee as it is the result of the efforts of many individuals separated geographically but all spurred on by the urge to produce an instrument which could transmit and receive transient visual images (Smith, 1995). The impact of this instrument is felt in every sector of modern life and while American television is erroneously accepted as the archetype of this medium, Smith (1995) states that “It is impossible to treat it as a unitary phenomenon with a single line of history. Even the technical origins of television have to be traced to different parts of the world” (p. 2).

Industrialised context – Britain and United States

After many years of rival experimentation on both sides of the Atlantic, the first actual broadcast of a news event while it was happening, took place on 30 September 1938 as the British Prime Minister Neville Chamberlain arrived back from Munich. A year later, shortly

before the start of World War II, 20,000 black and white sets were in use in London. This success led David Sarnoff to start a television service in the USA and it was thus in 1939 at the New York World Fair that an address by President Roosevelt launched television into the USA public domain (Smith, 1995). Less than three years after the war, by 1951, the number of sets owned privately in the USA had escalated to ten million. The demand for programming and the challenge of three different time zones accounted for some of the momentum that catapulted the USA industry beyond that of the British, which required a far smaller footprint. Although colour broadcasting was only to be fully operational in 1967, television had already established itself as the outstanding mass communication medium of the twentieth century and would, from its USA vantage position, influence the rest of the electrified world (Chester, Garrison, & Willis, 1978; Smith, 1995; Watson & Hill, 2003). By 1990 in the developed world, 98% of homes had come to possess a television receiver confirming the words of Watson and Hill (2003):

Television swiftly became in terms of reach, diversity and popularity of content, the most influential and most powerful form of mass communication. The arrival of colour, broadcast by cable and satellite, the possibilities of video recording and eventually digitization confirmed and carried forward the Age of Information while at the same time turning it into the Age of the Image (p. 291).

South Africa and other developing countries

Television - as a mass medium on the African continent - is by comparison to developed countries, a recent introduction. Post-World War II, when most of the Western world was spoilt for choice regarding programming and manufacturing labels, television in most regions of the developing world was still a technical gimmick and all of Africa, Asia, and Latin America accounted for only 3% of the global television sets (Smith, 1995). Table A3 in Addendum 3 provides a time frame of when national television commenced in selected developing countries.

Ventures to introduce television to Latin America were initiated by the US who anticipated lucrative gains. The Gulf states and Asia, especially the Philippines and South Korea introduced their own TV services because despite the American oil, and military bases being cordoned off, spill-over US broadcasts flooded local living quarters. Bangladesh and Pakistan responded to the penetration of Indian broadcasts in a similar way. In China and Indonesia, the local production of communication technology was part of their national industrial policy while in neighbouring Taiwan, Malaysia, Singapore and Hong Kong it was a strategy for social and economic renewal (Smith, 1995).

The majority of countries in Africa seemed to have introduced this technological innovation during the 1960s, albeit not as a result of popular demand, but amongst others, as a post-colonial celebration of their newly independent status (Smith, 1995). Ethiopia permitted Thomson Television International to set up a station in time for the coronation jubilee of Haile Selassie in 1964. Tanzania used a boom in the price of its main export commodity, cloves, to establish a TV station. The Islamic countries of Africa hotly debated the merits of the new medium and its introduction met with varying degrees of resistance, strict censorship and “a heavy dose of Koran readings” (Smith, 1995 p. 311). Egypt benefited from a soft US loan and built a broadcasting centre as well as a factory to manufacturing sets. By the mid-70s virtually every country in the developing world with a population of more than 10 million had introduced television.

The South African context differs considerably in that national television only became fully operational in 1976 and was solely state-governed and funded until 1986 when subscription channels such as Electronic Media Network (M-Net) were introduced (De Beer, 1998). Berwanger (in Smith 1995), De Beer (1998) and Tomaselli *et al* (1989) all ascribe this delay to ideological fears of the Nationalist ruling party that the Afrikaner’s language and culture would be undermined and that broadcast signals might have trounced the control of Apartheid. Although based on the Reithian tradition in which “public broadcasters aimed to function as public resources that inform, educate and entertain” (De Beer, 1998 p. 212), the South African Broadcasting Corporation (SABC) ran its service under strict statutory control.

Although international statistics are not reliable, Smith (1995) claims as a safe assumption that more than 2.5 billion people in the so-called Third World currently have regular and easy access to television programmes produced by their local industry. Despite these figures, the full potential of television has not yet been realised and currently it is the least active mass medium in Africa. The weak public support of this medium is primarily due to economic conditions and the resultant paucity of television sets. Local governments have not exploited the journalistic qualities of television but have principally considered the medium a public address system with entertainment value. The uncontrolled flow of satellite programmes from Europe and America also threaten to perpetuate a media dependency syndrome. Cultural erosion is a further concern (De Beer, 1998; Smith, 1995).

The apparent successes of telecommunication systems during World War II, had wrongly led to the belief that mass media, television in particular, would help “modernize and educate” the developing countries. These “magic multipliers” of development benefits have not been

embraced as hoped by the former colonisers (Paterson, 2004a in press). In Africa, television remains a novelty; largely foreign in orientation and unless the medium africanises, it will not “...realise its potential as an instrument of culture [but] will continue to be only a filler of time“ (Smith, 1995 p. 246). Having placed the development of television in perspective, it is necessary to broadly outline the distinction I draw between educational, instructional and interactive television within the context of this study.

1.3.2 Explaining educational, instructional and interactive television

As is evident from the brief historic outline just given, much of the English-speaking world already had public television shortly before the Second World War, putting them four decades ahead of South Africa with developments in this field. The implementation of this technology for educational purposes seemed to have peaked in these countries in the early 1990s, supplementing and enriching rather than usurping the traditional modes of education (Smith, 1995). Although The State University of Iowa began the first educational television broadcast in 1933 (Jonassen, 1996), the introduction of classroom television as documented by Cuban (1986) is set as May 1953 in Texas, and ranged from full teacher-reliance on transmitted programmes to using television as a supplementary teaching tool. No other means of transmitting information seemed more effective than television where a single presenter could reach audiences of thousands with an educational message. Chester *et al* (1978) aptly describe the introduction of educational broadcasting to America as follows: “Of all the uses to which television and radio have been put, none has commanded more enthusiasm and at times led to as much disappointment as the educational uses” (p. 203).

In much of the literature pertaining to technologically enhanced learning, the terms *educational television* and *instructional television* are often used interchangeably. I, however, make a subtle distinction between an *educational* programme and an *instructional* broadcast. In my view, educational television seems to constitute a broader learning experience via this mass medium that adds to the significant knowledge or cultural experience of individuals depending on their interests, background knowledge and learning capacities (Chester *et al.*, 1978). Educational programmes are commonly developed for national television corporations by a team of scriptwriters with a less well defined *i.e.* a diverse and larger target audience in mind. Such viewers seem to have a greater choice of what or when to view informative broadcasts with fewer negative consequences if *not* viewed. Furthermore, the lack of a reciprocal relationship between presenter and viewer suggests that, should viewers' interest not be captured sufficiently, they can change channels

or tune out. No formal agreement, enrolment cost or institutional obligation motivates the viewer to capitalise on this potential learning experience. It is only the attraction of the images and possibly the narrator's text, which may stimulate sufficient interest for the viewer to pay further attention. Examples of such educational programmes for the broader public are for instance, documentaries on natural phenomena, historic events or biological environments and eco-systems. In a developing world context, informal instruction for the general population on e.g. childcare or do-it-yourself home maintenance as well as general information on health, agricultural, civic or basic financial issues could be classed as educational television. The SABC broadcasts a wide range of specially designed educational material⁶ on national television, the content of which is both curriculum-based and informal. About 76% of the programmes are produced locally and 23% are broadcast in languages other than English. An annual average of 1600 hours of airtime is devoted to educational programming (South African Broadcasting Corporation, 2000). The assumption remains that by watching a particular programme or episode learning has taken place or as Jonassen (1996) claims "Learning occurs intentionally as a result of programming that is planned to achieve specific instructional outcomes or incidentally through programming for entertainment or information purposes" (p. 302). This is not to be denied but it is difficult to measure the degree of retention and the level of mastery (Oliver & Grant, 1995). Educational television, however, still remains a powerful teaching and learning tool despite developments in other technologies.

Instructional television, on the other hand, seems to suggest a more formal learning experience where the course content is pre-determined by the syllabus of some formal (academic) training institution. It is this specialist nature of the broadcasts rather than inclusive or generic content that is the prime distinction. Instructors are subject experts and cover content in a systematic fashion, often working from dedicated course material. Intentional rather than incidental educational objectives are achieved through purposeful intervention by programmers (Jonassen, 1996). The visual composition is more rigid and primarily constitutes the typical "talking head" with little variation. Learners are also required to engage more fully with specific content matter while they analyse and reflect on their personal learning experience. They are not casual viewers, but committed to obtaining some form of accredited qualification, now more freely available as a result of technology being able to shrink geographic boundaries.

⁶ Currently (2004) local South African series include *Takalani Sesame* (the South African version of the USA's *Sesame Street*), *Soul Buddyz*, *Loud and Proud* (a talk show on emotions and self-esteem) and *Take Five*. These offerings are specifically aimed at young viewers in an attempt to "edutain". Some programmes focus on aspects in the national curriculum, while others cover topics unique to a developing country, e.g. hygiene, road safety, life-skills and career options. Others help learners make informed choices about a variety of issues or offer advice about their physical and emotional queries.

Unlike educational television, instructional television is generally offered via satellite or microwave delivery systems in real time to students who have immediate talkback facilities with the instructor. In most cases, technology permits the learner to interact both synchronously as well as asynchronously with the presenter or other remote site students, further enhancing this learning experience. Generally such programmes are aired on dedicated channels and can only be viewed via a decoder – an instrument required to unscramble the satellite signal. Viewers also need to pay monthly subscription fees in order to obtain a smart card – a device that enables access to the programmes screened on these subscription channels. Passive instructional television involves pre-produced programmes distributed on videocassette.

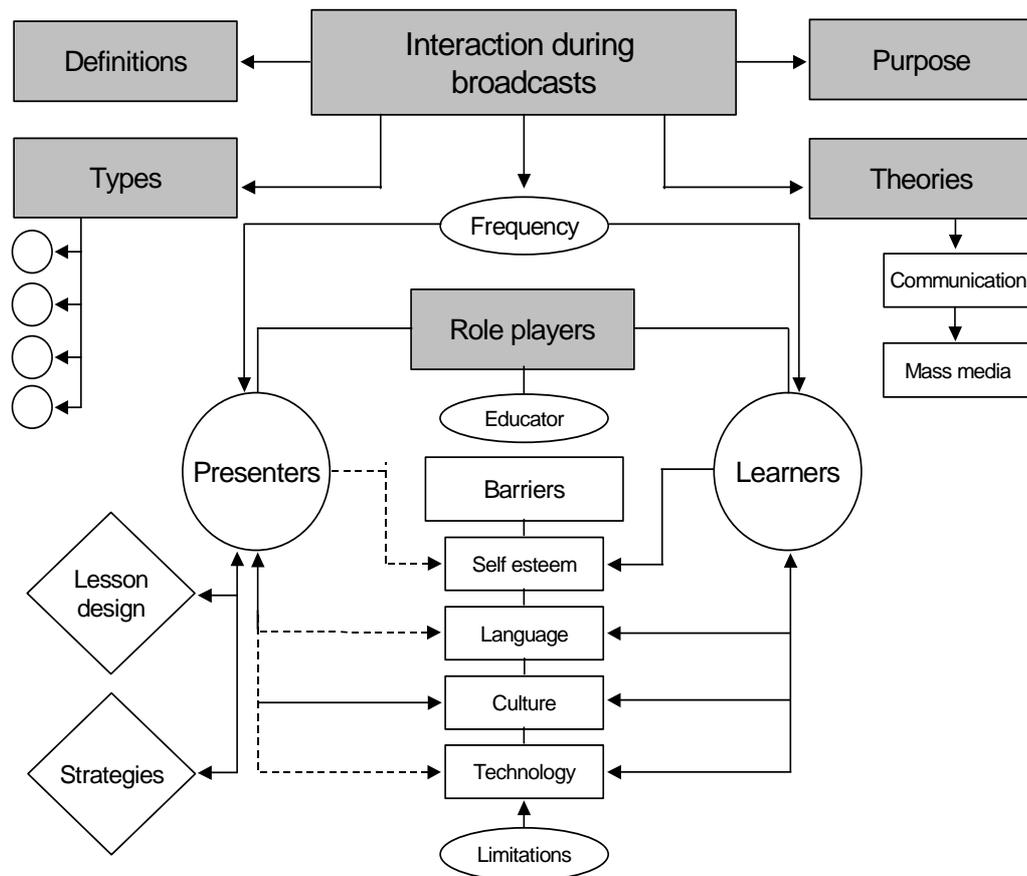
Oliver and Grant (1995) distinguish instructional television as a type of educational television along with tutored video instruction and telecourses which have been “customized to meet the needs of a particular set of learners and appear capable of offering enhanced learning opportunities to its viewing audience” (p. 39). Van Zyl (1996), in turn, includes interactive television in his classification of teleconferencing which he defines as a combination of various media and telecommunication systems *e.g.* videoconferencing. Since instructional television is the sole delivery mode examined here, it is with this understanding of the term that I conducted this study. Integral to this delivery mode is the concept of interaction and again for the purpose of this study; interactive television always implies an instructional context. Butcher (2002) defines ITV as a live, synchronous learning system that integrates voice and vision technologies to closely resemble face-to-face instruction in that, unlike public television, learners can converse with the presenter. This definition is not to be confused with the commercial one that differs in several ways. Interactive television in the business sense has no academic underpinning as the aim here is not didactic, but commercial gain. It also offers as application, an array of consumer choice regarding programming, services, and advertising while software allows a great degree of viewer control *i.e.* the viewer can influence the rate and sequence of the video display. Furthermore, suppliers aim to “produce user input” which is not oral but two-way traffic established via keypad response units (Van Dijk & De Vos, 2001 p. 446).

In South Africa, both educational and instructional television broadcasts are considered a supplement to, rather than a substitute for classroom teaching. The unit of analysis in this study, *TeleTuks Schools*, is defined as such a support system.

1.4 Explanation of key terms

The assumptive origin of the following concepts is the pilot study undertaken in 2001. I elucidate on them as used in this study, in alphabetical order, so that readers may share my scientific frame of reference. I have also illustrated the interrelatedness of the key terminology associated with telelessons graphically in Figure 1.1.

Figure 1.1: Interrelatedness of elements of interactive telelessons



Additional versus second language

It is difficult to gauge the rank order in which the majority of multi-lingual South African learners acquired their languages. It is common for most learners to be competent in at least one regional language before being exposed to English as the preferred language of instruction and thus the term *additional* language is a more accurate description regardless of the number of languages the person speaks. This is also the official term introduced by the national Education Ministry in 2002 (Department of Education, 2002) and carries the least political baggage.

Broadcast versus transmission

Research studies use these words interchangeably although narrowcasting could substitute for transmission. In a dictionary sense, both words carry the connotation of sending or carrying some signal in the form of light or sound waves and more recently electronic impulses over a wide area e.g. radio or television. In a more technical sense, a signal is transmitted terrestrially from a host source (uplink) to a transponder, which then bounces this celestially to a satellite link from whence it is then dispatched (broadcast) to an extensive audience via a conduit or channel (television monitor) through which the message is delivered (Paterson, 2004b).

Developing country

My search for a comprehensive definition of a developing country was extensive yet inconclusive as organisations each differed in their description of such. The World Bank uses the term to refer to low and middle-income countries, assessed by reference to per capita Gross National Product. Traditionally, developing countries were located in Africa, Asia and South America but the end of the Cold War signalled the emergence of new political and economic realities and thus countries in Eastern Europe were added to the Development Assistance Committee list. Countries listed here receive “official development assistance” (p. 1) from the United Nations (Organisation for Economic Co-operation and Development, 2000).

Drawing on literature relating to education matters in developing countries, I sketch conventional characteristics of such countries. Generally they have a very dense population and often geographical isolation or aridity influences their economic status. Weather patterns literally determine the success of a new season’s crop or livestock reproduction, and thus survival. The population survives by dint of hard physical labour, often with young children working to collect food or firewood. By implication, literacy levels are low while disease and high mortality rates are common. In the main, where opportunities for schooling exist, boys are favoured above girls (Organisation for Economic Co-operation and Development, 2000).

Educator, instructor and presenter or teleteacher

Educator replaces the more traditional concept of *teacher* in the new South African educational dispensation; also referred to as a “facilitator of learning” (Department of Education, 2002). I use this as a generic term when making reference to any South African teacher but prefer *site educator* to refer exclusively to the teacher who is responsible for

organising and supervising the viewing of each broadcast at the participating schools. *Instructor* is not a term commonly used in South Africa and certainly not in a secondary school context when working with Grade 12s. I have used it when referring to the literature or actual training situations. In general discussion of ITV cases, *teleteachers* is the generic term used for persons who delivery instruction via satellite transmission regardless of the academic level or age of students being taught. Although the term *presenter* suggests a slick talk show host and thus a performance by a professionally trained person, it is the preferred term for the *TeleTuks* context. Apart from the word echoing the style of public television broadcasts, it also matches the transmission mode that dominates in *TeleTuks*. I have used it exclusively when referring to the *TeleTuks* subject experts.

Interactivity and interaction (participation)

Although both terms are used interchangeably in much of the literature, I recognize Wagner's (1994) definition of the term *interactivity* to refer specifically to a characteristic of the delivery systems used *i.e.* a technological connection and transfer rather than an apparent attribute of sound instruction. A technical definition of *interaction* implies the continuous transfer of information between points. In a socio-cultural sense the core of this term suggests the process of various behaviours executed by at least two parties who adhere to rules and symbols common to their social system in order to exchange meaning. Interaction occurs when these two parties mutually influence each other by changing behaviour or attitudes (Wagner, 1994). A further distinction can be made between synchronous and asynchronous interaction. The former takes place in real time during the instructional setting and shares some conversation-like characteristics while the latter points to communication that is delayed *i.e.* usually occurring after the instructional session. Unless otherwise stated, *interaction* in this study implies spoken exchanges between ITV presenters and Grade 12 viewers either before or after a broadcast. Where I have used the word *participation* as stated in the thesis title, it is as management had anticipated: oral learner-responses made by phoning in to the studio.

Telelesson

Colloquially the *TeleTuks* project team would refer to a fixed period of instruction as “*this afternoon's English transmission*”. I choose to use *telelesson* as technically transmission refers to the delivery, rather than the execution of instruction. It also suggests the more conventional and rigid style in which a teacher (presenter) imparts beneficial new knowledge to learners (viewers) although *learning opportunity* or *experience* now has more currency. Furthermore *lesson* also suggests a demarcated time frame usually of 45-60 minutes duration. An academic distinction is made between *telelesson* and a *televised lesson*, the

latter being a visual and audio recording of a typical classroom lesson that is taught face-to-face without the intention of including the remote viewer. It is often used for training purposes *e.g.* analysis of teaching practice and in its ultimate format, could be termed a video taped lesson. My reference to *televised instruction* refers exclusively to the interactive television environment.

Viewer or learner versus audience

In the changed education landscape, the word *learner* has also substituted the traditional appellation, *pupil*, and is used when referring to the local RSA context. The Grade 12 learners (also called matriculants) of four geographical regions are considered the prime recipients of the *TeleTuks* broadcasts. Although I considered this group as the *target audience*, I have referred to them interchangeably as learners or viewers, depending on the context in which I am describing them. I chose this appellation based on Ellis's (1983) distinction between *viewers* - whom he considers individuals- and *audience i.e.* the aggregate of viewers. He adds that audience is a too abstract and ideologically loaded concept. Information is transmitted both orally and visually during ITV, yet viewing seems to dominate, highlighting the visual impact of the medium rather than the aural. This messaging via the eyes is also pertinent when discussing the delivery of the content. In South Africa, the word *student* commonly refers to an adult learner or those enrolled at tertiary institutions. I have used the word to mean as such when discussing the literature.

1.5 Scope of inquiry

This study spans the period 2001 – 2004 and focuses on the *TeleTuks Schools* project initiated by the Department of Telematic Learning and Education Innovation at the University of Pretoria, South Africa. Although this domain is not unique, I have not made reference to any other ITV projects being run by either this university, other tertiary institutions or organisations. I have accordingly limited the literature review to the domain of instructional television as defined in §1.3.2 *Explaining educational, instructional and interactive television*. The intended viewer audience exclusively comprises senior secondary school learners in the formal education sector. By this I mean structured and certified schooling, albeit with a Western bias. Although the *TeleTuks Schools* project makes use of interactive telecommunications technology, it is not grounded in the practice of organised distance education and thus research targeting instructional contexts or issues commonly pertinent to formal distance education have been excluded. This study has not in any way investigated the efficacy of the ITV delivery mode or the effectiveness of the instruction. I have also not

related this study to any learning theory or how learning is affected by interaction but have approached it from the wide angle of communication focussing rather on language and instructional design issues. I have given cursory attention to writings dealing with interaction as documented in the web-based and video-conferencing domain using what is applicable but have not delved too deeply. Although I use traditional communication models to introduce my theoretical framework, this study is not rooted in communication or media science. I have not addressed aspects pertaining to access via subscription, video-recorded material, types of hardware technologies, or media convergence either. In conclusion, although I am exploring the manifestation of low levels of responsivity in a developing country context, my academic stance is underpinned by a Western tradition.

1.6 Research design and methodology

I position myself within the interpretivist paradigm which posits that social reality is but a network of assumptions and intersubjectively shared meanings (Burrell & Morgan, 1979). It is from behind this lens that I shall make meaning of the behaviour of the participants and render their voices as clearly as print permits, in order to enhance my understanding of their ITV experiences.

This study investigates the *TeleTuks Schools* community project of the University of Pretoria as a clearly defined unit of analysis. The formulation of the research question favours a case study method that allows for an investigation of real-life events and offers a holistic description of the participants' experience of interactive television in this context. The primary informants are the nine subject experts who presented telelessons, close on 300 Grade 12 viewers and five site educators. I myself am a participant observer in this inquiry. I undertook fieldwork at several sites; chiefly those related to the participants' immediate domain, *i.e.* learners and educators were interviewed at school and presenters at the studio facilities. Although this research design is interpretative, I envisaged a combination of mostly qualitative but also limited quantitative methods. I used a small-scale quantitative approach (percentages) in order to establish *how* prevalent poor participation is, while a more personalised experience obtained by means of qualitative data suggested reasons *why* learners refrained from interacting. I have justified my choice of methodology and research design fully in Chapter 3.

My extensive study of current literature related to instructional television is reviewed in Chapter 2 and not only presents the parameters within which the study is located, but also

identifies lacunae in the knowledge base. Since the data gleaned during the pilot study in 2001 did not suggest a key explanatory variable, I selected a multiplicity of data sources and collection methods in order to establish more accurately factors that may be inhibiting oral interaction during a televised lesson. Eight instruments as well as personal field notes have been employed for data collection in this study *viz.*:

- A once-off *survey* using questionnaires voluntarily completed by Grade 12 learners who attended the annual winter school offers the biggest portion of learner-related data.
- A single face-to face 20-minute interview with regular Grade 12 viewers at six sites.
- A structured analysis of 24 hours of authentic video material.
- Frequency counts of learner interactions were logged by presenters and technical staff over a period of two months in 2003.
- Nine current and past presenters were interviewed in person.
- Language proficiency profiles were drawn from the learner interview data.
- A focus group with five to eight site educators had been planned. However, research circumstances dictated a change in strategy and telephonic interviews with five site educators were eventually facilitated.
- A narrative schedule based on field notes and reflective comments was drafted.

I prepared all responses for electronic scrutiny and a rigorous data analysis process was facilitated by using computer-aided qualitative data analysis software (CAQDAS). My preferred package is *Atlas.ti*TM, not only because of its unique network building capacity, but also because collegial support exists. I envisaged a lengthy and intense process of coding, categorising and connecting themes or as Merriam (1998) describes the process of making meaning: “consolidating, reducing, and interpreting” (p. 178) the selected data. The search for relationships or patterns, silences or unexpected trends all formed part of the continuous analysis and interpretation of data. I tabulated some data and visually illustrated emerging patterns for ease of interpretation. Findings emerging from this study have answered the research question and should also add to new understandings of why viewers refrain from interacting during telelessons.

1.7 Anticipated research constraints

At the outset, I share some anticipated limitations and also suggest means of circumventing or lessening their impact. My main concern relates to the actual Grade 12 target viewership. Available information regarding the participating schools in this initiative is inaccurate. Although 72 schools are listed (2003) as part of the *TeleTuks Schools* project, they do not all actually view the lessons daily. A constantly changing number of schools apparently have technical problems as explained to me telephonically while others no longer have the equipment. The majority of the schools participating are located in rural areas and cannot be visited regularly due to cost and distance. There is also a poor return rate on official feedback and evaluation forms which site educators are requested to complete annually. Data collected to date, are a compilation of school visits, returned questionnaires and telephonic inquiries. From this, estimates have been drawn. Such external factors complicate the management process, and strategies for obtaining reliable data need to be devised. This limitation may well be assailed, as the population of this study is not dependent on all schools participating. The number of participants, however, could still be intricate. Viewer numbers vary from school to school, as this is not a compulsory project. Annually schools choose to use *TeleTuks* broadcasts according to their own schedule, *i.e.* the number of viewers per slot would also vary. It also needs to be stated that none of the groups constitute the same participants as annually each group matriculates and there is thus no continuity of viewers. This lack of continuity also applies to presenters since appointments are determined by their availability. As the group of participants differs from year to year, I shall work with the schools and presenters on hand. I intend to interview all learners who have parental consent, rather than making a decisive selection. This may appear as a non-representation of population but if I analyse the data produced by the various instruments as a unit rather than single entities, I could circumvent this.

Accessing the schools in order to conduct the interviews with learners could be problematic. Apart from the very tedious route to obtain permission from the relevant provincial departments, some parents may not permit their charges to participate resulting in delays to find authentic participants. I am also sensitive to the socio-political issues involved in various cultures, and have thus considered enlisting the services of someone more familiar with rural and township culture who is also fluent in several vernaculars. This person would accompany me on visits and be part of the interviewing and observation process. Her

presence, in terms of cultural mores, as well as multilingual advantage would hopefully facilitate and validate my presence when collecting data.

A more serious concern is the future of the University's channel. The viability of paying for a 24-hour satellite link that is not fully utilised has been under discussion on several occasions. A large portion of airtime - in the interim - has been sold to outside clients with the result that already fewer hours have been available for the *TeleTuks Schools* project since January 2002. Already the Nursing department has produced a set of pre-recorded videos in lieu of live transmission thus eliminating any potential for interaction. The Department of African Languages will still continue with their transmissions indefinitely, although they too, have had a drop in enrolment numbers. There is thus a disconcerting possibility that channel usage could be modified before this study has been completed. This implies a time constraint in that sufficient, valid data pertaining to instructional television and poor learner participation in the current mode need to be collected as soon as possible. However, the future of the channel does seem more stable since the University started experimenting on a small scale with video streaming in 2003.

Since relocating to the Faculty of Education at the same institution, I no longer have the jurisdiction to plan strategies and implement interventions at will. I am thus constrained - by what could have been a fruitful action research project - to focus exclusively on attempting to explain low learner participation during televised instruction, rather than improving practice. The research design has thus been planned accordingly. The preceding constraints pertain to internal organisational factors and may be managed constructively. In conclusion, my research endeavour aims to understand rather than generalise thus there is low transferability to other cases. I also acknowledge that I will be interpreting data from a Eurocentric point of view, when a deeper understanding of the current culture related to teaching and learning as experienced by the target population may in actual fact, be crucial.

1.8 Outline and organisation of the inquiry

Framed by an interpretive approach, this case study examines the key question why Grade 12 learners do not interact orally with presenters during live instructional broadcasts (as expected by the project team) even though technology affords this opportunity. In this chapter I have given the historic background to the domain of television as an instructional delivery mode as well as a summary of what the study entails. In the remaining chapters I show how I have approached and addressed the research problem that was posed in the

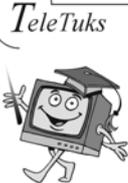
first chapter. In Chapter 2, I review a selection of the existing literature in order to contextualise this inquiry in the knowledge domain of instructional television in general and place it more specifically in the South African situation. The main focus of this chapter is a discussion on issues relating to interaction. In Chapter 3, I explain and justify the choice of a qualitative research design and outline the methodological strategies used to accomplish this inquiry. This includes a detailed discussion of my instrumentation as well as strategies for enhancing the trustworthiness of my study. I shall also explain *Atlas.ti™* - the CAQDAS used for my analysis. The fourth chapter is a presentation of the empirical data findings. Chapter 5 is devoted to an interpretive commentary resulting in a nuanced understanding of the outcome of this inquiry. As indicated by the research title, this study is set against the backdrop of a developing country and I thus indicate some limitations as well as the significance of the study in this light. I also invite scholars to further investigations in this field by proposing possible lines of inquiry. All transcripts have been captured as HTML files generated from *Atlas.ti™* and are included as part of the 29 addenda on a compact disc, which has been included as part of the thesis⁷. A graphic representation of the entire study is provided in Figure 1.2.

⁷ Remove disc from protective sleeve on back inside cover. Insert the CD-Rom into the appropriate slot. Wait for the application to execute automatically. If this does not happen, navigate to the CD ROM drive on your computer and click on the **autorun.exe** file. A list of the addenda options ought to be displayed. Follow the links to the various addenda. These need not be viewed in numerical order but can be accessed at random. The best resolution to view the addenda in is 800 x 600 pixels. All addenda except 1, 22, & 25 are PDF format. If the Acrobat PDF viewer has not yet been installed on your computer, connect to the Internet and click on the menu option on the CD to install it. Screen images may be enlarged by selecting the appropriate icon.

Figure 1.2: Graphic representation of inquiry
Friday, 29 October 2004

PRIME TIME VIEWING

* For the latest schedule updates go to <http://upetd.up.ac.za/ETD-db/>

<i>TeleTuks 1</i>	<i>TeleTuks 2</i>	<i>TeleTuks 3</i>	<i>TeleTuks 4</i>	<i>TeleTuks 5</i>
Tuning in	Channel hopping	Paging through the programme schedule	Discovery Channel - Exploring the African bush	Decoding the satellite signals
Introduction	Introduction	Introduction	Introduction	Introduction
Rationale	Channel 1: ITV reviewed	Theoretical underpinning	Learner as viewer-receiver	Synoptic overview of inquiry (R)
Contextualising the study	Channel 2: Social communication as theoretical framework	Research process:	<i>Learner profile</i> <i>Analysis of English oral proficiency</i> Emerging theme: Paradoxical perceptions	Implications of inquiry
Evolution of television <i>Industrialised countries</i> <i>South Africa and developing countries</i>	Channel 3: Interaction – a key element of instructional communication	<i>Pilot study</i> <i>Formal data collection strategies</i> <i>Participants</i> <i>Research sites</i> <i>Support systems</i> <i>Personal role</i> <i>Instrumentation</i>	Presenter as initiator of communication	<i>Interaction revisited</i> <i>Mismatch as intrusive interference</i>
Explaining educational, instructional and interactive television			<i>Presenter profile</i> <i>Analysis of lessons</i> Emerging theme: Presenter nescience	
Explanation of key terms		Data analysis	Context-related data	Recommendations for further research
		<i>Macro process</i> <i>Using CAQDAS</i>	<i>Technology profile</i> <i>Physical sites</i> Emerging theme: Problematic practicalities and partnerships	
Scope of inquiry	Concluding remarks	Strategies for enhancing validity	<i>Discovery channel: Main findings</i>	Epilogue
Research design and methodology		Methodological constraints		
Anticipated research constraints				
Outline and organisation of inquiry				
 <p>Interactive Television Education</p>		<p>Phone the University of Pretoria studio manager on 012 420 3722 for more detail about this free service</p>		<p>PICK of the DAY: Learning from the box - Saulsridge Grade 12 viewers</p>