

**THE APPLICATION OF VIDEO IN THE EDUCATION
OF AUTISTIC ADULTS**

by

LARRY ARNOLD

A thesis submitted to the College of Social Sciences
for the degree of Doctor of Philosophy

**School of Education
College of Social Sciences
University of Birmingham
September 2015**

UNIVERSITY OF
BIRMINGHAM

University of Birmingham Research Archive

e-theses repository

This unpublished thesis/dissertation is copyright of the author and/or third parties. The intellectual property rights of the author or third parties in respect of this work are as defined by The Copyright Designs and Patents Act 1988 or as modified by any successor legislation.

Any use made of information contained in this thesis/dissertation must be in accordance with that legislation and must be properly acknowledged. Further distribution or reproduction in any format is prohibited without the permission of the copyright holder.

Abstract:

The moving image has been a tool of education as well as a means of entertainment for over 100 years, whilst the study of autism dates only from the 1930s and much later than that in terms of understanding adults with the diagnosis.

Whilst there are many videos marketed either for, or about autism, there has been little or no research into the responses of autistic people to the medium, particularly from the participatory and emancipatory paradigm of qualitative research.

This thesis examines the responses of a group of adult autistics compared with non-autistic adults, taking as a starting point the variety of psychological theories purporting to explain autistic differences in cognition and learning style. The study was of particular value in revealing the unique insights of the autistic participants and concluded that there appear to be autistic strengths that suggest that autistic people engage particularly well with the medium provided it is presented in an appropriate format.

The thesis can be seen to operate at two levels. Firstly the academic consideration of the responses of a group of autistic and some non-autistic participants to visually mediated material, and secondly it is an exploration of the insider relationship of the researcher within a discourse traditionally constructed from the outside. There is an experiential and emancipatory exploration of the themes highlighted by Tregaskis (2004) in his paper on identity, positionality and power which examines the issues for Disabled Researchers.

The study has revealed some interesting insights into autistic people's culture and concludes that there is scope for much more research into this topic and questions whether the ethics of autism research need reconsideration.

Acknowledgements

I would like to thank in particular, Vicky Cimino Smith who sent me an annotated copy of Uta Frith's Autism and Asperger Syndrome in 1999 at a time when we were both exploring the implications of our mutual diagnoses in that year.

I would also like to thank all the many autistic people who have been attending the annual Autscope conference since 2005, when I first used video as part of my presentation. Without their inspiration and support this work would not have been possible

Thirdly I would like to thank my two supervisors, Mitzi Waltz and Glenys Jones, as well as my support tutor Vikki Anderson, mentor, Sue Green and all the other part time staff who have supported me at various times throughout this long process.

Thanks are also due to Paul Smith, Nicola Cahill, Ann Aspinall and the National Autistic Society for allowing me to use their video material as part of my research

Lastly I would like to thank those fellow researchers, in both the medical/psychological and disability studies traditions. In particular Liz Pellicano and Damian Milton.

Table of contents

Section	Contents	Page
Chapter 1	Introduction	1
1.2	What this researcher means by 'Autism'	6
1.3	Current changes in the description of autism and Asperger syndrome	8
1.4	The working model	13
Chapter 2	Literature Review	15
2.2	Literature on video and autism	16
2.3	Literature on education in general and the uses of video	18
2.4	NAS catalogue of educational videos	23
2.5	Film studies and its associated literature	25
2.6	The disability perspective, social vs medical models of autism.	46
2.7	Current interventions, the relationship to other studies and the scientific context	53
2.8	Theoretical perspectives	74
2.9	Summary of theoretical positions	80
2.10	Chapter summary	83
Chapter 3	Methodology	84
3.1	Introduction	84
3.2	Stage one of the study	92
3.3	Stage two of the study	96
3.4	Selection of the video material: four segments of 15 minutes each	100
3.5	The four video segments chosen	104
3.6	General observations on the questions about the video segments	117

3.7	Follow up to the second stage	128
Chapter 4	Analysis of data from the two questionnaires and the interviews	130
4.1	Findings from the questionnaire in Stage One	130
4.2	Impact of the first questionnaire on the second stage of the research.	158
4.3	Findings from the second stage of the study	160
4.4	Detailed analysis of the responses to each video segment in turn.	166
4.5	Quantitative analysis	212
4.6	Summary	219
4.7	A discussion of the Cambridge AQ/EQ scores in relation to their performance on the video observation task	223
4.8	Technological context	233
Chapter 5	Reflections on the research, conclusions and implications	240
5.2	Is the conventional approach to ethical clearance sufficient?	241
5.3	A critique of statistical methods.	253
5.4	Conclusions	257
5.5	Recommendations	283
5.6	Dissemination	289
	Bibliography	302

Table of figures and tables

Figure	Contents	Page
Figure 1	Type of media available to respondents	139
Figure 2	Proportion of respondents who had purchased a DVD or video	140
Figure 3	Number of DVDs or videos purchased by respondents in the past year	140
Figure 4	Number of respondents who had bought or rented an educational DVD or video or a video/DVD on autism or had considered buying a DVD/video on autism	141
Figure 5	Factors which influenced their purchase of DVDs and videos	142
Figure 6	Respondents' views on whom the videos on autism should be targeted	144
Figure 7	Desirable characteristics of a video/DVD aimed at autistic people	154
Figure 8	The triangle of perspectives	273
Figure 9	Venn diagram showing overlaps between the three classical constraints upon research.	290
Table 1	Four categories of video material held by the NAS	23
Table 2	Work done during the three stages of the research	87
Table 3	Sequence of actions within the research	87
Table 4	Pseudonyms and status of participants who made qualitative comments on the questionnaire	131
Table 5	Gender, cross- correlated against category of diagnosis	134
Table 6	Gender ratio of the respondents who took part in Stage Two of the study	162
Table 7	Details of the participants involved in the second stage whose responses are directly quoted in this thesis	165
Table 8	Participants, diagnostic status and AQ/EQ scores	226
Table 9	List of posters and presentations given by the researcher	301

Table of Appendices

Appendix	Contents
1	The Adult Autism Quotient (AQ) Ages 16+: Scoring Key
2	Instructions for completion of The Cambridge Behaviour Scale
3	Questions asked of participants in Stage Two about the video segments
4	Information sheet given to potential participants
5	Questionnaire for the online stimulus material
6	Recruitment Questionnaire for potential participants check
7	Poster: Video as an educational tool in autism: some early results
8	Poster: Worlds apart - beyond conventional ethics.

Glossary

ABA	Applied Behavioral Analysis
ASD	Autism Spectrum Disorder
AS	Asperger syndrome
AQ	Autism Quotient
DSM	Diagnostic and Statistical Manual
ECG	Electroencephalogram
EQ	Empathy Quotient
FMRI	Functional Magnetic Resonance Imaging
ICD	International Classification of Diseases
TEACCH	Treatment and Education of Autistic and Communication Handicapped Children
UCL	University College London

1 Chapter 1: INTRODUCTION

1.1 This study was conceived during the final piece of work for a Post Graduate Certificate in Special Education where the student was required to reflect on his own practice in the education of autistic people and produce a study based on those reflections.

Research questions

The two main research questions were firstly to investigate the effectiveness and impact of video as an educational tool for autistic adults, and secondly to identify and encourage more effective production techniques for the medium that are tailored to the cognitive style of autistic people, if this is found to differ.

1.1.1 The central question was whether video was an effective method of teaching autistic adults. The researcher himself has Asperger syndrome and has long been involved in the study of film, both still photography and the moving image, having completed a Higher National Diploma course in Media and the Moving Image in 2005. Video is frequently used in the field of education across a variety of disciplines – the Arts, Sciences and Humanities - and as a form of entertainment. It was of interest to the author to consider whether the responses of autistic people to video materials were similar to the responses of the non-autistic population and whether they accrued the same benefits or otherwise.

While answering the research questions, the thesis also engages with a number of important issues relating to autism and film studies research

that have become apparent throughout the journey of the research.

These include the following:

- an exploration of the administrative and prejudicial processes that might hinder ethical procedures relating to research;
- an exploration of how researchers might work ethically and responsibly with people with autism;
- an examination of the ways in which people with autism are media savvy;
- an exploration of the problems and compromises of using conventional measures such as AQ and EQ in diagnosing participants with autism in research;
- the development of a more phenomenological approach to the study of autism;
- an exploration of the construction and deconstruction of autism through the research project specifically in relation to Film Studies research;
- highlighting the voices of autistic people in research to demonstrate their power in the research venture;
- consideration of the scope for improving the way we present information around autism;
- using the research journey reported in this thesis to think about difficult issues related to ethics, research and theory as they relate to autism;
- open and honest reflection on the research process.

1.1.2 This work can neither be understood without going into the researcher's own educational background and the experiences that led to considering video within the context of reflection on his own practice. Nor can it be understood without considering the tensions inherent in being an autistic student, particularly when

later involved in courses about autism designed more for education and social care professionals than for autistic people themselves.

1.1.3 The researcher began studying in the field of autism by participating in an Internet based distance learning Certificate in Higher Education (Guldberg & Pilkington, n.d.) in 2002. By that time, he had established a peer support group for autistic and similarly neurologically divergent individuals, having already been involved in the disabled community as a volunteer disability rights advisor, campaigner and social researcher for disability and community organisations. The understanding of autism from a social model perspective, as developed by Oliver (1990), had always been uppermost in this praxis, Oliver was an influential figure in disability advocacy during the formative period when the social model was being established (Finkelstein, undated).

1.1.4 The course was initially designed for education and social care professionals, the concept of 'care' being that of caring for autistic people rather than caring for oneself as an autistic person living independently. The notion of autistic people caring for themselves and others through the medium of peer support had not been anticipated within the course structure. This involved adapting course assignments to reflect this less formal practice of peer group advocacy and the mutual exploration of group identity and social positioning within a wider society where one is an outsider.

1.1.5 In practical case study work therefore, it was necessary for the researcher to find ways of still meeting the learning outcomes, for example drawing upon fellow students from the Media course which was being pursued concurrently. It was therefore necessary to approach the assignment both as an insider and an outsider, within the situation of being alongside the people under study and also within their student group. This experience had a great influence on the participant observer construction of the methodology for this thesis.

1.1.6 Through studying Media and the moving image, in particular, the researcher also became involved in the production of one of the first commercial videos that did not take an external psychological perspective on autism (Smith, 2003). This video, entitled '*Outside In, Living with Asperger syndrome*' (*Outside In, Living with Asperger's Syndrome*, 2002) (described in Chapter 3), offered autistic adults the opportunity to narrate their own experiences in a direct way that was to be significant and empowering, not only for the participants but for the director, Paul Smith, who was prepared to challenge the accepted paradigms of education for autistic adults.

1.1.7 Use of this video within the peer support group led to an examination of what was available in terms of video for the education of autistic adults; a short literature review having been undertaken within the Media Studies programme. This led to a critical understanding of the construction and conceptualisation of disability in the media, particularly TV and cinema narratives (Darke, 1998), together with a

'Verstehung' (Gonthier, 2004) of the way this had impacted on the construction of autism, a subject covered in the video '*Whichever Way you look at it, It's still Autism*' (Arnold (2005), describing the ways in which an outsider's perspective of autism and its 'remediation' come from a deficit-based, medical model as (Osteen, 2007) also evinces.

1.1.8 A critical dearth of scholarly evaluation of the efficacy of commercially available video represents a serious deficit which it is hoped this thesis can begin to remediate. The current study directly compares four segments of video of differing style with the aims of exploring the potential benefits of using video material with autistic adults and to ascertain the views of autistic adults on the portrayal of autism in video.

1.1.9 It is important to relate that the researcher's personal experience has been crucial in framing the questions behind the current study and in formulating its ethical position as a piece of '*insider research*', defined by (Branick & Coughlan, 2007) as: *research by complete members of organisational systems and communities*, distinguished from Alveson's self-ethnography (Alveson, 2003) by having a greater degree of formality than a situation to which the participant merely has 'natural access'. The researcher's own experience and positioning was therefore of some importance, recognising that rather than frame a comparative study of educational methods, more could be elicited by the examination of those techniques the researcher was already familiar with and which warranted further study on the

basis of a preliminary literature review.

1.2 What this researcher means by 'Autism'

In framing the research, it has to be supposed that if the study of autism is to be taken seriously, there is an entity or phenomenon that can be so described and that it has sufficient coherence and exclusivity to define the group of people the research is concerned with and to explore the source literature pertaining to it. The word 'autism' derives originally from Bleuler (Bleuler, 1911) who coined the term in 1911 to describe a particular kind of self-absorption he had observed amongst those patients he had identified as "schizophrenic." Thirty-two years later, Leo Kanner (Kanner, 1943) modified the definition of this word to describe the behaviour of a group of eleven children he had observed. On the other side of the Atlantic, fellow Austrian Hans Asperger (Frith, 1991) also used the term to describe something he called 'autistic psychopathy', explicitly stating that he had taken the word from Bleuler. However, it was Kanner's work that received the majority of attention; Asperger's work not even appearing in English until Uta Frith (Frith, 1991) published the first English translation of his paper.

1.2.1 Since that time there have been a number of controversies over what autism is or might be, most notably between supporters of the psychoanalytical and the neurobiological schools of thought. The major theories are dealt with in their historical context with a critical evaluation in the literature review. A more recent contender, arising largely from the autistic community itself, is the application of

Oliver and Finkelstein's social model to the consideration of autism (Arnold, 2006).

1.2.2 Also of great significance was the ability informed by the researcher's social model perspective and membership of an autistic community to transcend the conventional model of autism, regarding the phenomenon not so much as a deficit but a different cognitive style; a notion that can be located as early as 1944 in Asperger's original paper (Asperger, 1944), which can be found in Frith's translation (Frith, 1991): pp. 70 - 74) in which he speaks of the specific qualities of 'Autistic Intelligence.' This notion of a different, but not necessarily inferior, cognitive style was later developed by Happé (1999) as the weak central coherence model. The model implies that the ability to discriminate hidden patterns from the 'background noise' of the greater whole, which competes for attention is not necessarily a disadvantage. This is a task in which autistic people according to Happé have a greater facility in performance during the standard psychological tests designed to reveal it.

1.2.3 A social model would take the neurological substrates of autism as something separate from the effects that they produce in a normative society (Oliver, 1990), that is to say although the neurological differences lead to particular behaviours, the impact of those and the extent to which they become considered as a 'disability', a problem, is the extent to which a normative society is not adapted to, or prepared to accommodate those behaviours and differences within the same framework as, for example, weak eyesight is customarily accommodated by

spectacles or mobility impairments accommodated by ramps and lifts. It can be argued that autism as it originally appeared in the literature was an artefact of a particular clinical gaze created by changes in society which caused autistic differences to become more salient as the behaviours engendered by these differences were becoming more difficult to accommodate within the post-industrial society and its greater cognitive load, as the researcher has spoken of previously (Arnold, 2008). A parallel could be drawn with dyslexia as a specific difficulty in literacy. Whatever their neurological origins, such differences would have been of less significance in an age before universal literacy was demanded.

1.3 Current changes in the description of autism and Asperger syndrome

1.3.1 In the lifetime of the present study there has been a problem with clinical definitions, for example, in the debate around the revision of the American Psychiatric Association's fourth edition of their Diagnostic and Statistical Manual (DSM IV (APA, 1994) and the creation of DSM 5 (APA, 2014). The history of, and progression towards, the current standards (if they may be so called) is that they have not been predicated upon the same particular approach to the phenomenon as encountered and experienced by the researcher. This leads to the inevitable problem of an accurate description as to what autism is and it being defined as a syndrome by the presence or absence of a sufficient, but not necessarily complete, set of traits. That is to say that although there is a great variety of traits which may be observed, not all of them will occur with any single individual who is likely to be encountered during typical research. A diagnosis may be made on the basis of

somewhat different observations between two individuals, so long as the core 'deficits' alleged within the manual are met. It is not as simple a problem as at first presents, for whereas in certain everyday contexts it is only necessary to answer by saying that autism is whatever the scientific consensus defines it as, in the quest for greater accuracy and consistency, it has to be acknowledged that not only is there no adequate scientific consensus but all research has to be considered in a temporal context of shifting definitions over time¹. This has purpose in terms of this study, not only for what is meant by autism in this particular context but also how the autistic cohort of participants is defined as 'autistic'; how valid that is and how they define autism (for) themselves. Given the diversity in practice in diagnostic assessment across the UK (Assessment, 2003) and the differing ages at which people are diagnosed, it is likely that any research sample of autistic adults will have been assessed against a differing set of criteria and using different assessment methods. Some studies have re-assessed potential subjects using the same assessment protocol to provide greater certainty that they do indeed have autism and in an attempt to recruit a sample which definitely share similar characteristics. This is a sensible strategy but one that has ethical implications and would be very time-consuming.

1.3.2 It is therefore important to establish within the context of this thesis what the researcher means by autism and to set that in the context of both clinical and

¹By way of example, over the course of this research the Diagnostic and Statistical Manual revision 4 was itself supplanted by revision 5 with the reduction of Autism as a triad of 'impairments' to a dyad

academic practice. With reference to the literature, for reasons that are dealt with further on in this thesis, it is wise to remain sceptical of the idea of autism as a wholly genetic phenotype, questioning the notion that the DSM can construct the concept of mental illness within the Kraepelinian (Bentall, 2003) paradigm as to be a distinct biologically determined category of a natural kind. Taking note from Levy's (2007, pp. 133 - 154) comments on the use of technology such as MRI scanning and Electroencephalography in the field of 'Neuroethics'² where he discusses whether the ability to investigate brain processes contributes to the defining of psychiatric categories as natural kinds, the researcher has previously stated in (correspondence undated) that it is:

1.3.3 *"sometimes useful to employ an analogy to help explain such difficult concepts. For instance, we cannot say that a "musician" is a category or "natural kind" within the human condition determined entirely by proteins constructed from DNA. To name but a few musicians, taking for example Bach, Mozart, and Jimi Hendrix, how could we possibly determine their likeness and musical genius from biochemistry or brain scans? What we can do, however, in constructing what we mean by the category, is observe certain commonalities which, if present, contribute to the creation of musicianship and these may well be related to the accident of physiological or neurological type, for example the possession of a particular kind of manual dexterity, an ability to discriminate pitch, memory or a facility in mentally representing complex musical and harmonic patterns. These in effect are the physiological and neurological substrates underlying the appearance of the symptoms we define as musicianship."* (Arnold)

1.3.4 However, as with any other phenotype, the nature or nurture question arises since there are factors such as practice and education, not to mention access to a suitable

² The emerging field of ethical theory and practice as it relates to current discoveries about neurology.

³ for a debate on natural kinds in mental illness see also (Samuels, 2009) and (Cooper, 2007)

teacher, natural inspiration and much else too nebulous to begin to categorise, which impact upon the display of those symptoms, without which one might well be the equivalent of a “*mute inglorious Milton*” in Gray’s (Gray, 1919) elegy (a poetic work supposing what might have become of obscure villagers had they been born in different circumstances). The researcher cannot altogether say from experience that autism is not another of these artificial categories ontologically similar to that of musician and not a natural kind at all. In considering this further, in the film “*The Boys from Brazil*” (The Boys from Brazil, 1978), the premise of which is that a group of Nazi renegades in Brazil have cloned Hitler but need to bring him up in analogous circumstances for his full personality to develop, the genes can only code for a basic outline of what the person is; it is experience and interaction with everything else that finally determines the personality. Thus a genetic clone of the researcher would not be the researcher, would not hold the same views and have the same experiences that bring him to this present endeavour. His experience of life would have a major effect on his perception of the world and in the development of skills and interests.

1.3.5 In the researcher’s opinion, any concept of autism, as phenotype, clinical entity, or taxonomical distinction has to be considered from the perspective of neurodiversity, the concept originated by Singer (1999). This is based on the principle of biodiversity that there is a richness of human neurotypes, none of which is inherently more perfect than any other. There are no distinct conditions, nor immediately separable mind states or neural configurations; they are like

mathematics and the universe itself - only given meaning in the context of there being an observer to subjectively record them and leaving aside Berkelian Theism (Berkeley, 1710) as an overarching narrative for existence, entirely governed by what can be observable in the Kantian perspective (Kant, 1997). The progress of theories of autism must always be recalled – for when autism first appeared in the medical dictionaries, the skewed demographics of the diagnostics gave rise to many false conclusions (eg the refrigerator mother theory (Pollak, 1998)). In the 1940s and 50s, it was only the children of wealthy and socially well-connected parents who could have brought their children forward to be diagnosed and as such it became known as a ‘middle class syndrome’. Since that time and with the wider knowledge of Asperger's (1944) paper, there has been what some commentators have referred to as diagnostic creep⁴ (Cooper, 2004). There is also some discussion as to the extent to which Asperger's original patients would meet current DSM IV criteria at all (Hippler & Klicpera, 2003).

1.3.6 Notwithstanding the greater degree of diagnostic availability, there is some evidence (Begeer, et al., 2009) that the diagnosis still has not penetrated ethnic and disadvantaged communities to the same extent as it has those with more access to medical care and more interest in the western cultural episteme. In essence:

"Autism is a word, with a history and connotations. It is a semiotic pointer [and] what it signifies is governed not by any natural laws, but by the rules of communication theory, whereby the originator of the message may not be completely understood by the receiver because of a variety of cultural,

⁴ This refers to the widening of the boundaries of any diagnosis once thought to be rare, to encompass less visible potentially ‘milder’ expressions of the condition which the eponymous discoverer would not have considered.

neurological, environmental and simply accidental and incidental interference ... [Autism] is not inherently wrong, just different, but that difference and the varying degrees of that difference are heavily negatively nuanced in a society and environment to which we are not maximally adapted" Arnold in (Waltz, 2013)

1.3.7 or as stated elsewhere

"What autism is to me is a set of differences, probably neuro biological that govern the way we interpret the social, perceptual and sensory world. We are born with a different programme. Now because these differences as they develop involve social factors it is inevitable that at different times in different circumstances and in different cultures, that those differences are going to be either overlooked, alternatively explained or accepted in different ways, according to what is the norm, not just in terms of social interaction, but in terms of the interpretation of illness, disability and difference too." (Arnold, 2006)

1.3.8 Whilst such a definition of autism could be considered a Social Model hypothesis,

there are nonetheless differences in the communication style between those who have been identified⁵ as autistic sufficient to warrant investigation into how those differences affect learning. What (Milton, 2012) calls the double empathy problem - where non-autistic as much as autistic people fail to understand the different ways in which each navigate the world, has had an impact on how the non-autistic majority has structured the education of the minority.

1.4 The working model

This Social Model conceptualisation of autism has implications for teaching learners who are on the autism spectrum, some of which this research aims to explore. The research question being to investigate the effectiveness and impact of video as an educational tool

⁵ And indeed those who have not yet been identified but could fall within the scope of definition, as later considered with the incorporation of not yet diagnosed but self-identifying autistic participants.

for autistic adults, (being the group of autistic people the researcher is most familiar and involved with) and further to identify and encourage more effective production techniques for the medium that are tailored to the cognitive style of autistic people, if this is found to differ.

These were to be examined from the ethical position of the participatory research paradigm (Waltz, 2008) through participant observation and action research.

1.4.1 It was considered likely that following the traditions of grounded research (discussed more fully later on in Chapter 3) that there would be additional outcomes of the research touching upon the processes of why video might be more effective for this group of people. These are dealt with in the methodology and in the final recommendations.

1.4.2 As participatory action research must be continuously reflective to achieve its goals, it was considered necessary to develop a critical methodology of the research process itself and of current practice, examining the limits both of ethical methodology and the capacity of empirical research to achieve scientific determination in a subjective world. This is examined in detail in Chapter 3 and discussed in Chapters 4 and 5 in the Findings and Conclusions sections.

2 Chapter 2: LITERATURE REVIEW

2.1 Introduction

2.1.1 Before considering the methodology and sample, it was necessary to examine the literature which underpins this study, focusing initially on what appeared to be directly relevant to the research question before extending the focus into the wider history and usage of television and video in education. Further explorations of the literature were as follows: the commercial availability of video as teaching material, with specific reference to the catalogue of the National Autistic Society in the UK and the contribution of film studies to the understanding of how video works and what the wider literature of the cinema has to say about interpretation, examining this specifically in the context of autism. Finally, the notion of autism is considered in terms of its social and medical construction, specifically the scientific literature, in relation to what it does or does not contribute to the explanation of lived experiences of autism. Given the conflict between the ontological research into the causation and attributes of autism, and the perspective of Disability Studies, which can be seen as part of the ideological tug of war between the sciences and the humanities, a thoroughgoing critique of the current models of autism was found necessary to ensure that this particular research remains true to the understanding of autism within an experiential context whilst maintaining its social relationship to education.

2.1.2 Video in this study was considered to be a recorded, moving image transmitted through current technologies such as video/DVD playback and streaming Internet

technologies. The term 'literature' has been expanded to take account not only of conventional publications such as books and journals, but also to include video/DVDs relating to individuals on the autistic spectrum.

2.1.3 Inevitably during the course of such a long study, new research was likely to arise, and indeed this was the case. Significant developments since the outset of the initial literature search are included in this chapter for the sake of completeness as they are referred to later in the thesis and it was important to ensure that they are covered here.

2.1.4 The main sections of the review are as follows:

- Literature on video and autism
- Literature on the educational uses of video
- NAS catalogue of educational videos
- Film literature and the cognitive school
- Social versus medical models of autism
- An appraisal of the main theoretical bases of autism relevant to this research
- A critique of the major studies published prior to this research

2.2 Literature on Video and Autism

In response to the search term 'video', an initial search of the British Library archives revealed 426 theses. Narrowing the field to 'education', the yield became

41 and when refining the search to include “autism” specifically, only one, partially relevant, thesis was revealed, that being in the genre of video modelling in the context of Applied Behaviour Analysis, (Nikopoulos, 2003). Looking specifically for papers in the scholarly press using the search terms “autism AND video” in a variety of bibliographical databases, just over 900 references were returned, allowing for duplication. Further analysis revealed that the majority of references to video were nothing more than references to its use for recording observations during research and only a very small portion of the literature had video as the centre of focus. Most of these latter sources dealt with the uses of video as a modelling technique (that is to say, to illustrate an ideal form of behaviour or demonstrate an example of behaviour to be avoided). This is not altogether surprising given the nature of most of the autism literature and its focus either on clinical research findings or on interventions specific to autism. The most significant piece of prior research relevant to this study was undoubtedly that by Klin et al. (2002) which reports an eye tracking experiment detecting the areas that autistic people looked at when watching a social video. A full critique of Klin’s work is given later in this section. Nikopoulos is well represented in the literature (eg, (Nikopoulos & Keenan, 2006)), but there are others working in the same genre of Applied Behaviour Analysis (ABA), for example McCoy & Hermansen (2007); Bellini et al., (2007) and Santini (2007). In a similar tradition, Krantz (2005) has investigated the value of video for assisting with conversational skills and other researchers in the field include Cummins & Hulme (1997) Heath et al., (2010). An interesting meta analysis of this literature can be found in Bellini & Akulian (2007), who concluded that although the

technique appeared valid within the behavioural paradigm, further research was necessary in order to establish that definitively.

2.2.1 Video as a modelling technique is not confined to the field of autism. Walter (Walter, 1984) pp 142 -155) discusses video in the context of social learning in group settings according to Bandura's (Bandura, 1969) theories, which also have an impact on the Applied Behaviour Analysis philosophy of autism interventions. Christopher (Christopher & Makoul, 2006) deals with video as an aid to self-evaluation in the medical and teaching professions. Beyond modelling, Koschmann et al. (2004) have discussed the uses of video as an educational research tool which, as heretofore stated, accounts for the majority of references to video in the literature. Although the behavioural school is the richest source for scholarly literature, the paradigms of that school raise a variety of concerns both theoretical and ethical. The main theoretical problems are dealt with in a specific critique at the end of this chapter and the ethical considerations are discussed in Chapter 3. Ethical concerns apart, the validation or otherwise of the behavioural approach to autism is not considered to be within the scope of this research, which concentrates upon the phenomenological and cognitive approaches to autism and education.

2.3 Literature on education in general and the uses of video

2.3.1 Turning to the literature on education specifically, Hargreaves, in his Teacher Training Agency lecture, compares the field of educational study unfavourably to the medical field with regard to research. He states,

“There is no agreed knowledge-base for teachers, so they largely lack a shared technical language. It was once hoped that the so-called foundation disciplines of education—psychology, sociology, philosophy and history—would provide this knowledge-base[3] and so were given great importance in the curriculum of teacher training, BEd. courses especially. Unfortunately, very few successful practising teachers themselves had this knowledge-base or thought it important for practice. It remains true that teachers are able to be effective in their work in almost total ignorance of this infrastructure” (Hargreaves, 1996) (para 6).

2.3.2 The researcher is in broad agreement with Hargreaves. If one excepts the number of studies concentrating on the impact of the media on students, for example the Department of Education and Science report *Popular TV and Schoolchildren* (DES, 1983) or the critical output of the Glasgow University Media Group (Eldridge, 1993) and looks at what remains, it appears that media use in education is not an adequately covered subject from the positivist traditions of sociological research or any of the other traditions that Hargreaves mentions. One is therefore left with a literature that deals either with a survey of video’s contemporary use, as for example the Zuber Skerrit (1984) and Tucker (1986) anthologies, or with explorations of its technological value. Hutton (1984) asserts:

“the magic of television reached new heights when the video recorder was invented. With the quadruplex machine, developed in 1956 by Ampex, it was possible to store both picture and sound on a large spool of two-inch wide plastic tape coated with iron oxide powder” (p.11).

2.3.3 Early specific examples of this usage have been the pre-recording of material to be broadcast into the classroom. Smith (1961) deals with a specific example in the American Midwest where specialist educational resources were sparse. Smith

found that although broadcast teaching originally dispensed with the need for the physical presence of the teacher in schools, it was largely used as a supplement to teaching, with lessons being prepared around the stimulus material provided by the broadcast. This particular type of usage is one context that is researched in this thesis.

2.3.4 Castonguay (2006) shows something of the history of the technology in more general contexts, including how it began to become affordable in the 1970s, allowing schools and institutions to videotape broadcast material for later use or allowing them to purchase video materials directly from broadcasters. Wyver (1989) also shows that it was not until the 1980s that the industry really took off, not in the context of education per se, but with the arrival of home video as an entertainment medium. This greater access to equipment meant that the ability to make training videos was no longer the preserve of the larger TV companies and studios, becoming available as a tool for smaller players to create their own support material.

2.3.5 In the 1980s, Durbridge (1984) examined the role of video in the development of the Open University, and Tucker's (1986) cross-cultural study of media in the school curriculum examined its regular use in the classroom amongst a number of media resources. Both Hutton (date: p. 15) and Gayeski and Williams (1984) explain some of the technological advantages of video, for example its amenability for stop, start, pause, and rewind functions to be integrated with interactive computer

programming, something which has become automatic with the advent of the computer-playable CD and DVD. This new dimension brings not only the ability to shift time, as referred to in Smith (1961) and to be independent of broadcast time, but to segment videos into smaller sections to be utilised specifically. One problem with this literature is that it deals with the introduction of video in the classroom when it was still a relatively new medium. For example Kaplan (Kaplan, 1980) speaks specifically in terms of the technology's novelty.

2.3.6 A particularly rich, though sporadic, source of papers pertaining to the technology can be found in the British Journal of Educational Technology (BECTA, various). Interesting though it is, it is outwith the focus of this study, which is the particular use of video as a tool with autistic individuals. This particular study, whilst examining the widest uses of video is primarily not concerned with its use for behaviour modelling or general education beyond the autistic community but the ways in which video can support autism-specific educational needs such as self-awareness raising or teaching daily living and social skills. One example might be a video watched in isolation (as with the stimulus material for this study, or alternatively a video watched within a social group or as part of a wider presentation for use as peer group support self-identification of traits and differences and to positively affirm role models (Schwartz, 2005). It has been used in such a fashion by employment schemes such as the National Autistic Society's (NAS) Prospects or Autism West Midlands' Aspire and the researcher has used it

similarly to support presentations at Autscape⁶ and elsewhere.

2.3.7 In the survey of what is commercially available (National Autistic Society, 2008) as teaching or informational material on autism, a comparative wealth of material has been produced that purports to explain autism, much of which is heavily biased towards presenting autism in the worst light in terms of charitable appeals. This is common throughout the media produced by charities, as illustrated by Hevey (1992), in Pointon and Davies (1997). Further illustration of the signification (Chandler, n.d.) , that is to say defining autism within a semiotic framework of form (signifier) and concept (signified) the media discourse on autism being the former and the image of autism in the popular mind being the latter, can be demonstrated from the output of two conferences; by the Society for Critical Exchange at Cleveland (USA) 2006 and the '*Association for Research in Popular Fictions*' at Liverpool John Moores University (at which the researcher was a presenter) (Arnold, 2005) which led to Osteen (2007) and Murray's (2008) books on autism and representation.

2.3.8 With respect to the use of the moving image as a contemporary educational medium for autistic individuals, a search of the literature revealed that whilst there appeared to be extensive catalogues of commercially available video, no theoretical examination of its worth could be found. For want of any other justification for the present study, this would be enough to reason that there is a need to evaluate the

⁶ Autscape <http://www.autscape.org>, is an annual retreat and conference organised by autistic people for autistic people who attend from several European countries

quality of videos being produced and released to the world considering the import of the material.

2.4 NAS catalogue of educational videos

2.4.1 Analysis of the video stock held by the National Autistic Society, UK

2.4.2 The National Autistic Society, as the leading charity in terms of membership and reach in the UK (NAS, 2009), was a major source of suitable material for this study. Further details of its policy with regards to video stock were ascertained during an interview recorded with the staff member responsible for publications. An examination of the catalogue revealed that the videos could be divided into four categories, which are reproduced in *Table 1*.

2.4.3 **Table 1:** Four categories of video material held by the NAS⁷

1 Self Narration

Video that attempts to use autistic people to explain the condition.

Hoy, R. *Autism and Me*

Baron-Cohen, S. *Asperger syndrome: a different mind*

Smith, P. *Outside In*

Channel 4, *A is for Autism*

⁷ Taken from the contemporary NAS publications catalogue where Harvard Referencing is not used.

Lawson, W. *Wendy Lawson: a personal perspective* (DVD)

2 Professional

Video that is intended for a professional or academic audience or produced from that particular perspective for lay consumption.

National Autistic Society, *Behind an Invisible Wall*

Hesmondhalgh, M. and Baggot, J *Autism and employment - building bridges*

Royal Children's Hospital, *Understanding Asperger syndrome* (video and booklet)

Wirral Independent Support for Parents, *Asperger syndrome: a mainstream school perspective* (video)

Disabilities Trust, *Autism: you are not alone*

Arnold, L. *Whichever way you look at it, it's still autism: deconstructing the jigsaw.*

3 Family oriented

Video that attempts to describe the autistic phenomenon from a parental or sibling perspective, explaining what it is like to raise a child or care for an adult with autism.

Eye Television, *A different life: Rosie's story*

Lincolnshire Autistic Society, *Winning Through*

World Educational Resources, *Rylee's gift: Asperger's syndrome*

Cornwall County Council, *About four families - experiences of the autistic spectrum*

Lincolnshire Autistic Society, *A new, high quality DVD about children and adults with autism*

Mark-It Television Associates in association with the NAS, *The ages of autism*

Paradogs, *Approaches to Autism*

4 Teaching tools

Video that forms part of an overall teaching package.

Baron-Cohen, S., Hill, J., Golan, O. and Wheelwright, S. *Mind Reading: The*

Interactive Guide to Emotions

The National Autistic Society, *Socialeyes - exploring the social world with people on the autism spectrum*

A to Z – an approach to developing communication – video made by a family with a young son with autism

2.5 Film studies and its associated literature

2.5.1 In making any assumption with regard to the proposition that video may be an effective medium for the education of autistic people, it is important to inquire into the mechanisms of why that might be. The existing studies of autism and video do not give a satisfactory explanation. They neither address nor construct a cognitive model of how the individual responds to the moving image before considering what might be different in autism. In order to understand the ways in which the moving image has been studied, one has to examine the extensive theoretical base that has been built up since the medium was first developed. Fortunately, there is a recent school of analysis which attempts to bring the fields of Cognitive Psychology and Neuroscience to bear on the study, following the school of 'cognitivism' espoused by writers such as Currie (Currie, 1995) and Carroll (Carroll, 1996).

With the introduction of Currie and Carroll (op cit) , one could be said to be taking only a relatively recent account of the discipline of Film Studies. Whilst their writings prove a useful bridge between two very different disciplines in terms of their reference to more contemporary cognitive psychology, it would still prove to

be a disservice to the abundant literature to start with them. There is a much wider and preceding literature that has to be considered, not only to put current academic concerns into context but to consider the importance of the moving image to contemporary life and by reference to the lives of autistic people born into a media rich culture. Therefore, it became necessary to further consider the literature of the moving image.

2.5.2 History of the moving image

2.5.2.1 Essentially, the medium has at least a hundred years of history and a pre-history going back further into the 19th century, which has been called its “incunabulum” by analogy to the early print experiments which initiated the Gutenberg ‘Galaxy’ (McLuhan, 1962). This consists of proto cinema, the technological advancement of photographic media and projection apparatus from the magic lantern to the zoetrope and phenokistoscope, amongst others.

2.5.2.2 The researcher has considered the evidence for education within the history of the cinematic image and found confirmation in Popple and Kember (2004) that entertainment media and education have a long association. This draws from as far back as magic lantern slides to accompany instructive lectures, to the filmic equivalent of temperance tracts to illustrate ethnography, for military training, surgical training and anything that relied on the imitative potential of the moving image.

2.5.2.3 Arguably, as is the case with photography, the medium's very development was an outgrowth of science (The Origins of Scientific Cinematography , 1990, 1992, 1993), allowing minute observation of change over time, hitherto invisible to the observer, in the case of Muybridge's studies into animal locomotion, which eventually gave rise to their animation. Once the incunabula of cinema had settled down, that is to say when the initial technical limitations were addressed by innovation, the technology began to command a certain 'grammar'⁸. This was inherited partly from the conventions of the theatre and partly because of the limitations on how long a scene could be because of the size of the camera film magazines. Experimentation with the ways in which these shorter pieces could be combined led not only to established convention and practice amongst cinematographers and editors, but to a range of theoretical propositions based around these. Early pragmatic theorists based their analyses essentially upon the techniques that had grown out of earlier media and performance such as art and the theatre.

2.5.2.4 Film theory as a sub genre of critical theory has generally advanced alongside the growth of these new media and could be said to have already reached some degree of maturity by the early 20th century, drawing on the popular metanarratives of Marx and Freud. Its early proponents in the Soviet era: Pudovkin (1958), Eisenstein (1949) and Vertov (1984) seized on its potential to be a medium to change people's minds through the manipulation of the image's unique attributes, forming what has come to be known as montage and selective editing. The ability to edit was one of

⁸ Discussed in detail further in this Chapter

those attributes that distinguished the medium from straight reportage, as in the case of photography, such as Fenton's (Baldwin, et al., 2004) pioneering photography of the Crimean war to establish a veracity that was hitherto impossible.

2.5.2.5 From its reliance upon the edit, film becomes capable, following on the tradition of theatre as expounded first by Aristotle (Aristotle, 1996) in his Poetics, of producing a particular effect in the audience. As (McQuail, 2010) writes:

"The entire study of mass communication is based on the premise that the media have significant effects, yet there is little agreement on the nature and extent of these assumed effects" (p. 454).

2.5.2.6 The early pioneers of Soviet Cinema already referenced have remained the foundation for more current theoretic consideration. Notwithstanding their ideological origin, they have been influential in Hollywood as well as world cinema and have not lost any relevance to the questions framed by this investigation in the researcher's eye. The techniques invented and experimented with in this era are still used to create video narrative today. Winston's (1995) *'Claiming the Real'* illustrates how documentary makers have also understood the principle of creating coherent narrative through the edit using precisely the same technologies and techniques as fictional "auteurs" and dramatic directors. Documentary aspires to be classical drama, as the pioneering art documentary makers Flaherty and Grierson demonstrate by using the "grammar" (Metz, 1974)) of the cinema to create a realism that is in part false. Welles (*F is for Fake*, 1974) for instance, spoofs these

techniques to virtuoso effect in *F is for Fake*.

2.5.2.7 Of some importance to the videos being studied here is the relationship between the cinematic observer and what is being recorded, demonstrated in such techniques as the “voice of god” and “fly on the wall” (Thomson-Jones, 2007). The researcher has likewise considered other theorists such as Bazin (1951 - present), Metz (1982) and Deleuze (1986) (1989) in terms of the contribution they have made to the understanding and deconstruction of the moving image by reference not only to psychoanalytical literature and philosophy but, of more relevance to the current study, the “questionable” grammatical structure of film. These authors have taken particular perspectives from the early semiotics of Saussure (1974) and revisions through Peirce (1931-58) to come up with academically reasonable semiotic theories of film’s underlying structure.

2.5.2.8 The researcher’s own earlier studies into the moving image have been informed beyond this by the relationship of film to philosophy from Baudrillard’s (1994) “hypereality” or Lyotard’s (1979) death of the meta narrative to the postmodern positioning of Derrida (1978) with regard to the deferral of meaning and Foucault’s (1978) ‘archaeology of knowledge’.

2.5.3 Pragmatism vs Psychology

2.5.3.1 The major problem regarding the literature of the moving image, the literature of

critical discourse notwithstanding, is the predominance of technical literature ('how to' books) which, although they might classically include the works of Eisenstein and Pudovkin (op cit) as theoretical manuals, generally relate to practice. These more commonplace instructional manuals address certain practicalities but the current study questions their relevance to the cognitive challenge presented by autism.

2.5.3.2 Notwithstanding the argument within the structuralist tradition of Saussure and

Pierce (op cit) that once the 'incunabula' of cinema had settled down, the 'grammar' solidified and dictated the progression of cinema in certain inevitable ways much as language has dictated the progression of culture, it has drawn criticism for being an inaccurate analogy.

Currie, for instance, in "Languages of Art and Languages of Film" (Currie, 1995, pp. 113 - 137) has questioned the notion that a film can possess a 'grammar' by comparing it (somewhat literally) to Chomsky's (1967) post behaviouralist notions of an underlying cognitively embedded syntax which film cannot be said to echo in the same way. Language has a syntax but film is not language. Currie argues from within the 'cognitivist' school of criticism which can be considered in the context of this thesis to be the link between film theory and the scientific literature of autism. This is exemplified foremost by Currie (1995) and Carroll (1996) who have attempted to ground the flights of imagination and logorrhoeic excesses of Bazin, Deleuze and Baudrillard (op cit) in some empiricist perspication.

2.5.3.3 Notwithstanding the speculations of the cognitive school of film criticism into the psycho neurological processes of understanding and interpreting the moving image for what in their framework would be considered the normative viewer, it became necessary to examine, in the light of the controversies over the subject, what autism means within the context of this particular piece of research and what has gone before. In summary, the study of cinema, regardless of its impact in the field of education, has predated the current gaze upon autism by at least half a century if one counts Kanner's and Asperger's papers as the beginning of our knowledge and understanding of the condition. It can even be argued that education was the original focus of the moving picture before entertainment and documentary (Grierson, 1990) (in the modern sense) were envisaged. One can give the example of Matuszewski (Uhde, 1995) who as early as 1998 urged the preservation of what was then available in one of the first theoretical texts on the genre which was at that time almost wholly descriptive and not narrative.

2.5.3.4 Taking the broadest view of the phenomenology of autism from the sociological and cultural perspectives since its appearance in the literature of the 1940s; considering it against the literature of the moving image which has existed since the end of the 19th century and leaving aside differences between the two worlds of the humanities and science, it can be said that the literature of the latter has achieved a maturity and critical reflection which is still lacking in the fundamentally medical gaze of autism research. It is only relatively recently that autism has begun to be examined from these external same perspectives, cf Osteen (op cit), Nadesan

(2005) and the *Critical Journal of Interdisciplinary Autism Studies* (Arnold, 2012).

The current study both contributes to and builds upon that work, having made an early entry into it. This study, having considered the sociological aspects of the diagnosis itself, has already concluded that the scientific medical gaze was insufficient to either describe or assign a place to autism within the wider context of its being, of which education is only one part. It can be argued that autism is as much a cultural phenomenon in the way autistic people relate to the society and conditions around them, as a medical phenomenon or brain difference. That is to say, as with dyslexia, it is the changes in society that have made a particular set of skills lacking in one subset of the population more critical for mainstream survival and this has impacted on education, if one considers notions of the hidden curriculum and the role of education in the socialisation of the ideal citizen as Willis (1977) and Hargreaves (1982) have argued.

2.5.3.5 The general media, including cinema, TV and video cannot be said to be entirely uninformative on the general understanding or conceptualisation of current society and its norms (Philo, 1990) op cit. However, that was not the researcher's prime reason for considering that film theory had a bearing on the current work considering that the current scientific theories are inadequate in this respect. The reasoning behind this further consideration of film theory at this point becomes apparent in the final chapter of this thesis. This discusses the relationship of that theory to what conclusions can be drawn from the qualitative material about the differences between the autistic and non- autistic participants.

2.5.3.6 In order to examine the importance of this difference, it was necessary to contemplate those salient aspects of film theory that might be considered to underlie and inform the participants' interpretation of the films to consider whether there was anything inherent in the autistic condition or perhaps those social conditions that autistic people find themselves in due to the difficulties of interaction, that predisposed the autistic participants towards a fundamentally different way of viewing and observing the material.

2.5.3.7 To repeat the truism that the discourse that has grown up around the moving image is older than the medical discourse of autism itself does not detract from the fact that there is currently no literature that applies to the relationship of neurodiversity and the emergent technologies of the 20th century. It has been argued by Nadesan (Nadesan, 2005), taking her cue from online discussions within the autistic community, that the production of autism was almost inevitable in a kind of 'technological' sense from the paralleled development of the paediatric specialism and post Kraepelian development of the nosologies and specialism in psychiatry. It is this synthesis which led to the emergence of autism as a 'de nouveau' manifestation of 'disorder' as then advocated by Kanner (Kanner, 1943), leading to the conclusion that the underlying neurological differences were always there but, as with dyslexia, in post literate industrial society, the manifestation was not obvious before (Wilson, 2014).

2.5.3.8 Leaving aside the ‘paleotechnics’ (to cite Mumford’s (1934) phylogeny) of autism, it is certain that the history of cinema and video has also operated in one direction along a line driven by the technology. Whilst not wholly independent of the aesthetics of the desirable production values and the economics of technical availability, it is a technology that has accelerated much since the availability of cheap video recorders and camcorders into the era of this study. A more detailed discussion of the technology itself will be found at the end of Chapter 4 of this thesis.

2.5.3.9 By far the largest producer of commercial video is the entertainment industry, in terms of providing readily accessible versions of current movies, television shows and musical performances. It is hardly possible that any person living in the Western world from the late twentieth century onwards has not encountered this format.

2.5.3.10 It is this long-received cultural heritage of the visual in respect of education and convention that would be expected to form the background of any individual’s interpretation of the moving image as it is as embedded as the styles of script one has used to learn to read or write. It is not as if the conventions of video appear as a ‘foreign script’ to the viewer so pervasive is the visual. Indeed the semiotic codes of

⁹ The researcher has spoken in public discourse of the use of technology in autism research, as a determinant as much as an outcome.

video hold a didactic relationship to their audience and the source material in the same way as book illustrations, from the earliest chapbooks to the contemporary illustrated text book or instructional manual. This is a tradition in pedagogy that goes back to the medieval writings of Comenius (reprint 1877).

2.5.3.11 It can be assumed at this time that the population to whom any educational video is directed will be so saturated with familiarity with the medium (in the same way one is culturally familiar with the consequences of electric light, without an explanation being necessary whenever an interior domestic scene in a movie or TV programme is shown). One only has to instance Von Sternberg's 'Blaue Engel' (Der Blaue Engel, 1930) about which, referring back to Klin's choice of Cinematic Historiography for study, one might wonder that had he chosen a scene from that rather than 'Whose afraid of Virginia Woolf', it could be remarked that no-one is seen to switch on one single domestic lamp throughout the whole piece though they burn inexplicably in this "modernist" piece. From the theoretical perspective of mise en scene, it is not necessary, because it is a given, a trope almost that electric light will be understood by the audience, it is not central to the plot whereas today a historical film featuring obsolete technology would need to explain it by instance in the narrative. One might well instance Antonioni's Blow Up (Blow Up, 1966) where the technology of pre digital photography (dark room work) is central to understanding the narrative.

2.5.3.12 A film, much as a book, is read in a particular direction; it's linear comprehension is as much embedded in the form of the technology as the leaves of a book which are

turned over one by one and these basic but forgotten structural paradigms underlie all subsequent expressions of that technology prior to the invention of hypertext¹⁰

2.5.3.13 Perhaps it could be said that video returns to a richer world than mere text, as it can contain a purely visual subtext similar to the complex symbolism of religious art in the western world; the association of saints with their symbols in the stained glass and the icons of the medieval world. It is a world tied up with a cultural narrative.

2.5.3.14 As Victor Hugo put it:

"Pasque-dieu! what are your books, then?"

"Here is one of them," said the archdeacon.

And opening the window of his cell, he pointed out with his finger the immense church of Notre-Dame, which, outlining against the starry sky the black silhouette of its two towers, its stone flanks, its monstrous haunches, seemed an enormous two-headed sphinx, seated in the middle of the city. The archdeacon gazed at the gigantic edifice for some time in silence, then extending his right hand, with a sigh, towards the printed book which lay open on the table, and his left towards Notre-Dame, and turning a sad glance from the book to the church,--"Alas," he said, "this will kill that."

2.5.3.15 Notwithstanding that the works of Hugo found themselves particularly amenable to the new medium of cinema in their time (which has yet to lead to the demise of the book, despite countless popular predictions to the contrary), Hugo was alive in a time of new technology whilst his world view was influenced by the writings of Viollet le Duc, the restorer of Notre Dame Cathedral. It is telling that the 19th

¹⁰ Hypertext for those unfamiliar with the concept, is the invention of Tim Berners Lee, essentially a means by which a highlighted term in a page of text, when clicked upon leads to further explanation, tunnelling through the text to another section as it were.

century saw not only the revival of medieval forms of embedded cultural didactic but the development of the moving image. The two cannot be unrelated as within the Cathedral and its humbler church lay the foundations of Western drama with its natural *mis en scene* for the cultural narrative of Christianity.

2.5.3.16 Turning back to the development of film theory and its precedence in relation to autism theory, it is not older than the prevailing metanarratives of Marxism and Freudianism that have heavily influenced film theory as a sub- genre of critical literary theory. The Freudian perspectives have perhaps as much bedevilled a truly 'cognitive' understanding of the affect and effect of the media as they have the development of truly cognitive theories of autism. However, these are not the only philosophical theories to have impacted on the genre, as the structuralist semantics of Saussure (1974) and later Peirce (1931-58) have been summoned up to provide a notion of the grammar of the filmic medium. However, its relationship to the truly cognitive grammar, such as Chomsky's notions of innate grammar, have been disputed as to the term being more metaphorical than directly analogous. To link this to the matter under scrutiny, there have arisen several generations of film and documentary makers who have been educated under the influence of existing film schools with this semi authoritative approach to how a film is made via the edit. Current production has been particularly influenced by the directors of cinema from the first half of the 20th century, such as Pudovkin (1958) and Eisenstein (1949), or in the avant garde documentary field of Vertov (1984), who not only conceived of the work as art, but within the Soviet framework, as art serving a particular purpose

in furthering the revolution.

2.5.3.17 One need not get led astray by ideologies however, as the pragmatic discoveries of these directors have left a very considerable legacy for both the theory and the practice of cinematic and video production as taught in film schools down to the current time. The basic 'grammar of the edit', 'montage' and 'mise en scene', as oft cited by those engaged in the teaching of the moving image, define the types of shots possible and how they are combined into a coherent narrative whole whilst preserving an illusion of continuity. They are techniques which are as vital to any contemporary video production as sentences and chapters are in a book. Their absence is noticeable, for example in the recording of a lecture from one single vantage point, or the 'selfie' generated for 'Youtube' from a camera phone. [The various applications of these techniques define the differences between the video segments chosen for this study and what the audience or participants made of them is interesting and informative]. This is not a point of irrelevance or diversion, since the construction of autism implies (Murray, 2008) the construction of a difference so profound to challenge what is human. As Pinker puts it in the '*Blank Slate*' (Pinker, 2002) where chimpanzees and autistic people are chosen together as examples of the lack of empathy that separates them from humanity. From that, one might suppose that the constructed autistic person is so cognitively different that they do not respond to these conventional indices at all and thus find the medium as incomprehensible as a caveman might. For example, in the *Mind in the Cave*, (Lewis-Williams, 2002) cites an example of a Turkish peasant brought up in a

strict Muslim environment so rigorous that he had never seen a pictorial representation and so was unable to connect a picture seen to what it purported to represent. This may only be anecdotal and contradicted by what we know of visual processing systems and again the transparency of an image (Currie, 1995) to be a practical irrelevance or misleading, but it does enlighten us that individuals can be thought of in this way. For example, at a recent (2014) hearing of the Federal Drugs Administration (Grohol, 2014) into the licensing of an aversive therapy¹¹ at the extreme fringes of behaviourism, one of the representatives asked for expert opinion on whether autistic people can even feel pain and unfortunately, as is seen from some of the literature of dehumanisation (Hobson, op cit), that answer from the medical perspective, uninformed by the actuality of autistic first hand testimony is equivocal.

2.5.3.18 As seen in a popular Internet 'meme', the US Geico insurance commercials whose catchphrase was "*It's so easy to use a Caveman could do it*" (McLeod, 2006), perhaps the caveman was not as unsophisticated as appears, for if even so called 'primitive' culture can comprehend a set of narrative conventions, as they seem to be so universal, an autistic person so configured would have to be very different to not make any connection with these cognitive norms.

¹¹ Electric Shock, Judge Rotenburg centre

2.5.4 The grammar of the edit

2.5.4.1 The verb, to edit, is an old one, coming from the function of the presenter of the Roman Games who arranged the various appearances in order and presented them to the spectators. In one sense it could still be said that the presentation of the moving image, no matter how mundane it now appears, is still rooted in spectacle and drama. The presentation of drama, of which perhaps the Roman Games could be considered a perverse branch, is one that relies upon very ancient traditions that are in fact necessary for representation and these were written down by Aristotle (Aristotle, 1996) who defined the concept of the three unities of time, space and action. You cannot present any long narrative without some compression and organisation into specific episodes or scenes and that has been, at the most basic form, the technology of the theatre. The technology of the moving image however, is related to the theatre but although developed in a similar way, is bound by technological limitations. To begin with, the length of a scene was wholly dependent upon the amount of film that could be held in a camera magazine and was therefore limited to very short sequences. In order for the projection of film to show anything more than one sequence at a time, those original scenes required (and still require) some degree of arrangement in order to convey the diegesis of whatever was being recorded. This is especially emphasised in Eisentein's (op cit) concept of montage. This is almost inevitable if film is seen to be a narrative and follows on precisely from the way in which narrative is arranged in literature from the earliest times in episodic format to the way in which the actors on a stage are

brought on and off to constitute specific scenes. Whilst an entire literature has grown up around cinema that assumes that the cinematic art is of necessity in some way different to what has gone before, with its own narrative structure dictated by the technology of the medium, some would say this is not so, as discussed in Currie's (op cit) *Image and Mind*.

2.5.4.2 Whether or not the medium of film is specifically different to theatre or literature, they all have one thing in common, that it is of necessity selective in the presentation of material to the audience. There are specific exceptions of course (Empire, 1964) done for specific effect rather than to enhance the diachronic nature of any narrative. Both Pudovkin and Eisenstein (op cit) very early on in the feature film, recognised not only the necessity of the edit but what can be achieved through specific techniques applied to it. It could be argued that Currie is correct in suggesting that the notion of a specific set of frames being used to achieve a narrative effect does not originate with the cinema and that the strip cartoon is older. There are also examples in Renaissance art that present within the apparent gestalt, a series of images separated by time. For example, in the work of Memling, the "*Scenes from the life of Mary*" and the "*Passion of Christ*" represent multiple distinct scenes in a narrative context rather than a single spectacle. The appearance of the same character in separate spaces within the graphical space of the picture as a gestalt is a complex thing to represent in two dimensions, devoid of what theatre has introduced in the fourth dimension of time. Film provided a means of recording, although it could be argued that the series of frames constituting the frieze of Trajan's column, the Elgin Marbles and Egyptian tomb paintings take the

solution to this problem right back into antiquity through a medium, which if laid from end to end, looks very much like a strip cartoon or a roll of slides. It is conceivable that it is even older, and is a particular cognitive feature of the human species altogether that we seem to have the innate ability to solve such problems independent of whatever technology a particular century presents us with. Indeed, Currie argues that the special quality of photography, and by extension moving photography of counterfactual representation¹², is an irrelevance to what is actually being achieved and understood in these various ways of representing the real.

Currie also goes to some lengths to describe why the particular construction of the moving image is not identical to a grammar in the technical sense that a linguist such as Chomsky (Chomsky, 1956) would use the term, demonstrating convincingly that it does not achieve what Chomsky demands of a transformational grammar. Perhaps Currie, in his attempt at reconciling positivism and neuroscience with Film Studies, is being over literal and prescriptive. Just as the formal grammar of any given language does not map precisely onto its underlying syntax, the notion of there being a grammar of edit can still be seen as an analogy or metaphor which serves its purpose very well. Anyone who has shared the experiences of the researcher in constructing or editing material rather than merely studying the materials academically, would understand what is conveyed by the concept and

¹² Where the fact of what is being represented corresponds directly to the representation, that is to say a change in one, is mirrored in a change in the other, as against say a painting of a scene where changes over time may be merged into one single compounded representation

how useful it is in determining the individual component factors of film and how they do and can go together and are punctuated. There is always the counter example in education such as the simple recording from beginning to end of a single event from a single camera angle, as with the early Open University videos, and, of relevance to the researcher's work, the commercial availability of Tony Attwood's lectures. These could however, be explained as naive recordings or recordings otherwise constrained by the circumstances of an unchanging scene and a single camera. For example, the present researcher has filmed more than one lecture delivered to a group of autistic individuals from a single viewpoint at the back of the room - a procedure used to cause minimal disturbance to the audience, protecting their identities from wayward shots and the subsequent legal necessities of model release forms for all members of the audience, not all of whom would, in practice, consent. This practice, with the low cost and availability of recording technology, is becoming more widespread as a means of preserving an account of academic proceedings at conferences or of streaming them to a wider audience by means of new technology, such as podcasting.

2.5.4.3 The result of such recording cannot be called a filmic experience in the same way as an edited piece. From a didactic point of view, it retains all the shortcomings of the conventional lecture or monologue, as a means of teaching. The videos are in essence little more than a window onto the lecture. Indeed any broadcaster who sets out to record a live event such as a lecture, will, wherever they can, record from a variety of viewpoints and focal lengths and utilise lighting and post

production edits in order to turn the lecture into an edited piece of video production, that is to say one which is 'proper' within the paradigms of entertainment, rather than scientific record. An example of this is the researcher's own production, *'Whichever Way you look at it, it's still autism'*, already cited. Whilst this purports to be the recording of a single event, it was actually edited from two runs with different camera angles for each, the final production benefitting from much post editing, cutaways and the introduction of graphics and diagrams.

2.5.4.4 Just as it has been necessary to pare down and select from the competing explanations of autism, the same has been necessary in terms of Film Studies. It is an understandably difficult field to reconcile with the study of autism, or even education for that matter, for those who are unfamiliar with it. Like any other academic discipline, it is discursive and dialectic. The importance for this thesis however, is to recognise the importance of the various contributions to the study of the moving image from its inception and to realise that today no film maker of any kind starts out with a blank slate. The first wave of writers, themselves immersed in the practice, have used what they have gleaned about the structures and demands of the technology and how it brings its message to bear within those limitations to construct their own particular piece of work. The study of documentary makers in particular has shown that this is never fully divorced from drama in the way that it constructs its educational message and the popular work of Marshall McLuhan (1964) only serves to emphasise this further by demonstrating that the medium is

never wholly narrative in one medium; the words and the narrative structure being reinforced by the visual elements and use of incidental sound. Finally, a recent innovation in the field has sought to reconcile how it achieves what it does with the psychological discoveries of cognitive science. This has been seen as a reaction to the influence of Freud and Lacan on the interpretation of the media.

This literature review found that there have been no studies which have focused on Film Studies and autism. Videos have been made about autism and for autistic people but there have been no studies which seek to gain the views of autistic people on these videos nor have autistic people been directly involved in their construction. They have largely been viewed as subjects. This thesis seeks to fill a gap in the research literature by directly asking autistic adults to comment on videos made on autism and their own use of video as a medium. So a sample of autistic participants will be selected and their perspective compared with those of non-autistic adults. Commercially available videos created about autism or which aim to teach specific skills to individuals including people with autism will be selected. Consideration will also be given as to how autistic people might be able to engage in the research process and the ethical issues involved.

2.5.4.5 Within the cognitivist school, Carroll and Currie (op cit) attempted to answer this speculation with what they regarded as cutting edge (although derivative in terms of research and scholarship) science. Much as Rimland (1964) and the generation afterwards attempted to take autism research out of the shadow of Bettelheim, the cognitivists attempted to do the same for cinema and the moving image. These

understandings of the moving image at a structural, psychological and speculatively neurological level have been utilised in the construction of the material presented to the participants and the design of the questionnaire in the current study, seeking to examine the participants' responses to it.

2.6 The disability perspective, social vs medical models of autism

2.6.1 Presentation of disability in the moving image.

2.6.1.1 The work of Hevey (1992), Pointon and Davis (1997), Darke (1998), Murray (2008) and Osteen (2007) has already been referred to in relation to the NAS catalogue. However, little attention has been paid to the portrayal of disability outside of charity images and mainstream film, although the interest in the genre appears to be growing. The former supervisor of this project (Waltz, 2008) has also commented on this field.

2.6.1.2 This particular intersection of media studies and disability studies also informs us of the way in which the theoretical constructs of autism have advanced, with particular reference here to Disability Studies as an offshoot of Sociological and Cultural theory. The researcher has introduced the idea of looking at autism from this perspective as a relevant one in the introduction. However, it can be considered in more depth historically speaking.

2.6.2 The historical context of major schools of thought in autism

2.6.2.1 For many years the study of autism (in common with cultural studies) proceeded along psychoanalytic lines, with Bruno Bettelheim (Bettelheim, 1967) drawing parallels between the apparent isolation of autistic children and the effects of trauma he had observed in concentration camp victims. Likewise in the UK, autism was conceived of as childhood psychosis or childhood schizophrenia (Jordan, 1999). This view of autism was challenged in 1964 by Bernard Rimland (Rimland, 1964) (Davies & Stone, 1995) who asserted that autism was a developmental disorder of neuro-biological origin, a view that, over time, discredited Bettelheim's description (Pollak, 1998). Lorna Wing (Wing, 1993) characterised autism as a "triad of impairments": social (lack of interaction or difficulty with social understanding); communication (impaired use of gesture, semantic understanding) and imagination (resistance to change, indulgence in repetitive and stereotypical behaviour). This description became the basis of the American Psychiatric Association's categorisation in DSM III R (APA, 1987) and subsequently DSM IV (APA, 1994). It is since this time that various diagnostic schedules have been developed, such as the Diagnostic Interview for Social and Communication Disorders (DISCO) (Wing, et al., 2002)) and the Autism Diagnostic Observation Schedule (ADOS) (Lord, et al., 1999), which proceed from the triad of impairments concept to examine individuals against a set of criteria said to denote the presence of autism or "autistic traits."

2.6.2.2 More recently there have been competing meta-theories of autism, notably Baron-Cohen's (1997) 'mind-blindness' hypothesis which posits that autistic individuals are significantly impaired in forming the supposition that other minds exist. This is closely related to the construct called 'Theory of Mind' in philosophy (Davies & Stone, 1995).¹³ Other researchers, notably Happé (1999) and Frith (op cit), have postulated that autistic people have weak central coherence or, from another perspective, an enhanced ability to see details against an impaired ability to see a gestalt: an entity's complete form. This is shown in various tests where the meaning of individual elements in a design or pattern is confused by the overall resemblance of the design to a single entity. This can also be viewed as a cognitive strength where that ability is valuable. As Baron-Cohen (2000) states :

"People with AS might not necessarily be disabled in an environment in which an exact mind, attracted to detecting small details, is an advantage. In the social world there is no great benefit to such a precise eye for detail, but in the world of maths, computing, cataloguing, music, linguistics, craft, engineering or science, such an eye for detail can lead to success rather than disability."

Weak central coherence is a theory that particularly appeals to the researcher based on his experience in the autistic community. The researcher's own experience of having undertaken the cognitive tests used to test the theory has revealed a strong tendency towards scoring consistently in a manner that would indicate weak central coherence and from a basic understanding of the theory, it has seemed to fit with

¹³ In personal conversations Baron Cohen has indicated he drew from Woodruff's work on Chimpanzees for the concept though the researcher pointed out to him its much earlier philosophical provenance.

anecdotal observations of the researcher's autistic peers.

2.6.2.3 However, attempts to discover the aetiology of autism have also proceeded apace through genetic and physical research (Bailey, et al., 2006). Autism is far from a simple inherited trait and it is speculated that the origins are polygenic, notwithstanding the confusion caused by co-morbidities. Spence and Lord (Spence, 2006) p.11) state clearly that it: "*can and does coexist with other medical disorders*", citing Barton and Volkmar (Barton & Volkmar, 1998) and Rutter et al. (1994) who claim that some 10 to 15 per cent of cases: "*may be etiologically related to another neurological or genetic disorder* and about a wider neurodiverse continuum. In his paper on deficits in attention, motor control and perception (DAMP), he adduces a Venn diagram to demonstrate possible relationships between autism and potentially related differences that bear other names such as "semantic pragmatic disorder"; "pathological demand avoidance syndrome"; "dyspraxia" and others. The vexed question of 'mental retardation' also raises many problems, notwithstanding Edelson's (2006) paper which showed the hitherto high prevalence of intellectual impairment to be a myth. In the proceedings of the *Symposium on Autism: Neural Basis and Treatment Possibilities*, held at the Novartis Foundation in London in 2002 (Bailey & Parr, 2003), Frith, Rutter, Folstein and Dawson discussed whether intellectual impairment might be a contributing factor to autistic traits or whether IQ is essentially irrelevant; whether the traits exist to the same degree and variation in strength from one end of the bell curve of intelligence to the other or whether the subject's IQ is itself a predictor of the severity of autism. This remains much like

the notion of nature versus nurture, an equivocal debate, there being strong suggestions in both directions dependent to some extent on a subjective appreciation of what “severity” means in autism. Baron-Cohen (2002) by contrast, currently favours a simple origin in his “extreme maleness” theory, which posits that autism is an over-manifestation of largely “male” traits such as systematisation. However autistic writers such as Baggs argue that such categorisations are arbitrary, depending upon what you focus upon as the dividing characteristic (Baggs, 2003).

2.6.2.4 Brain scanning and other physical research suggests that autistic individuals look at people differently and tend to use the same part of the brain to process people as ‘neurotypicals’ use to process objects (Schultz, et al., 2001), (Klin, et al., 2002). There has also been speculation that autism has additional biological determinants such as weak immunity, over-exposure to toxins and the inability to digest certain food types (Shattock, 1995), which are subject to much partisan debate (Email correspondence, various).

2.6.2.5 Despite the direction that research has taken since the days of Kanner and in spite of the ways in which it has been propelled by different foci over time, it is still not clear what is meant by ‘autism’ and where it fits in the general landscape of neurological conditions. For the researcher, however, one has to go further than the idea that it is just a word that is fiercely disputed as stated in the introduction. It

is necessary to be clear about what is meant by autism and to decide if it matters if a behaviour is described from this perspective as specifically 'autistic' or whether one is merely describing surface similarities, such as those found in the early behaviour of deaf and blind children (Brown, et al., 1997) (Russell, et al., 1998). Of course, this is not merely an academic debate, as it has direct relevance to the epistemology of the current research which as hitherto stated is for the most part located in the humanities-based leanings of education study. It has to be decided which theory has the most bearing on what the research aims to discover, therefore for this purpose, the theory that autism is a distinct, deeply embedded cognitive style was decided upon, drawing largely on the work of Frith (1991) and Happé (1999). This reflected the researcher's particular experiences as revealed through research he had been involved in as a participant.

2.6.2.6 Although Frith and Happé refer to autism as a particular cognitive style, sufficiently distinct as a syndrome (in the context of this study) to have an impact on education, Happé's later work (Ronald, et al., 2006), (Happé & Ronald, 2008) challenges the stability of the traditional concepts of Wing and Gould's (Wing & Gould, 1979) autism as a triad altogether. It also relates to the difficulty of rigid categorisation due to poor implementation of the clinical categories in a mixed and varied research cohort and the difficulties in defining autism.

2.6.2.7 There are also strong arguments for the social construction of autism as a disorder.

Nadesan (2005) (picking up on unpublished discussions within the autistic community) takes up on the idea that there were historical processes that inevitably led to autism emerging as a disorder at the time it did, which could not have occurred in any other context. This parallels the researcher's own work pre Nadesan (Arnold, 2012). Being situated within the context of the social model of disability (Oliver, 1990)), it has been easier for the researcher to understand these subtle social processes that shape the conceptions and eventual emergence of a 'diagnosis'. Work by Waltz (2013) and Feinstein (2010) bears out the historical processes at work in the shaping of the current understanding and framework of autism, which this research critiques. Likewise Grinker (2007) from an anthropological view and Timimi (2010) (from an epistemological one), critique the notions of an invariably correct universal view of the condition. Grinker, for instance, has much to say on the cultural relativism of autism, which appears to be a strongly US/Anglocentric hegemonic imposition on non first world cultures, whilst Timimi appears to follow the well-trodden path of Szasz (1960) and Laing (Laing & Esterson, 1964) in denying that there is any valid scientific evidence for the existence of the disorder. Notwithstanding such a radical deconstruction, strangely for the fact that it comes from a clinician embedded within that western system and nosology, it has still been necessary to put this speculation into the context of the current cognitive and medical models of autism, since so much of the contemporary research into autism is grounded in psychological and bio-medical models.

2.7 Current interventions, the relationship to other studies and the scientific context.

2.7.1.1 Research into autism appears to be divided by a series of fault lines, depending upon which of the metatheories have been favoured, (eg. behaviourist, cognitivist, psychoanalytical and so on). Interventions, the driving force behind the construction and use of educational video have likewise been fragmented in this way. The most prominent studies that the researcher has been able to locate, likewise fall into rather rigid camps, with behaviourism well evidenced by the attention paid to it, but less so in terms of any wider conclusions that can be drawn from the research. Similarly, theory of mind, and social explanations have determined the viewpoint taken by other studies. This section looks at some of those studies and how closely or not they tie in with the aims of the researcher's study. Video has been used in education since the inception of the technology (Saettler, 1968). It has also been used critically to teach awareness of the media of television and film, for example, as stimulus material for discussion of the way the medium handles social issues. Despite the abundance of an instructive 'how to' literature to be found on the shelves of any library alongside books on photography and notwithstanding the instructive manuals specifically related to using video in education, little was found by way of research into the efficacy of video, particularly with respect to autism. Whilst, for example, the documentary has been studied from the critical perspective in terms of its construction and relationship to objective truth, instructional video per se has not been examined to such an extent. Little work has been done to investigate the effectiveness of customary techniques of video production adapted from cinematic usage, in particular whether the same

narrative structures are as adaptable to purely educational video as they are to the 'documentary' per se. In spite of this dearth, some key studies of video from a variety of perspectives have been considered in depth in this study.

2.7.2 Who's afraid of Virginia Woolf?

2.7.2.1 The most significant study to come out of the literature review was that of Ami Klin (Klin, et al., 2002) and his team at the Child Study Center, Yale (USA). The researcher recalls an introduction to this work which was presented at the National Autistic Society's *'Facing the Challenge'* conference (National Autistic Society, 2005). The speaker introduced the topic by showing a video (an extract of the play, "Who's afraid of Virginia Woolf") which had been presented to the study cohort in order to discover (by use of eye tracking technology) whether there were discernible differences in the ways that a group of high functioning adults on the autistic spectrum and a control group of non-autistic viewers perceived the scenes. Klin had a sample size of 15 autistic adults and an equivalent number of demographically matched non autistic participants and his team found that the autistic cohort preferred to focus on the mouth parts of the speakers rather than the eyes, and noticed more details of the physical environment, demonstrating (as stated in the abstract of the study itself) that :

" When viewing naturalistic social situations, individuals with autism demonstrate abnormal patterns of social-visual pursuit consistent with reduced salience of eyes and increased salience of mouths, bodies, and objects." (Klin, et al., 2002)

2.7.2.2 Klin's work, as far as the researcher is aware, does not offer any solutions to the 'problem' as envisaged; it is not concerned with what could be achieved by means of video in remedying some particular autistic 'defect' (as with video modelling), but on substantiating the proposition that in general social interactions, autistic attention is different. The proposition is based on the supposition that the difference arises out of some underlying (in a scientific manner) deficit in cortical structures and secondarily within a medicalised model, the impact of those differences on the developmental and social trajectory of the autistic individual. In contrast to Klin's approach, the current study was intended to remedy that, to examine not only the cognitive focus of a group of autistic individuals contrasted with a group of non-autistic controls, somewhat after the manner of Klin et al. but to go further and examine which features of video (in this case non-fiction) were most conducive to producing the best effect with autistic learners. The task necessitated taking cognisance of what is known or theorised about autism and what is known or theorised about the moving image to determine whether the conventional approaches could be recommended or rejected; to be reinforced or amended in this particular instance of video's potential as an educational tool for autism. Notwithstanding the various small studies utilising video modelling as an adjunct to the behavioural approach to autism interventions, Klin's study was as firmly rooted in its own epistemic 'silo' as they were.

2.7.2.3 Whilst Klin's work provided some stimulus to the current research, there were significant differences. One of these was pragmatic. Klin's study answered the

question with regard to what the observers were attending to through the use of eye tracking technology. The way in which the current research was constructed as an online investigation rendered the use of such technology impossible, necessitating some other method to try and determine at least some partial notion of where attention was being directed.¹⁴ A future study has been envisaged should the technology ever become available for the researcher's use. The other major difference, by implication, is that the Yale research was predicated on a work of fiction; an adaptation of a play. There was no consideration in the study of what that might look like if they had done what the current researcher has in considering the literary, sociological and historical understanding of the moving image. The primary function of the moving image segments in Klin et al.'s study, socially oriented, and of pure entertainment value in terms of its original intent, was used not so much to enquire into the interpretation of the moving image per se but to generalise from that to attention patterns around the face in wider social situations. There is perhaps more to the scene than this apparent transparency; the assumption that the participants are merely viewing as through a window, a real piece of naturalistic social engagement. As Klin states:

"The movie was chosen because it displays the intense interaction of 4 protagonists involved in a content rich social situation likely to maximise viewers monitoring of each person's socially expressive actions as well as those characters' reactions to the actions of others" (Klin, et al., 2002)

¹⁴ It might be possible to conduct a piece of research based on the current study using eye tracking technology.

2.7.2.4 However, despite this having focused on drama, Klin's study and the subsequent discourse and criticisms of it were of direct relevance to the current research as they enabled the researcher to ask particular questions based on the implications of Klin's results. Whilst Klin dealt with the implications for social cognition of the way autistic people interpreted a drama consisting of social interaction and behaviour, the current research dealt with the ability of video to deliver a lesson on social interaction and behaviour. Although the four video segments in the current study included scenes of narrative, they did not entirely relate even in the final segment to the observation of two people in a social dynamic or "tête a tête". However, it is important to note, also in Klin's words, that:

"The movie is also depleted of nonessential objects and events that might distract a viewer's attention from the social action."

2.7.2.5 Whilst, as previously suggested, it might have been interesting to have been able to determine more specifically in the current study, whether attention was more focused on the eyes of the various narrators and actors or their mouths, some indication of this is given in the comments made by the participants about the videos as examined in the next Chapter of this Thesis.

2.7.2.6 It is useful to consider further the ways in which Klin's study is not as cogent in terms of the wider understanding of the moving image in its context as the current study. For instance, Klin's motivations for choosing the clip focus on different concerns to this researcher. It would appear from that he was primarily concerned with somewhat different aspects of cognitive interpretation. For this researcher it is not only the actors who are important in the context of the clip but the entire setting and style. For Klin it is the social focus of the attention that is important, but

if one looks at different models of autistic cognition it may be no less relevant than the ability to focus simultaneously on background, or to read the signifiers from the background. One can learn much from the frames of reference included in the reporting of a study. For example it can be noted that nowhere in Klin's study is the phrase 'weak central coherence' to be found, nor are any of its major proponents to be found in the citations list. Instead, major proponents of the theory of mind deficit can be found, in particular Baron- Cohen whose work on "mind reading in the eyes" (Golan, et al., n.d.) can be understood to inform the study.

2.7.2.7 Equally one finds in Klin's work, that other proponents of deficit theory such as Tantam and Hobson have been referred to. Whilst they are primarily cited for relevance to Klin's hypothesis, and work on facial recognition and processing, a purview of their other works can prove disappointing. From the perspective of social construction, it appears that their ideas are built upon what they have come into contact with, rather than what is actually the case in the wider world. Both of these authors have written works up to the time of the Klin citations, which have expressed either a medical, clinical notion of deficit (as with Tantam (1999)) or a philosophical one (Hobson (2002)). Hobson in particular, according to Barnbaum's recent work on ethics (Barnbaum, 2008), has failed in the basic humanitarian task of categorising autistic people as fully human. This is a fault that the current researcher has some sensitivity to, as is discussed further in the final Chapter of this thesis.

2.7.2.8 To return to Klin's stated and supposed 'emptiness' of the scenes from 'Who's afraid of Virginia Woolf' in terms of "non-essential objects", it is probably not very useful to compare the segments with the content-rich segments used in the current study. Given also the perspective of the Klin team, the current research which originates from and works within the emancipatory paradigm, there are understandably some ethical as well as methodological concerns with the Klin study, almost as much as with the studies on ABA, confirmed anecdotally by the researcher's former supervisor.

2.7.2.9 Whilst the usual ethical concerns of such studies, as discussed in the final chapter of this thesis, apply there is also a concern about the incompleteness of the study. It was clear to the current researcher that Klin and his team were lacking the necessary insight from the perspective of a deeper understanding of cinema and literature to see for themselves what was going on in the construction of the piece and so inevitably came to a judgement that was informed by that failure to see the bigger picture.

2.7.3 Applied Behaviour Analysis and the use of video

2.7.3.1 Other studies include the use of video as an adjunct to the practice of Applied Behaviour Analysis (ABA) and video material intended to improve autistic people's empathic skills. What follows is a critical analysis of the studies involving video, how they interrelate with or vary from each other according to their epistemic

origins and what bearing they have on the current study. Finally, there is critical examination of the various 'scientific' theoretical frameworks of autism; those epistememes which form the basis of current attempts to understand the autistic minds.

2.7.3.2 In one sense, all video based education is modelling in so far as it moves away from the concept of the individual directly, addressing the audience as in a classroom. However it is particularly strongly advocated by the practitioners of Applied Behaviour Analysis (usually abbreviated to 'ABA' (Lambert, 2013).

2.7.3.3 Applied Behaviour Analysis is an established intervention for autism, based on BF Skinner's (1953) operant conditioning. In terms of its application to autism, it is a technique incorporating prompts, reinforcements and aversives as developed by Ivar Lovaas¹⁵, the aim being, in defiance of any neurological bias, to extinguish behaviours seen as autistic in order to make the child indistinguishable from 'his' peers. It is a particularly controversial technique due to its early use of aversives (though this is less emphasised in modern practice) and for its adherence to a rigid 40 hour per week schedule. This presents both ethical and practical problems with regard to how rigorously it is adhered to in practice.

2.7.3.4 (Nikopoulos, 2003) (Bellini & Akulian, 2007) (McCoy & Hermansen, 2007) (Santini, 2007) have all published papers on video used in the ABA or 'discrete trial training' (as it is sometimes referred to). ABA is often claimed (Nikopolous op. cit.) to be the

¹⁵ Lovaas' early studies included an experiment to cure boys of effeminate traits (Rekers, et al., 1974) one of the subjects of this study later committed suicide age 38 (Anon., n.d.)

most widely researched and validated technique. However, many autistic people regard it as a coercive intervention that can produce hidden traumas, and evidence to support this can be found in the various 'blogs' of autistic people throughout the Internet. For example, the classic studies have received much criticism from Michelle Dawson, an autistic advocate working with Dr Laurent Mottron at the Department of Psychiatry, University of Montreal. Dawson makes some valid points concerning the technique and the lack of independent and replicable studies that uphold the claims made by its supporters (Dawson, 2004). The techniques have also come under criticism within the School of Education at the University of Birmingham for a variety of reasons, including the issues in following this for the prescribed 40 hours a week (Dawson & Mottron, 2007) and the difficulty of isolating any effect from what may have been produced by other influences or the child's natural developmental trajectory. A review of research evidence on interventions in autism by a team at the University concluded that: "*There is currently no evidence that a single intervention or solution will meet the needs of all learners with ASD*" (Parsons, et al., 2009, p. 21)

2.7.3.5 ABA has also been controversial due to what some critics have called an almost cultic adherence of those groups of parents who advocate it as the prime intervention for autism and campaign actively for government or state recognition, principally in terms of gaining funding for what is an expensive practice. In particular, Michelle Dawson has faced strong opposition from parent groups for giving evidence in the Auton case against the validity and effectiveness of ABA

(Dawson, 2005). Initially, a group of parents brought an action against the Province of British Columbia in an attempt to have ABA included as a mandatory and necessary medical intervention for all autistic people. According to Dawson, this would have had severe human rights implications for autistic people such as herself in terms of lack of choice regarding an allegedly abusive technique. The Supreme Court of Canada subsequently rejected the parental petition. The practice of ABA however, has some strong adherents in the UK and schools such as Tree House in London and Tree Tops in Essex (Lambert, 2013) have been founded on this basis.

2.7.3.6 It is difficult for an adult autistic person not to take a position on ABA, not least because much of its history can be seen from an autistic perspective to have been at worst abusive and counterproductive, to having been ineffective and time wasting at its most benign. The researcher has not been unaffected by this movement as a member of the autistic community whose advocacy has been called into question by its adherents. However, he is in agreement with the rational critique of Dawson et al. With these caveats, it is nonetheless necessary to consider the way in which video has been used as an adjunct to ABA, as this piece of research would be incomplete without it, given the literature. Nikopoulos accepts ABA as an effective means of educating autistic children, emphasising that modelling has been in use since the 1980s. Video is used not as a substitute for a live teacher or as generalised teaching material but as a specific set of exemplary behaviours to be imitated. That said, video is advantageous for demonstrating things remotely to the child that are neither immediately available nor safe to

model otherwise, for example, crossing the road with busy traffic. As a modelling technique, ABA is not unique to autism, as has already been referred to in the history of the moving image. Examples can be found as early as the medium itself of film being used to demonstrate specific procedures in the training of the military.

2.7.3.7 As a technique, modelling varies from the use of video related to the tasks in hand, using settings familiar to the child or the child's siblings to establish 'scripts' or ideal models for behaviour in a number of situations, including interaction. Whilst more generalised educational video can also contain elements of modelling an ideal situation (eg showing the correct way to carry out a science experiment or to perform an operation, change an oil filter), modelling in ABA is highly focused and used within the context of a particular behavioural intervention. As such, the same general criticisms of it apply, those of an attempt to modify or extinguish what are strongly neurologically derived behaviours. Levy's (2007) questioning of mental disorders as a natural kind have already been instanced in the introduction and they are also useful for a discussion of the philosophy of neurodeterminism. This research adheres to the idea that autism, for all its social and cultural overlay, is a 'neurotype' and not a set of externally derived and changeable behaviours imposed on the supposed tabula rasa of the infant mind; a frequent criticism of behaviourally derived approaches to education and theories of learning (Chomsky, 1967).

2.7.3.8 Behaviourism, like psychoanalysis, can only account for itself in terms of its perceived results as it has little to contribute to the fundamental explanations and

substrates of what it describes; something which is the goal of cognitive neuroscience. The researcher, in considering video modelling, is more inclined to see it as an outgrowth of what is technologically possible, an extension to the general idea of visual learning begun in picture books and refined by the availability of photography in terms of its individuation. It has always been the case in education to hold up ideals and models, the differentiation coming entirely with the context of their application, necessarily more intense and systematic in the case of ABA.

2.7.3.9 The models described in Nikopolous (Nikopoulos & Keenan, 2006) (see Chapter 4) are very different to any conventionally envisaged application of video, almost to the point of ritualisation in a litany of practice which is strictly broken down into ten components, This includes the form of behavioural analysis that should precede the videoing of specific tasks; how long each broken down segment should be; where within the behavioural programme (indeed it is almost programming) the video sections should be and how the results/data should be recorded. Insofar as it can even be called education, in terms of traditionally understood pedagogy, it can be disputed, for it appears to be no less than what it declares itself to be - behaviour modification. It would be hard to compare any other use of video to this approach. Even carefully worked out programmes such as the Cambridge University Department of Psychiatry's *Mind Reading* programme (Golan, et al., 2006) (of which the researcher has personal experience, having trialled it as part of the cited study) do not come close. As one goes on to other complete programmes such as the *Out*

and About video and *Being Me* as part of the larger *Social Eyes* package, any likeness decreases. One might be able to offer some useful comparisons (noting also the important differences) by discussing Mind Reading as at least having been formally researched and evaluated with a larger cohort than is usual for the evaluations of ABA, which mostly amount to single case studies. However, the Mind Reading study still has a small sample size, no larger than the number of participants in the second part of the current thesis.

2.7.3.10 Whilst the ABA school of thought may account the work of Nikopolous to be academically sound, using acceptable methodologies and accompanied by rigorous standards of observation and peer review, the researcher still feels that they are vulnerable to inevitable biases found within small study sizes which is overlooked when discussing the results. A fuller discussion of the statistical exaggeration of small study sizes can be found at the end of Chapter 4 in this thesis. In the case of Nikopoulos' work, there has been no attempt to externally validate the findings by comparison with a non-autistic cohort or for that matter to compare against another form of intervention with the same goals. The researcher contends that realistically this would be extremely difficult to do and that the question ends up being resolved by subjective criteria and potentially biased observation on the part of those who are evaluating a programme they are essentially in favour of to begin with; a task made more difficult when it is not effectively compared against an alternative. In essence it is hard to justify drawing too much inference from such studies as they are impossible to test statistically and can only be considered

contextually and qualitatively. One thing that ABA research demonstrably lacks is any evidence of autistic people's opinions being sought on the advisability of these studies - again difficult, but not impossible, to achieve considering the epistemological situation of that research and its negative view of autistic people. What would perhaps be enlightening is some input from adults who have experienced this kind of intervention as children as to what lasting effect it has had on them, considering the strong normalising imperative in the whole concept and descriptions of normal social interaction and normal play activity.

2.7.3.11 Considering overall video modelling within the ABA context, it is hard to find any recommendation for it. The criticisms of behaviourism have been made elsewhere and no special case can be found for exempting the use of video from them. For all the emphasis in more recent times on reward rather than aversive, the origins of the technique are still clear in their intensity and inflexibility; the essentially coercive and adult-directed nature and the focus on getting a behaviour right before progressing to the next stage. It seems antithetical to good pedagogy and from an ethical viewpoint seems to distance the autistic learner from the rest of humanity as being almost a unique species who requires such mechanistic and counter intuitive methods of education. That is not to say that there are not elements of sense within the idea of modelling, including the notion of being able to use video to minutely analyse and break down activities and the ability to pause and repeat. However, the ABA method is somewhat different from cognitively

focused techniques of backward chaining¹⁶ or a structured approach as with TEACCH (Mesibov, et al., 2004) for example. The researcher has had experience with an individual case study undertaken as part of his Cert HE work of approaching a particular problem through this stepwise breaking down a task. In this example, he formulated a plan aimed to instruct a fellow autistic student who was unable to deal with the complexities of catching a bus, how to overcome this difficulty and use a bus. He did however attempt to build in some flexibility to deal with unexpected interruptions to the procedure (for example a bus not being on time) and subsequently was successful in the endeavour without the use of video.

2.7.4 Mind Reading

2.7.4.1 The *Mind Reading Programme*, (Mindreading DVD: Teaching emotion-recognition to people with autism spectrum conditions, n.d.) is based on Baron-Cohen's theory of mind (Baron-Cohen, 1997) explanation of autism and predicated upon the idea that autistic people are deficient in reading cues from facial expression and speech modulation, which in turn leads to failure to comprehend what other people are thinking or emoting beyond literal speech. The premise is based on the fact that the researchers have identified some 412 emotional states (using a linguistic analysis of words to describe emotional states), which are conveyed by facial expression. Candidates for this programme are identified by a test of 'reading

¹⁶ This might however be disputed by some 'progressive' practitioners of ABA, however it is asserted here that the method does not in reality approach the desired method by working backwards, rather it is prone to get stuck in the early stages preventing progression.

emotion in the eyes' (Golan, et al., n.d.). Insofar as video is a component of this, there are a vast number of short clips featuring sentences spoken by actors of various ages accompanied by appropriate expressions. The whole is integrated into a DVD programme with online worksheets, tests and games. The theory behind it relates closely to that of the work of Klin's team (op cit) in their analysis of eye gaze.

2.7.4.2 The Mind Reading work falls midway between the notion of video modelling and educational video per se, in that the segments are short but the educational component is self-directed and has to be maintained by the participant's interest in the programme. There was a considerable incentive for the participants in the pilot study prior to the release of 'Mind Reading' to be a part of it because it involved receipt of a copy of the programme. This would otherwise be exceedingly expensive and there was also a promise of being able to improve their social skills as a result of developing a better understanding of the unspoken components of language. The current researcher had the opportunity to be one of the 19 participants in the pilot study and this proved a good opportunity to discuss both the programme and the research with the principal researcher, Ofer Golan. In the course of these dialogues, more of the reasoning behind the programme was learned as well as some anecdotal reports of the other participants' responses to it, prior to the conclusions being published.

2.7.4.3 One of the principal criticisms which is applicable to all such education programmes and particularly to behaviourism, is the difficulty in generalising from specific context-based learning to a wider, more chaotic world. This was something the

current researcher discussed with Golan, which he considered to be a valid criticism of the technique; indeed it is no less valid a criticism of any educational programme based upon explicit and individual instances, so perhaps it cannot be used untowardly in the case of 'Mind Reading'. In addition, although the data showed that participants were able to accurately identify and name a range of emotions, it was not possible to determine whether they understood what these emotions meant.

2.7.4.4 The results from the research were in fact positive, with statistically significant improvement in 'mind reading' skills being demonstrated after the programme as against the control group of non-autistic participants with what were described as "*close generalisation skills*". However, there was not enough evidence of more remote generalisation into the lived world of interaction and constant pressure and distraction and, like the current study, the sample was small overall, so perhaps statistical significance ought not to have been claimed.

2.7.4.5 Nevertheless, other features of this software and the way it was designed to be used are relevant to the current study, as discussed in Chapter 5. It is pertinent at this point to briefly introduce another theory of autism, developed by Murray and Lesser, (n.d.) sometimes known as the monotropic hypothesis. This hypothesis states that autistic people tend to process in one modality only, although attention has also been drawn to the issue of 'interest', which can be seen to have some bearing on the success or degree of engagement with the Mind Reading programme or any other programme such as the video segments presented in the

current study. Essentially this hypothesis concerns the degree to which one activity can engage the brain's functioning to such a large extent that it is difficult to disengage from or switch to another. Eric Courchesne (UC San Diego, n.d.) has also found evidence of difficulties in shifting and switching attention in autistic individuals. This is relevant to any DVD or course that requires a strong input and commitment from the individual. It may of course seem merely common sense to suggest that an educational DVD should engage a strong interest but that is not always the case, especially if the DVD is intending to reinforce something that is counterintuitive to the individual. It has to be admitted that the current researcher's interest was not strongly engaged by the material of 'Mind Reading' during the research study mentioned above, to which a set number of hours were expected to be dedicated. At times it felt almost mind numbing. Nonetheless, as a diligent participant, this researcher did engage with the necessary tasks in the face of many alternative demands from more conventional educational programmes, at the time of being a full time college student.

2.7.4.6 The researcher's conversations with Golan revealed that other autistic participants had found the process engaging, which is not to be disputed given the multiplicity of individual 'interests' possible. The follow-up research on Mind Reading suggests that it had an impact overall, including, apparently, on the current researcher (Golan, et al., 2006). The Cambridge team, however, did not appear to pay much attention to the 'interest' theory as much as looking at the research to validate numerous conclusions about theory of mind and the Systematising Quotient

(Baron-Cohen, et al., 2006). It is therefore not surprising that they should report this, its salience being more prominent to the eyes of a researcher in that field than any reference to another theory that is not directly under the observer's scrutiny. However, that would seem to accord with what has also been noted with regard to the engagement of the participants with the stimulus material provided for the current study. It is not possible to speculate further regarding the motivations of the participants in Baron-Cohen's study beyond personal experience and anecdotal report from conversations. However, it was possible to examine the motivations of the participants in the current research, who despite the distaste for elements of the material that some of them evinced, nonetheless, they continued to engage in the spirit of exploratory endeavour. The basic similarity between 'Mind Reading' and the current study was only in the self-directed element rather than in any content. Nonetheless, the continuation and completion of the mindreading task required a monitored minimum of two hours activity per week for ten weeks, so in order to complete it, some degree of perseverance was necessary and many participants spent more time on the task due to having become interested in the topic.

2.7.4.7 The use of video as the medium of delivering educational material concerning facial expression needs some comparison with other methods. The results from the Golan et al. study compared well with the less favourable results in Back and Ropar's study focusing on the use of static images (Back, 2007). What is less evident is how the short duration of the (mind reading) video excerpts, which were essentially

moving illustrations to the text, compares with the more narrative and dramatic content of the stimulus material for the current study. Although there was dramatic content in the sense of actors demonstrating emotions in very short scenarios, it is difficult to compare with a longer piece that adheres to the conventions of the 'grammar of the edit' (Metz, 1974). In comparison, 'Mind Reading' would appear as it were, as short quotations highlighted in a study guide as against reading the literature itself.

2.7.1 The question can be asked whether it was wise to release the DVDs at a considerable 'academic price' for use in the mainstream. This raises many questions as to the commercial predominance over the absolute proof of utility; something that many producers of educational video or for that matter, literature, seem to worry about. This is not an ideal situation and it is to be hoped that research is taken beyond the present study into ways of ensuring that video is not only good value for money but has a positive, long term effect.

2.7.2 Video Interactive Guidance.

2.7.2.1 Video Interactive Guidance (Kennedy, 2011) is a technique that the researcher became aware of late within the progress of this study and was not originally within the purview of the literature search, therefore there has not been time to dedicate to this, by means of comparison. Essentially the technique involves videoing interactions between the child and parent and editing the results to show only the positive interactions. It is used to develop parenting skills and can be used in the

same way to develop practitioners' skills. There does not seem to be anything particularly novel in this technique given the history of video and film as a means of modelling best practice.

2.7.3 Video as syntagm, the editing of time and space.

2.7.3.1 For the most part, what is conceived of as narrative video is not the extended photo frame of a short moving image but the assemblage of many such instances into a narrative structure, analogous to creating sentences from phrases, phrases from paragraphs and so on. To record any event in real time other than for the purposes of the collection of scientific data where an uninterrupted flow is required becomes an impossibility in human terms. From the earliest emergence of the moving image, as discussed earlier, there has been of necessity a choice assemblage of smaller fragments that can be taken to represent the whole; what is known in semiotics as a 'syntagm'. This episodic structure of scenes and acts is not unique to the moving image as it is an outgrowth of literature and its closest analogue would be in theatre. Writers as far back as Aristotle (op cit) with his three unities of time, space and action have written about this phenomenon. It is this very phenomenon however, that has allowed the new medium of video to be broken down, paused and repeated and for each segment to become a lesson in itself. Although they are all part of longer narratives, every segment of video included in the stimulus material has been used in this way.

2.8 Theoretical perspectives

2.8.1 Central Coherence

2.8.1.1 Leaving aside the important contribution of the Klin study, it is necessary to turn to the other main cognitive theories and in particular those not considered by Klin for their implications regarding the construction of educational video. As explained in the general critique of the notion of a coherent autism to be studied at all, the researcher had to be selective with regard to the hypothesised aetiologies of autism and to consider those which, if true, might have the most significant implications for the current study. The weak central coherence hypothesis of Frith and Happé (Happé, 1999), if accurate, would certainly have implications for the way in which video is parsed and interpreted. It would have implications for the 'grammar of the edit' (Metz, 1974) and would suggest that within the confines of the 'mise en scene'¹⁷, those supposedly "*nonessentials objects and events*" that Klin has considered in the negative, should be carefully studied to ensure that the ease with which autistic people are able to suppress the larger gestalt to focus on patterns within does not mean that attention is focused away from the main message of the video and onto interpretations of those details which attract the eye (Klin's study by definition tried to rule this out).

¹⁷ that is to say the manner in which the location and setting of the video and its various theatrical props are arranged with respect to the 'actors' or presenters

2.8.1.2 Central coherence theory would suggest on the one hand that autistic viewers, having weak central coherence, would be less distracted by the overall appearance of any particular scene as gestalt and would therefore be more able to focus on individual detail. However, considering that all the classical psychological tests are based on two dimensional figures, which are somewhat abstract and very different from the typical presentation in any one scene of a moving image, notwithstanding that actors may be constantly moving across the background, it is difficult to generalise this theory to the instance of video and two possible hypotheses can be made. On the one hand, information in the background might be more salient and visible without the viewer suffering the distractions of the figures in the foreground. Precisely what in the background the unfazed eye might gaze upon is likely to be somewhat random without being externally directed as in some specific task set during the test (eg find the triangle in the diagram). In the case of conventional testing, (figures presented in the form of visual puzzles) or in the instance of the researcher's investigation, is it more significant when the viewer is prompted to look for a particular feature than when they are merely asked to recollect from one viewing without foreknowledge?

2.8.1.3 The counter argument may be that given that the viewer expects any teaching to be delivered by human agents, through what they say and do, not what they move against and in, one would expect the directed focus to be toward those agents. The humans would therefore be the salient features, less likely to distract from that background whether incidental or as specific 'mise en scene.' The researcher is

reminded of Louis Wain's cats (Dale, 1968) in this respect. Wain was a popular children's illustrator of the late 19th/early 20th century whose images of cats became increasingly bizarre, taking on features of the background such that they eventually became virtually indistinguishable from the wallpaper. This phenomenon is correlated somewhat with Wain's progression toward a schizophreniform condition (as would be currently diagnosed) (McGennis, 1999), which provides an interesting byway in the consideration of the relationship of visual perception and neuro-atypicality. Fitzgerald (Fitzgerald, 2002) has even added Wain to his growing list of retro- diagnosed Asperger's candidates.

2.8.1.4 In any case, it is questionable whether the techniques of those early and significant cineastes, Pudovkin and Eisenstein, which have become enshrined to this day in current practice, are as relevant to an autistic viewer as they are to an assumed general audience and this is examined in the analysis. This might have implications too, depending on whether the delivery is teaching by example, or drama or a plain talking head.

2.8.1.5 The answers to this particular dilemma have proved somewhat difficult to deal with experimentally and within the usual academic focus of autism. They are, however, not to be unexpected when one looks with an alternative gaze from the perspective of Film Studies. For instance, they seem to be entirely anticipated by Deleuze's (Deleuze, 1989) conception of the 'movement image' and 'time image'. For example, Rodowick (Rodowick, 1997) cites him thus:

"The image itself," writes Deleuze, "is the system of the relationships between its elements, that is, a set of relationships of time from which the variable present only flows. . . . What is specific to the image . . . is to make perceptible, to make visible, relationships of time which cannot be seen in the represented object and do not allow themselves to be reduced to the present" (p. 8)

2.8.1.6 At the outset however, the researcher's current study was conceived primarily with reference to the theories of autism per se. Before further considering what Film Studies have to add to the research perspective, it is necessary to raise further implications of cognitive theories contingent upon the medium. This is all further complicated by the fact that video is acting in more than one modality, visual and auditory, and in each case, the complexity of both the diegetic sound and the 'mise en scene' or the interactions of both should be considered. If indeed it is difficult to process contemporaneously the activity going on in more than one modality and if one has to switch attention rapidly between the visual and the auditory, that has most definite implications for an autistic audience. Their attention might be captured and sustained by whatever they find salient and if that is more salient than the director's message, they will ascertain an entirely different message from the video (McLuhan, 1964). This may have more relevance to the monotropic hypothesis than central coherence itself.

2.8.1.7 More recently, literature has suggested that a high order of visual acuity and observational skill in respect of attending to detail would be expected from an autistic group¹⁸. A perusal of the many abstracts presented at the International

¹⁸ The question was as ever (and one the researcher considers too in the selection of his participants) how far that is not an artefact of the particular cohorts which have been studied selected on a particular bias that maybe over-represents only a small subset of the entire spectrum of autism. It may also be that the task was altogether too difficult given the small screen size of the experimental videos, although great care was taken in their

Meeting for Autism Research 1998, which the researcher attended, is evidence enough of this particular interest. At a more sophisticated level, supposing weak central coherence to be in some way contributory or causal to the observed social deficits of autism this might also mean that the social deficits could in themselves have some impact on the ability to pick up on any message which relies upon the social conventions of representation in such a way as to suggest that subtlety is something to be avoided in favour of directness. Again, the truth or otherwise of this hypothesis is dealt with in the deeper analysis of the qualitative results of this thesis.

2.8.2 Monotropic Hypothesis and Interest Theory

2.8.2.1 Murray and Lesser (n.d.) have hypothesised that the core neurological distinction of autism is the inability to process in more than one sensory modality. This hypothesis has more recently been considered in terms of Interest, that is to say, the mind's ability to concentrate attention on that which engages it specifically. The hypothesis has never received the same degree of attention in research as the weak central coherence or theory of mind metanarratives. However, it is to be distinguished from them in that it is a hypothesis that originates as an insider perspective rather than states of mind to be inferred by observations of behaviours, for which the neurological correlates have then been sought out by reference to the

construction (and the construction of the questionnaire) to ensure that the task could be completed on the smallest of them. The researcher posits here that his particular skill in this may not altogether be a part of his individual autism make up so much as skill that has been developed in long practice as a video editor, having observed a commensurate level of skill in at least one professional he has formerly worked with)

techniques of cognitive psychological testing, FMRI, and ECG.

2.8.2.2 There has nonetheless outside of the sphere of autism been some research which evinces that monotropism is a characteristic of cognition in general and not just autism. It is not possible to consider such hypotheses outside of the theories as to the origins and structure of consciousness itself. These are still matters of some debate, along with the notions of free will. Most of this is reliant on philosophy for grounding and in that respect relates to the ontology of theories of mind, prefiguring Woodruff and primates from whom Baron-Cohen and others borrowed the terminology to measure differences between autistic and non- autistic cognition.

2.8.2.3 It is a question older than Descartes but since the outset of neurology, that is to say, the study of the brain and the functions of its various parts, there have been attempts to find the seat of consciousness. This researcher holds with Dennet, (1993) that this is a false search, because as Gertrude Stein famously said about revisiting the past, "*there is no there there*". The researchers believe that there is no overall consciousness, no homuncular overseer, but that all that human experience amounts to is transitory shifting patterns of attention, an evolutionary adaptation to the environment, whereby some functions are autonomic or overlearned some of the time and brought to attention and considered to be conscious thoughts otherwise. As the researcher writes this, there is a combination of the two. At least the words are formed with an illusion that they are thought up but they appear as if by magic on the screen as no attention whatever is focused on the fingers. They

simply do what muscle memory and an overlearned skill allows them to do, much in the same way that there is no conscious thought that conforms the muscles of the throat and diaphragm into the patterns of speech.

2.9 Summary of theoretical positions

2.9.1.1 It is fortunately the case that the advance of scientific knowledge proceeds by negation of false hypotheses. However, if as is discussed in the methods in Chapter 3, one is considering a particular theory to have a strong influence upon the explanation of one's results, the outcome of any paradigm shift or even gradual movement away from an original theory, is a less fortunate situation for the researcher who has invested a great deal of work in it. Indeed, given that science is not practised in a rarefied atmosphere so much as being a social practice (as has already been eluded to when referring to the academic silos), it is inevitable that some researchers, either uninformed or unconvinced of progress, will continue to plough their own field so long as the tractor is still fuelled up.

2.9.1.2 It is doubtful whether the behaviourist school will ever give up its position, backed by a strong lobby (op cit) and research will doubtless continue along those lines albeit away from the limelight of 'mainstream' autism research. It also appears to be the case that what one might call the 'School of Frith'¹⁹, having perhaps branched separately into the weak central coherence and

¹⁹ from the fact that the main researchers in the field were supervised by Frith to begin with before supervising other students in their turn.

empathising/systematising schools, continues to generate papers in those same moulds. One cannot however leave this discussion without considering the impact of a paper by Pellicano (2011). This seemed to increase the researcher's suspicion already expressed in this section that weak central coherence was not sufficient as an all pervasive metanarrative for autistic cognitive difference. Some autistic children in her study did not display problems in this area and others, with age, strengthened their central coherence.

2.9.1.3 In the lifespan of the current study, Happé, a proponent of weak central coherence, had already questioned the triad of impairments (Wing & Gould, 1979) held to be the underlying diagnostic basis of autism, suggesting a dyad might be more accurate. This has subsequently been taken up by the revisions to the DSM manual (APA, 1994) in DSM 5 (APA, 2013). Pellicano's research seems to imply that given the findings from the family of one or more, but not the full number of traits of autism existing, that perhaps autism is not one coherent thing at all but the effect of a confluence of traits, perhaps some inherited, some environmental or random. This strengthens the position of those who hold autism to be multi-etiological but makes it hard to draw conclusions regarding the universality or centrality of any one explanation such as weak central coherence. Pellicano's research even hints that central coherence itself may be broken down into more than one cognitive domain. This would have implications for the study, given what the researcher expected to find, never mind explanations for how the participants answered those questions that sought to identify this difference. Conversations between the researcher and

Pellicano confirmed that this was what she was implying. It is also not so surprising considering the questions the researcher asked himself during the analysis of the data regarding the difficulty of translating the concept of weak central coherence (or strong local coherence) into a real life situation.

2.9.1.4 It was envisaged at the outset that anything revealed about the accuracy or otherwise of the weak central coherence theory of autism could inform the way in which educational videos might need to be constructed for autistic viewers. However, it is not strong enough as a scientific theory to be considered as sufficient evidence for evidence-based practice any more than the theoretical base that underlies ABA. This does not necessarily mean that all that are currently considered to be traits in autism are automatically invalidated. One can invoke Hegel (Engels, 1934) to one's defence and state that the logical process following upon the thesis and its negation has to be synthesis. From a less philosophical and more pragmatically based approach, one can invoke the practice of eclectic approaches and syncretism.

2.9.1.5 Drawing some preliminary conclusions from the literature survey one can suppose that given the variety of metanarratives of autism this thesis may not be able to prove or negate any of them as it is mostly in the context of a qualitative study. However that does not mean one cannot apply some kind of Weberian or Quinian (Harding, 1976) common sense that beyond the uncertainty, there may be strong indicators that could lead to suggestions for building upon this research.

2.9.1.6 One must proceed along the basis that although one may not be discovering anything new concerning any one higher level explanation of autistic cognition, that one is nonetheless treading new ground. One is exploring hitherto unexplored territory in terms of what can be revealed from qualitative analysis, based upon the actual perceived experiences of the participants, rather than any assumptions of what part of the brain is involved and how many neurons are firing.

2.10 Summary

2.10.1.1 On the basis of what is already known about the use of video in the education of autistic adults, the present study aimed to:

- ☒ explore the potential benefits of using video material with autistic adults;
- ☒ ascertain the views of autistic adults on the portrayal of autism in video;
- make recommendations to enhance video as a teaching medium for autistic individuals;
- examine the question from the ethical position of the participatory research paradigm (Waltz, 2008) through participant observation and action research.
- consider the implications of the literature bias toward empirical study to the relevance of research for autistic adults themselves.

The next chapter sets out the aims of this study and explores the methods used to address these and the sample selected and recruited.

3 Chapter 3: SAMPLE AND METHODOLOGY

3.1 Introduction

3.1.1 This chapter describes the chronology and conception of the methodology underpinning the research with some critical evaluation of how this was put into practice. It provides details of the stages of the research, the sample recruitment, the four video segments chosen for the study and the design and contents of the questionnaires given to the participants. The ethical issues arising and how these were addressed are also discussed.

3.1.2 Overall research design

3.1.2.1 The research was designed to proceed on several levels. Whilst the initial aim could be expressed in Popper's positivistic (Popper, 1974, p. 68) terms, "*proposing bold hypotheses, and exposing them to the severest criticism, in order to detect where we have erred*", the researcher also considered in the light of the disputed ontology and epistemological situation of autism, that the study should be designed to elicit rich qualitative data juxtaposing medical definition with lived experience. This would be more in keeping with the emancipatory paradigm as discussed by Waltz (2006) and of greater purpose than merely attempting, in empirical tradition, to negate the hypothesis that the cognitive attributes of autism are more amenable to visually biased educational media than traditional means. The original purpose of this research was to elicit answers to the question: "*Is video an effective teaching tool for autistic people?*"

3.1.2.2 The study was conducted within the traditions of action research (Kemmis & McTaggart, 1988) and the emancipatory research paradigm which is given further consideration in the ethics section of this chapter. The researcher's position was inspired by two prime motivations. Firstly, the desire to redress the relative disadvantage potentially suffered by the subject group due to a lack of research into the topic and secondly, the empowerment of the group members as 'stakeholders' and, in essence, producers of the research itself.

3.1.3 The sample

3.1.3.1 This researcher, having eschewn much of the debate and followed Tony Attwood's (2008) model of different trajectories (Szatmari, et al., 2003), suspects that there are cultural and economic reasons why diagnosis does not reflect the genuine prevalence and that some are not diagnosed or are diagnosed incorrectly. This poses problems within the methodology in terms of the dangers of an undiagnosed but nonetheless phenotypically autistic individual being found amongst the control group for the investigation and conversely, participants who declare they are autistic but who are not. Who gets to be diagnosed and the reliability of a coherent autistic group is not so much a case of over-recognition or diagnosis but that some clinicians are more likely to diagnose at the margins than others, as autism shades imperceptibly into what some call shadow syndromes (Ratey, 1997) or a broader autism phenotype.

3.1.3.2 The aim was to recruit a sample of autistic and non autistic participants to the study. As the researcher did not have the resources or the recognised expertise to confirm the diagnosis, the study largely relied on self-report. A small sub-sample did complete a screening instrument for Asperger syndrome that was not made compulsory but was optional. In the first stage of the study there were 73 autistic adults, 18 non autistic adults, 3 who were not sure, and 14 who specified "other". The sections which follow explain how the sample was recruited and discusses the issues arising. It was carried out in three main stages and a different number of people were involved at each stage, the largest sample being involved in Stage 1. Those in Stages 2 and 3 had also participated in Stage 1.

3.1.4 Methods and stages

Table 2 provides brief details of the three main stages of the research. The first stage involved the completion of an online questionnaire, the second stage invited participants from the first stage to view four different video clips and to answer a series of questions on these and the final stage was a follow-up after the videos had been viewed.

3.1.4.1 **Table 2:** Work done during the three stages of the research

STAGE	Action taken	Main purpose	Number of respondents
Stage 1	General questionnaire circulated to participants	To explore their diagnosis, video buying habits and video preferences.	108
Stage 2	Four video segments were presented to participants. Questionnaires completed on the videos seen.	To examine their response to four contrasting segments of video.	17
Stage 3	Longitudinal follow up by email and interviews.	To elicit further information at a distance from the original task.	3

Table 3 gives the order in which the research actions were carried out.

3.1.4.2 **Table 3:** Sequence of actions within the research

Order carried out	Summary of procedure
1	Pilot of a general questionnaire on video material for completion by participants
2	Ethical approval form completed and submitted to the University.
3	Participants recruited.
4	Video selected and edited into four 15 minute clips.
5	Participants invited to view videos.
6	Questionnaire completed on the videos observed.
7	Data collected.
8	Data analysed.
9	Participants invited to follow up.

3.1.5 Developing the pilot questionnaire for the first stage

3.1.5.1 The first questionnaire was intended to discover, in as wide a sample as possible, the users' experiences of video as an educational medium. It also gathered demographic data and information about their autism diagnosis and how they came by it. In December 2007, a pilot questionnaire was designed by the researcher and sent to several email correspondents and a paper version was piloted with the researcher's supervisor and two people of the researcher's acquaintance, not connected with the academia of autism research. The pilot was to gauge reactions to the questions and to refine these to create the definitive version. The format was an editable Microsoft Word document. The paper version was shown to the participants and oral responses obtained. Following a positive response to the questions, it became clear that the research should take a two staged approach. It had emerged during the initial pilot that it might be important to gain data on the participants' prior experiences of video use. The pilot questionnaire was therefore modified to incorporate this element (see *Appendix 6* for a blank copy of the final version of the questionnaire).

3.1.6 Ethical approval

3.1.6.1 Before the researcher selected the video material to be examined, there was a requirement to submit the research proposal to the School of Education's ethical

approval process at the University. This was to ensure that the proposed procedure was within the guidelines of the University of Birmingham and that the participants would be sufficiently informed of their rights within this framework. It was important to demonstrate that they were enabled to understand the process fully and to gain their informed consent with the knowledge that they could withdraw at any time. Furthermore, there was the implicit assumption that the material being presented would not be harmful or traumatising in any way. As stated in the University's own documentation (Birmingham, n.d.), to comply with the need to:

"make sure that all participants understand the process in which they are to be engaged and that they provide their voluntary and informed consent" and to consider "their rights and protection",

"a clear notice issued to each participant detailing their rights" was included with a requirement to give consent (see Appendix 4 for a copy of the consent form).

3.1.6.3 At all times, the information included the right of the participant to withdraw and how they might do this; such information being iterated several times through the various research processes. With regard to anonymity and privacy, the usual conventions of assigning an alternative identity in published work were followed (Robson, 2003). In accordance with the ethical conventions, the material was carefully scrutinised to reduce the possibility that participants would be subjected to offensive material or undue stress. This was facilitated by the researcher's familiarity with autism from his own experiences. In addition, many personal examples can be found in autobiographical excerpts, such as in (Prince-Hughes, 2002) study of the personal experiences of autistic students. These are similar to

the researcher's own longstanding encounters with autistic people through education, training and voluntary work. Safe handling of data was ensured by the encryption of files involving personal identity and the use of digital media for recording. Data were stored on removable media that could be locked away rather than on the fixed disks on a laptop or desktop to avoid the risk of unauthorised access.

3.1.6.4 Other legal necessities were taken care of by the researcher having undergone an enhanced disclosure police check through a pre-existing commitment as a charity trustee. Whilst it is acknowledged in the ethics procedure that some forms of social research can expose the researcher, particularly as a participant observer (Thomas, 2009), to illegal activity, this was not considered to be likely in this particular case. However, had any vulnerable participant been in danger, the appropriate measures would have been taken via the research supervisor and if necessary, the police. There was no need for subterfuge or covert observation in the gathering of data.

3.1.7 Methodological concerns raised by the researcher's 'insider' status

3.1.7.1 The situation of the researcher having the same social status and, in terms of the legal and administrative framework, being in the same category of the researched, raised further ethical and pragmatic questions that impinged upon the methodology. The researcher initially considered using a classic grounded stance based on (Glaser & Strauss, (1967); and Glaser, (1978; 1998) as being the most

objective, allowing initial data to shape the enquiry as it proceeded. However, it became apparent during the course of the pilot phase that, in Bordieu's (1980) terms, although the researcher belonged in the academic 'field' with a set of peers being represented by academia and socially constructed as remote from the average autistic individual, his position was also that of the participants themselves and therefore a particular 'insider' perspective was unavoidable. This was dealt with in terms of the modified constructivist grounded theory as advocated by Charmaz, (1995; 2006). This sometimes controversial adaptation of Glaser and Strauss' overtly positivistic bias allows for the notion of research to be essentially understood as discovered and constructed as a process by the participants themselves, in co-operation with the researcher. It is more in keeping with the emancipatory paradigm (Waltz, 2006); the importance of giving voice to autistic people in the research and establishing a thorough critique of methodologies which ignore this. This becomes clearer in Chapter 4 and is arguably closer to the truth than any attempted (and practically impossible) negation of bias.

3.1.7.2 The researcher, being informed by a background of advocacy and personal experience as a research participant, wished to consider the Universities ethical standards as a mere starting point for considering the potential experience for the participants, as both active agents within the process of research and individuals potentially affected by it's outcome. In prior work he had already considered the tendency of the research process to 'subjectivise the researched' and distance them from the researcher in a power relationship (Arnold, 2010). In an earlier paper later

incorporated into a keynote presentation he had argued that much scientific and educational research has traditionally constructed autistic people in a negative and stigmatised capacity as 'vulnerable' within a framework of societal relations that has created that vulnerability by a lack of full inclusion in the pursuit of 'mainstreaming' without forethought for the necessary accommodations (Arnold, 2006). This is discussed in greater detail in Chapter 5.

3.2 Stage one of the study

3.2.1.1 Given the limitations of funding for such a project, the Internet was chosen as the prime medium for conducting the research. The possibility of other forms of response was considered, through the recruitment of volunteers who could travel to the University in order carry out the main part of the research. Whether this would really address Hewson et al.'s assertions that : "*the internet provides us with an inherently biased and select sample*" (Hewson, et al., 2003, p. 26) is a moot point as recruitment from any student body is in itself liable to be a very narrow demographic. In any event, socio-economic and demographic information was collected about the online participants to examine diversity.

3.2.1.2 For the initial recruitment, it became evident later in the procedure that the use of the Internet according to the guidelines laid out in (Hewson, et al., 2003) would prove to be a fruitful medium as it afforded greater flexibility than a paper questionnaire in terms of distribution, advertising, and snowballing. The use of the University of Bristol's online survey (BOS) software (Bristol, n.d.) allowed for

automatic data collection and some rudimentary statistical interrogation.

3.2.1.3 The initial questionnaire was designed both to recruit participants to the second, more detailed stage of the study and to elicit a range of useful qualitative data in its own right. An Internet link to the questionnaire's URL was advertised through a number of media, print, notices and mailing lists to which the researcher had access. This first part of the research requested information about the potential participants' video purchasing habits; general demography and preferences with regard to their expectations of video material. It was considered that this information might prove useful in trying to compare what people wished for in a video and their views on the usefulness of the medium with the findings of the second stage of the research. It was also of general import to the study as a whole to explore whether video was perceived to be a useful educational medium for autistic adults.

3.2.1.4 The revised questionnaire was sent out to over 100 people via the Internet using email lists and newsgroups known to the researcher. The survey was advertised in a number of autism related mailing lists via the author's 'blog' (Arnold, n.d.) and the alt.support.autism newsgroup (Hayward, n.d.), as well as in the Communication magazine, which is published by the National Autistic Society and sent to its members.

3.2.1.5 This first stage was a broad 'trawl' for several purposes: to establish who the potential participants were and how they should be contacted in future; to discover

their positioning with regard to autism, their diagnosis or absence of it and by whom this was confirmed; to record standard demographic data; to record the participants' buying habits and access to video technology and to record their subjective experiences of educational video in the form of qualitative data. Lastly, they were asked about their willingness to participate in further stages of the study, with the data from the first questionnaire being linked to any subsequent questionnaire or interview data.

3.2.2 Data from the first questionnaire in Stage One.

3.2.2.1 The first questionnaire, which served to recruit participants to the study, took the form of a series of multiple choice questions and was presented to ascertain whether respondents purchased or rented educational videos/DVDs and to discover which aspects of a video or DVD influenced this choice (see *Appendix 6* for a copy of the questionnaire). Further questions were presented to discover which elements of a video/DVD were considered important and what type of audience educational videos/DVDs should be aimed at. These latter questions were pertinent to the research in terms of discovering what features were thought to determine the efficacy of a video or DVD. This was of value in comparing the qualitative self-perceptions of what was thought to be desirable with the actual data from the video tasks set. Finally, the questionnaire was constructed to enable the collection of data about diagnosis and demographic information, to explore any potential bias, either by ethnicity, socioeconomic background, age or gender. The ongoing controversy over diagnosis (Goldstein, et al., 2009) discussed in Chapter 2 was also

informed by questions relating to how and from whom the diagnosis had been obtained.

3.2.1 Diagnostic confirmation

3.2.1.1 In terms of what exists for the independent validation of individuals currently “diagnosed” with autism or believing themselves to fit within the category, the researcher looked at the various diagnostic instruments used in assessment. The ideal in contemporary research has been to use a well validated instrument, often referred to as a “gold standard” of diagnosis, such as the Autistic Diagnostic Observation Schedule (ADOS) (Lord, et al., 1999) which is unavailable to researchers who have not been trained in its use and, given that it involves observation, is not suitable for use over the Internet. However, the Cambridge Autism Battery (Baron-Cohen, 2003) (Baron-Cohen, et al., 2006) was available (see *Appendix 2*). This allowed some check against the declared diagnostic status of the participants and the opportunity to consider independently which category the ‘self-diagnosed’ participants cleaved to with some measure of objectivity. In spite of the methodological concerns about this test as an instrument, it has at least been made available for use in research to overcome the difficulties in standardising the characteristics of the cohort and allowing comparison between different studies.

3.2.1.2 There is an irony that some of the researcher’s methodological concerns with the screening test stemmed from him being one of the “anonymous” individuals on

whom the test was validated. However, it has to be considered in a Weberian (Gonthier, 2004) sense as the best that can be done in the circumstances. In spite of those concerns about whether it ought to work, the literature would suggest that a significantly high score does appear to correlate well with a standard diagnosis of Asperger syndrome (Baron-Cohen, et al., 2006). Naturally this leads to the risk on the one hand arising from the inconsistency of clinical diagnostic practice (Lord, et al., 2011) and the inherent risk of one of the supposedly non-autistic subjects being inadvertently and not knowingly autistic, or at least neurologically atypical in some way that might skew the results.

3.2.1.3 Respondents in the second stage of the research were asked if they would be willing to complete the Cambridge Adult Asperger Assessment Battery (Baron-Cohen, et al., 2006) which is available for researchers to use to provide an indication as to whether a person has autism or not.

3.3 Stage two of the study

3.3.1.1 There were 108 respondents in the first stage of the study, which was an initial Internet call for participants to complete a questionnaire. A selection had to be made for the second stage of the study. Given the wide geographical dispersion of the respondents, it was decided to ask all these respondents if they wished to take part in the second stage, regardless of location. It was felt that they were more likely to have a diverse demographic than a locally recruited group. Out of 108 initial participants, 62 volunteers expressed an interest in Stage Two (ie to watch

and comment on the four video segments). These were of necessity an online group. Not only were they spread out across the country but they also included overseas participants, rendering the prospect of gathering them all together physically at the same time for a group viewing impossible. So, for most of these participants, the video materials were to be presented online using available technology of embedding a video (in alternate formats) in a web page, linked to an online questionnaire, provided by proprietary software (Bristol, n.d.)

Three of the 68 participants were able to come to the University and watched the video material together, with the researcher present.

3.3.1.2 A second questionnaire was designed by the researcher to garner participants' views on the 4 segments of video material they were asked to watch (see *Appendix 3* for a copy of this questionnaire). The choice of the 4 video segments is discussed later in this chapter and the details of each segment are given in the analysis of the data in Chapter 4. For the purposes of the initial research question (ie Is video an effective method of teaching autistic adults?), the questionnaire was designed to establish their comprehension and retention of the educational messages presented. It also investigated whether the medium reinforced the message or distracted the autistic viewer. (Joseph, et al., 2009), for example, evince that there are mechanisms in autistic cognition that give rise to superior visual search. The researcher, however, accepts the possibility of being biased in favour of this theory because of his own exceptional skills in this area. The question arising with regard to enhanced visual search ability (if this does exist in a large proportion of autistic

people) is whether they may mitigate the problems of distraction or increase them. Beyond that, the pilot suggested that if some of the questions were sufficiently open, the participants' attitudes towards the portrayal of autism as seen in the segments might also be discovered. Further details of the reasoning behind the selection of the questions and the difficulties of interpretation can be found in the discussion of the results in Chapter 4.

3.3.1 Design of the second stage

3.3.1.1 The second stage of the research involved the observation of the video material by the participants who were then asked questions about this material using an on-line questionnaire. The questionnaire was designed essentially to test three things with a mixture of questions in no particular sequence as to their importance.

3.3.1.2 Firstly, the test was one of comprehension of the video segments; whether the observer had understood the educational message of the video and learned from it. Secondly, in the absence of eye tracking software, other questions were asked to establish the extent to which visual features in the background (selected by the researcher) were as salient to the participants as they were to the researcher. Whilst eye tracking (as used by Klin (Klin, et al., 2002) in the study described in Chapter 2, would certainly have been an asset, it could not have been used as the majority of the participants were located at a distance and watched the videos on their own computer screens. It was therefore necessary to determine as best as

possible from the content of the video itself, particular background and foreground details, obvious (to the researcher at least) and less obvious features, what the participant's gaze was most likely to be attracted by. This could only be done by asking selective questions about particular points in the videos as a rough sampling method - a somewhat imperfect test but under the circumstances, the best available and better than not attempting to assay this question at all. In addition, there were some interpretive questions dependent upon observation of the different styles of the videos and what they intended to signify. This was intended to assess how aware the participants were of the conventions of media representation and how they qualitatively affected the viewer's interpretation. These additional questions, whilst not intended to be of great significance in the design, turned out in the analysis to be of greater import than the researcher had originally considered - a vindication of the use of 'grounded theory' (Allen & Courchesne, 2001) (Glaser & Strauss, 1967) .

3.3.1.3 The questions fell into three categories, which were not mutually exclusive:

- ☐ educational, that is to say having import in relation to the intent of the video;
- ☐ cognitive - questions designed to test their observation of features with no import as to the intent of the video;
- ☐ interpretative - questions related to the viewer's understanding of the medium and conventions of video.

3.3.1.4 Ethical doubts that have been expressed in parts of the autistic community

concerning the Cambridge Battery, (The wider ethical implications of autism research are discussed in Chapter 5 of this Thesis). Nine participants agreed to

complete the Battery. The sample was small, particularly when broken down into the subgroups of participants for comparison between the three sub groups. This hindered the ability to draw any definite conclusions.

3.4 Selection of the video material: four segments of 15 minutes each

3.4.1.1 Notwithstanding the difficulty of finding suitable video material for a varied audience that could be examined effectively by questionnaire, there were inevitable issues of copyright and permission to compile, copy and edit video materials. Video permitted for inclusion on a DVD sent to participants as part of a student's research or streamed via the Internet required specific permission to re-edit, reformat and broadcast. As detailed in the literature review, a wide-ranging examination of what was potentially available was undertaken. However, pragmatic difficulties presented here as well, for whilst it was possible to source suitable material from academic and public libraries, there proved to be insuperable problems in clearing copyright to re-edit portions of them as segments to be broadcast on the web or distributed on a bespoke DVD.

3.4.1.2 Although it could be argued that the video editing within research would fall within the copyright category of 'fair use', (The UK Copyright Service, n.d.), there were nonetheless problems with specifically negotiated educational licences for particular institutions which did not permit their use outside of that institution. The limits did not end there because the age of some of the material created difficulties

in sourcing the current copyright holder. For example, one video produced initially by the BBC, which was considered suitable for the purpose of the research, had to be rejected because the BBC had since sold the rights to its entire educational output to a third party that had gone into liquidation, leaving current rights ownership open to question. Although consultation with a specialist in copyright law indicated that it may have been safe to proceed, having made all reasonable attempts to discover copyright, it was concluded that only material that was in no doubt could be used. The final edit therefore consisted of four segments. A discussion of the content which had to be rejected because of consent and formatting issues is given further on in this chapter.

3.4.1.3 When reviewing the literature, the researcher examined the range and typologies of video available and selected what was of most relevance to autistic people from the video materials available about autism aimed at parents, teachers and professionals. The search was not limited to videos directly focusing on the problems caused by autism - videos suitable for people with learning difficulties and more general educational and training material (for example in industry and commerce) were also considered.

3.4.1.4 The original recruitment questionnaire gave some indication of the kinds of video both parents and adult autistic individuals were interested in owning or using, which was not necessarily reflected in the availability of such material. Since the focus of this research was education for autistic adults specifically, those videos under consideration had to be or to have the potential to be in practical use as

educational material for adult autistic people. Given the nature of the autistic “impairment” and the needs of adult autistics, which the researcher was aware of through advocacy work (Barnard, et al., 2001), the following educational topics were considered:

- self-organisation and independent living;
- questions of importance to the autistic individual in the context of work and further education, for example disclosure, social relationships;
- the nature of the impairment itself; being able to recognise the symptomology of autism or Asperger syndrome and how it might or does impact upon one’s daily life with potential hints about how to compensate;
- social or workplace survival guide;
- material useful in building a positive identity and enhancing self-esteem, countering the negatives about autism.
- material specifically about autism or directed at an autistic audience
- material from the libraries of the Universities of Birmingham and Coventry. Whilst the Lanchester library contained a fairly rich collection, reflecting Coventry University’s strong involvement in Media Studies, none of the material was capable of being re-edited by the researcher into alternative use for this study for a variety of pragmatic reasons.

3.4.1.5 Due to the licensing agreements in force at Coventry University, none of the material could be taken out from the library by an external borrower, nor was copying permitted. DVDs therefore had to be viewed in the library. Material in the University of Birmingham library was considered as it was possible to make copies of this, although these would have only been available for private study. The quality of the older video recordings viewed in the library had also deteriorated and so these were not considered a viable option as it was dubious whether clean current

copies would still be available.

3.4.1.6 Under strong initial consideration amongst the generic material was a series produced initially by the BBC's Education and Training Unit for Workplace Education, focusing on issues on how to succeed at interviews and to fit in at work. However, in the process of clearing copyright permissions for its reproduction, it was discovered that the material was no longer available from the BBC and that the company formerly distributing the material was no longer in business. Apart from the difficulty of securing copyright permission, there would be little point in using this material, as whatever benefit it had in the past, it was not currently available in any form other than the poor copy available at the Lanchester Library. The researcher nonetheless did consider this a missed opportunity to compare a piece of generic video with something specifically produced for the "special needs" market, to see if there was any difference rendering the one more suitable for an autistic audience than the other.

3.4.1.7 It became apparent following enquiries at the Lanchester library that whatever video was selected, it would be necessary to acquire copies of the original source material in a format that could easily be edited using the available Adobe creative suite software to produce Internet viewable material. There was also a need to be able to secure permission to effectively create new material from the longer videos as the full length videos would have exceeded the bandwidth available and also imposed a taxing load upon the potential viewer. Given the often poor quality of video cassette recordings that had degraded over many borrowings and DVDs

which either had copy protection,²⁰ it became apparent that access to original source material in a format that could be edited, with permission to re-edit or shorten, would be paramount.

3.5 The four video segments chosen

3.5.1 Video segment one 'Out and About,' by Ann Aspinall (Out and About, 2001)

3.5.1.1 Out and about is a series of interactive CDs aimed primarily at people with learning difficulties, was to form the first segment. Licence to use original segments was provided by the copyright holder. Whilst not specifically produced for autistic people, this was likely to appeal to an autistic audience as it dealt with issues of organisation and day to day living. The researcher decided to use material from the third CD/DVD in the series, 'Gadgets at Home', which according to the makers:

"...introduces the use of everyday technology such as microwave ovens, cookers, washing machines etc., through video scenarios and the user can then choose from a series of activities based on the videos. The user can complete the activities at one of three levels of difficulty which can be set by the tutor. There are many new accessibility features incorporated which can be set for user preferences – such as text/screen colour combinations, settings for switch users, even recording their own commentary to the videos." (Aspinall & Nicholls, 2008)

3.5.1.2 The construction of the narrative is aimed at reinforcing certain messages that require attention to what adults need to do to present themselves in a fit state at a job interview. This involves three different scenarios with actors using various

²⁰ Encryption that either prevents digital copying or degrades the quality of the copy.

household objects and gadgets. It starts from waking up, having breakfast and selecting clean clothes appropriate for an interview, before booking a taxi to take them there. In a time honoured format, one of the occupants struggles to do anything right, whilst there is a clear champion who makes it to the interview first. From the perspective of an autistic viewer, it is important that they are not too distracted by the social interaction and the overall narratives in order to attend to the primary didactic of the video. It is also, in the researcher's opinion, necessary to focus on certain details, for the narrative and didactic are to some extent constructed around these (eg the ability to know what heat to use on the cooker and the amount of powder to put in the machine). The questions were designed to determine how well these particulars were observed or observable.

3.5.1.3 **Editing the content**

3.5.1.4 The content was originally available on a CD/DVD and therefore using a format with higher compression rates and smaller frames would inevitably be degraded even further if re-encoded into the flash video formats necessary for streaming over the internet. A fair copy was therefore obtained in the original proprietary Apple .mov file format, which was capable of being edited with Adobe Premiere and encoded.

3.5.1.5 From the pragmatic perspective, it was necessary to choose episodes that could be most suitably reduced in length and summarised without losing the essential message. The scenario of the three actors preparing for an interview suited this in

every respect. As with the other segments, the video was prefaced with a one minute countdown clock, which acted as a separator for the segments and a device to concentrate the viewer on what was to follow. This was a format copied from the researcher's experience of educational broadcasting in the 1960s.

3.5.1.6 Framing the questions

3.5.1.7 The message of the video was fairly clear to interpret and the presentation simple and clear. The scenes were well constructed and well-lit and there were some elements which might distract some viewers from the essential content. The segment was edited to illustrate the set of self-care and household tasks necessary for a person to attend an interview on time and in a presentable manner. There were 28 questions in all: seven of them cognitive, noting the participant's observation of background details and their salience; 20 of educational import, and one which was interpretational (a question regarding the diachronic (sequencing) of the narrative) (see *Appendix 5* for a list of the questions).

3.5.2 **Video segment two:** Outside In: living with Asperger's syndrome (Outside In, Living with Asperger's Syndrome, 2002)

3.5.2.1 'Outside in' has a complex history and unlike the previous segment, was not 'professionally' produced. Commissioned originally by Hereward College, Coventry, it was intended to use the College's media department to produce a video featuring

the students who had Asperger syndrome for a general educational video that could be marketed by the college. Paul Smith, who was teaching media at the time, was selected to direct and edit the video. In the event, the college decided not to proceed with the video. However, the researcher (then one of the students) offered Smith the opportunity of making the video independently using the facilities of the National Autistic Society to market it.

3.5.2.2 The video was originally constructed around the ways in which the three participants, all students at the college, manifested the features of their autism and how they coped with it. The video was introduced by the then Head of Media, John Cadden, with a scripted introduction to the 'disorder' followed by a lengthy segment, filmed by the researcher himself, showing his journey to the college and ending with the return. In between, a series of interviews with the students was recorded, as well as footage showing them in natural situations. These interviews were then used to form the narrative, overlaid on top of the relevant footage of the participants engaging in the things they talked of.

3.5.2.3 The video has been widely available both in VHS and later DVD format from the National Autistic Society since its initial release in 2002. The Social Care Institute for Excellence, (Social Care Institute for Excellence, u/d) (an organisation concerned with collecting data about effective practice in social care) describe the video in their abstract as a film:

“made by the people who know it best: people with Asperger syndrome. It focuses on three men with Asperger syndrome who talk about their interests and anxieties and is an excellent resource for training or anyone who wants to know more about Asperger syndrome.”

3.5.2.4 There was also evidence from correspondence of the ways in which it was being used and had been used educationally. A corporate user of the DVD (up, n.d.) gives a typical report of its usefulness thus:

“The work I am doing is sponsored by the London Borough of Brent using money from Quality Protects. I produced a pack of dip in dip out resources that cover all learning styles using your video, a CD of a talk by Wendy Lawson and a Teacher’s Guide produced by the NAS. In addition I have included resources in visual timetabling and sequencing and use Parent Coaching Cards (a form of encapsulated Social Story). These are put together in a resource pack that is meant for any person who may work with a teenager with Asperger syndrome in a profession, voluntary or other capacity.

I am currently carrying out awareness training across the borough and use the sub-titled video as part of the awareness session. You may find some of the messages in the subtitles as direct and obvious, but it isn't so to the audience. The feedback I get after a two hour session is that they like the video and wish that they could see it all, I often have to truncate it after the football shirt section, so miss out on the mug section.”

3.5.2.5 The second video segment was much easier for the researcher to edit because he remains responsible for its production and is in possession of the master copy from which all reproductions are made.

3.5.2.6 There was no difficulty in obtaining permission to re-edit the material for the purposes of this research. The researcher was also still in contact with the participants of ‘Outside In’ at this time and had no difficulty obtaining their consent, although legally this was not necessary due to the terms of the original model

releases they had signed. The researcher's own contribution to the video was removed, leaving the 'clinical' introduction and two participants who could be contrasted and compared, as Smith had already aggregated the material and edited it in such a way as to show both the similarities and differences in the individuals' lives.

3.5.2.7 In contrast to the first video segment, nothing was scripted other than the introduction. Both artificial and natural ambient lighting had been used and stylistically the participants were the narrators, rather than the external and somewhat artificial narrative of the first segment. The educational import of the segment could be considered thus. The viewer is presented with the psychologist's description of the presentation and traits of Asperger syndrome and is invited by observation of the participants and listening to their narrative, to see how these traits manifest themselves in real life and affect the lives of the individuals portrayed.

3.5.2.8 This segment had a similar allocation of questions to the previous one, with 20 questions dealing with differences, similarities and their relationship to Asperger syndrome. As before, six of the questions dealt with the participant's ability to recognise background detail and there was one interpretative question relating to the manner in which the narrator presented the symptoms of Asperger syndrome, using an oblique angle and very harsh lighting.²¹ (see *Appendix 5* for the questions

²¹ The subject is filmed from an oblique angle, aimed at causing an unsettling psychological effect, often used in "Film noir"

on this segment).

3.5.3 **Video segment three: Being Me (Being Me, 2008) (Hartwig, Savage, Chilcott, and Griffiths)**

3.5.3.1 The third segment (Being Me, 2008) was produced by the National Autistic Society and had similarities to the previous segment in that it used a variety of individuals with Asperger syndrome but rather than being interviewed in one rather 'artificial' situation, as with 'Outside In'", they were filmed in a variety of situations intended to give information about the practical implications of the syndrome in context and the different (neither correct nor incorrect) ways the narrators responded to those situations, along with their advice about solutions to common problems.

3.5.3.2 'Being Me' forms part of a larger interactive educational project known as *Social Eyes*. In this capacity it can be used similarly to the other two complete videos, with supporting materials in a range of targeted fashions. The open access research showcase repository of the University of Wales (University of Wales, Newport, n.d.) describes it as a programme that :

"aims to assist individuals to further understand their own condition and tells the story of six people sharing their experiences of life and how being on the Autism Spectrum affects them personally.

Being Me' is an introduction to 'Social Eyes,' a learning resource for people on the autism spectrum focussing on learning social skills and developing social understanding ."

3.5.3.3 From the perspective of the current study, the similarities and contrasts between *Outside In* and *Being Me* seemed to be very opportune. Whilst both used genuine autistic individuals to present the characteristics of the syndrome, *'Being Me'* is stylistically very different from *'Outside In'* in that the participants speak directly to camera, wherever they are. From the perspective of the video critic, this presents difficulties compared with the more careful *'mis en scene'* of *'Outside In'*. No attempt is made to isolate the participants from whatever is going on around them. Scenes are recorded in the open air, sometimes in public places where people wander across the screen in the background. It was thought that the viewers might respond differently to this presentation than they would toward a more staged production, although whether that would be an asset or not was considered dubious at the time of editing as detailed responses were some point off in the future.

3.5.3.4 For the purpose of presenting the material in a *'nutshell'* as part of the four segments to be shown consecutively, it was necessary, as with the previous two segments, to reduce the length of the material to no more than 15 minutes. This presented greater problems to the editor than with the other pieces as there were no natural breaks that could be used. The researcher chose instead to limit the number of topics being discussed and to reduce the number of narrators talking about those topics, whilst trying not to detract from the overall aims of the piece. As with the previous piece, it was necessary not only to have copyright permission to substantially alter the piece but to have the further permission of the

participants themselves to do this. This secondary permission was gained through the auspices of the National Autistic Society who were co-operative in all aspects of providing the material and the necessary permissions.

3.5.3.5 There were no cognitive questions asked of this segment. The researcher considered that the naturalistic situations did not employ any particular technique of 'mise on scene'. In retrospect, the researcher may have missed an opportunity to determine if the altogether fussiness of the naturalistic, outdoor 'busyness' directly detracted from the lack of a consistent style. There were, however, more interpretative questions - 15 in all, which were intended to interrogate the differences in style between this and the previous two segments. In essence, this was a cumulative task depending upon noticing and later recalling those differences whilst watching another segment. There were also 15 questions of direct educational import (see *Appendix 5* for these).

3.5.4 Video segment four: Artistic Autistics (2009)

3.5.4.1 The final piece, '*Artistic Autistics*' (2009), was somewhat different, as it was not even in existence when the research proposal was first mooted. It was a collaborative project between the researcher and an undergraduate student from Coventry University. From the outset, it was possible to share copyright with and secure permission from the participants in the video. Since the researcher was approached on behalf of another University by one of its students (because of his known expertise and experience in producing video), it became a useful

opportunity to produce something of considerable contrast to the other pieces, mounting a number of challenges not present in any of them. It also had the potential to find out what the viewers were interested in and attending to.

3.5.4.2 The video is described by Coventry University (Coventry University, 2009) as a:

“Film project to explore art and autism”.

“Billed as a collaborative project with Birmingham University and Larry Arnold, Woodbridge will bring together a group of friends who are also autistic to produce the “Artistic Autistics” performing art film. Woodbridge’s film will showcase her friends taking part in a number of varying activities, such as contemporary dance, dialogue, drama, poetry and martial arts routines”

3.5.4.3 As can be seen from the description, this narrative was constructed on an altogether different premise from the other three segments in that it was undertaken under supervision as a contribution to a final year Performing Arts student’s dissertation, which required a performance piece. It is the researcher himself who forms the second part of the collaboration, having been engaged in the role of assistant to the director as someone experienced in the techniques of editing who could impart the necessary skills to the director.

3.5.4.4 The researcher was aware throughout the conception of this work as an inter-university collaborative project that the final product would appear in both his research and teaching practice as a visiting lecturer and conference presenter. The lead however, was taken by the director, Woodbridge, with the researcher confining himself to technical assistance and instruction on the editing software,

and he did also appear in the segment chosen for the current study²². From the outset there was a definite didactic intent in the piece in so far as it had the intention of portraying the: “*benefits and barriers to people living with autism*” (which had also been approached in *Outside In* and *Being Me*). In common with these other two videos, it had a large measure of autistic participation in its making. As Woodbridge commented:

“I chose this particular project because it is very close to my heart. All my friends who took part in the film really enjoyed it and were pleased to be part of something that portrayed autism in a positive light”. Unlike the other segments this was the only segment to be 100% under autistic direction.”

and:

“The film proves the point which is that people on the autism spectrum can learn, achieve and be creative. I hope that, if nothing else, the film could be used to promote the idea that theatre and dance should be open to more autistic people.”

3.5.4.5 In essence, the complete video is a sequence of sometimes disconnected narratives relating to the main protagonist. It involves her boyfriend and a circle of friends, both from the University and outside. The video begins with a special effects sequence introducing the protagonists, who are seen to be standing still, while the world rushes madly around them. We are then introduced to a scene where one of the participants is seen in a series of conversations with the others. Whilst the viewer cannot hear their conversations, they are presented with a narrative by the principal conversationalist about her autism. At various points we get to see the

²² Which had some implications for the study as discussed in the analysis

people in the video either involved in or talking about their favourite pastimes. This is intended to give a positive light to some of the varied activities that adult autistic people are involved in and as a counter to the clinical narrative of 'obsession'. Other segments of the video feature performance art and dance, hence the title of the piece. These elements were necessary in the video for it to fulfil its role as part of the student's undergraduate dissertation on a piece of performance art. These other sections focus around the protagonist and her boyfriend as lovers, engaged to be married.²³ This was intended as yet another positive demonstration of the 'normality' that is to say the typicality of autistic people's lives, that they have the same ambitions as non-autistic people and do fall in love and marry. The friends are seen gathered together for a staged Christmas dinner, after which the piece ends, with a series of positive, 'myth busting' messages to the viewer about successful autistic people.

3.5.4.6 As far as using the video for the viewing task, the researcher chose to use the segment where the various protagonists are in conversation with the central character. This was chosen as the researcher had used this segment as an interactive element in several lectures, where he had asked the students similar questions to those framed by the questionnaire.

3.5.4.7 The researcher also had another reason for including this piece, since apart from the considerations of its value in teaching about the traits of autism, it had a particularly complex narrative style with a spoken narrative and visual presentation

²³ The couple did indeed subsequently marry and now have a young child.

that made sense on their own. When the two were combined, however, there was a syntagmatic complexity and it therefore presented an ideal medium to question what it was in the structure of the edit that was paramount to any particular audience and to examine the ways in which style influenced the interpretation, acceptance and ability to take educational content from the video. Of all the video segments used, this was the one which would perhaps most recommend itself to being watched more than once because of the contra narrative and the necessity to either attend to the narrative first or view the visually presented information.

3.5.4.8 The viewer was thus forced to concentrate on either the visual aspect, through which the author intended to illustrate the body language of autistic people, or the narration, which was on a par with the second and third video segments. The researcher incorporated this segment because it was stylistically different from the other three and had other hidden signifiers in the counterpoint of visual and auditory narratives. The questions could be answered in relation to either. In common with video segments one and two, there was one interpretative and 20 educational questions but with the final segment, because of the complexities of the structure, it was felt that it could be more readily interrogated from a cognitive aspect and six cognitive questions were asked; in essence determining the salience of the visual details, not in themselves central to the narrative (see *Appendix 5* for these questions).

3.6 General observations on the questions about the video segments

3.6.1.1 Regarding the educational questions in general, some of these had dual import as they were to some extent dependent upon attention span or otherwise on pure observation. As the questionnaire progressed, there was some dependence on recollection of the observations from previous segments. The researcher initially supposed that participants in the online group would be at an advantage in answering these as they had the ability to rewind and return to the material to respond to the questionnaire. The live, face-to face group participants, whilst not having that particular advantage, had the ability to prime themselves first by reading the questionnaire prior to looking out for the specific details and instances requested. Theoretically, the online group could have done this by printing out the questionnaire; however, this would have been so complex that the researcher considered it unlikely that anyone would actually print the questionnaire. As an online instrument, this would not format well on the printed page. However, the additional questions, which were dependent upon the recall of previous segments, confounded this advantage and produced a more realistic task consistent with that performed by the online group.

3.6.2 Stylistic considerations

3.6.2.1 From the perspective of the media critic or analyst, style is that collection of individual choices throughout the process of constructing a video, from choice of actors, locations, backgrounds, lighting, editing and so much more that defines the

difference between the output of one producer or author and another. Those commentators on autism who most 'objectify' the cognitive differences between our autistic and their own perceptions do an injustice to autism. The researcher arguing from his personal experience of autism, and from long prior exposure to autistic culture (Dekker, 1999) considers that we are able to discern such differences at a gestalt level (Central Coherence Theory notwithstanding).

3.6.2.2 The choice of video segments was in part predicated upon the provability of such an assertion, and an initial assumption that such differences would perhaps matter in different ways to an autistic and non autistic audience. For instance a non autistic educationalist, clinician or family member recommending a video may not be aware of the different way in which the autistic individual would consider the basis of their choice. That is to say, without any information to the contrary, a conflict of interest may well occur not because of the content or intention of the material so much as the way in which it was presented being either unappreciated or actually offensive to an autistic audience.

3.6.2.3 Notwithstanding the important similarities between the content of the four video segments, to which attention is drawn further on, the video segments were created using very different styles. Whilst it was necessary for the researcher to impose his own interpretations on the didactic material within the videos for the purpose of establishing a baseline for drawing up the questions and their subsequent analysis, this was informed to a considerable extent by the researcher's prior experience and qualification in video production and also aided by his own advanced abilities to

detect background detail peripheral to the main scene. The latter was of considerable advantage in setting questions to determine whether the participants shared this cognitive ability, imputed to be a particularly autistic one, according to the theories on which this research was based. The researcher's task in deconstructing the videos for constructing the questionnaire was also aided by the privileged insight he had gained into the production of "*Outside In*" and "*Artistic Autistics*" as an assistant with particular knowledge of the pragmatic techniques of video production, camera work and editing which informed the production, together with the author's viewpoint in using them in that manner.

3.6.2.4 Some of the questions were intended to examine to what extent that 'mise en scene' was 'transparent' to the viewer. Did it achieve its task of subliminally setting the context and reinforcing the message or whether to this particular audience it seemed forced, and detracted from the usual intent of such 'mise en scene'. Both Currie (1995) and Carroll (Carroll, 1996) as theorists of the 'cognitive school' of video criticism, have discussed the question posed by historians of art as to whether the viewer is seeing the real scene, or merely a representation of it, when comparing a photograph to a painting. As stated in Chapter 2, there is said to be a counterfactual correspondence between the photographic frame (from which the moving image is derived) and what is perceived which is less so of a painting. That is to say that in the mind, the viewer of a film is not aware of the frame and responds as if they were seeing the whole proceedings as if it were through an open window. Currie regards this as something of a red herring in theory and in practical terms.

Most viewers are aware through context and situation when they are watching the moving image that there is an artificiality to it. One might nonetheless expect the settings and scenery to carry the narrative to some extent, if it is seen as mere 'window dressing' to what is otherwise a standard lecture. In theatrical terms, one speaks of the suspension of disbelief and to what extent education in the traditional format of 'chalk and talk' is itself a performance with props is something that could be debated elsewhere. Suffice to say, in the various segments there was the possibility of deliberately breaking that theatrical 'fourth wall' in indicating its own artifice and construction as a useful device in itself, much in the manner of Brecht's *Verfremdungseffekt* (Carney, 2005).

3.6.2.5 Whilst three of the videos seemed to be very carefully crafted and constructed pieces in setting the various scenes, albeit with a particular obtuse intent in the last piece, "Being Me" seemed very ill directed and contained a lot of distracting material in the background that ought not to have existed in a well-constructed and smooth visual narrative. The extent to which this was borne out by the participants' observations will be examined in a discussion of the findings in Chapter 4.

3.6.2.6 The ability to collect detailed qualitative data was seen as being paramount. This was necessary not only for the research to have an emancipatory element in keeping with the researcher's own background and situation as an autistic person, but to be able to make some general recommendations that could have a positive outcome for autistic people in general. The nature of the data collected aimed to ensure that the experience of the research was an enlightened and enlightening

journey for the participants themselves. In keeping with Charmaz (Charmaz, 2006), they were regarded as co-equals in uncovering a deeper knowledge about the 'situation'²⁴ of autism. That is to say, it was important to know how the autistic participants regarded themselves in relation to the distributed and received ideas about autism to which they were exposed.

3.6.2.7 At this second stage, in addition to carrying out a mainly Internet based piece of research, it was planned that the four video segments would be presented in a classroom situation to a subgroup of participants who would then complete a paper questionnaire. In the event, this proved more difficult than anticipated mainly because it was difficult to find participants who were able to come to the University to take part in this exercise.

3.6.3 Alternative research designs

3.6.3.1 An alternative method of carrying out this research might have been to examine two groups of autistic subjects and to use video in one trial controlled against another teaching method. This was rejected because autism was the prime variable in this study, not the general effectiveness of video itself. If the weak central coherence hypothesis holds true, one might expect particular differences to emerge from the responses given on the questionnaire by the autistic and non-autistic comparison group. There remains the possibility that video is more effective than

²⁴The situated, lived experience of autism in the context of both colloquial and authoritative understandings of the term rather than an invariable definition of the term itself.

traditional methods of teaching in all groups and that could only be verified by studying two methods in parallel. This would have required at the least four groups, that is to say, a group of autistic learners using method one with a group of cognitively matched non-autistic learners and the same for method two. In practice, this would have complicated the research and detracted from its core purpose - video in relation to autism, as opposed to its use in education more generally. The question is also open as to which educational method would have been a suitable one to match against the use of video.

3.6.4 Ecological validity

3.6.4.1 Ecological validity also had to be taken into account in the construction of the research. If the research had proceeded with a straightforward showing of a video to three groups together in the same room, it would still have been more of a laboratory experience than a genuine classroom one. In traditional learning environments, a good teacher ought not simply to sit a group of students in front of a video screen and leave them to their own devices. In a realistic scenario, the video would be shown in the context of the subject being taught and would be part of an overall course or lesson plan. Additional qualitative data were therefore gathered from the use of video in the researcher's own teaching of undergraduates and groups of autistic individuals. This involved reflective teaching practice based upon feedback on former lectures given to mixed groups of students studying autism. A question and answer session was also held following a presentation of the full

version of one of the video segments to an autistic audience who were asked if they might wish to contribute to the study. After consideration of the possibility that a live classroom viewing might prove equally stressful for both groups, given the strangeness of the situation out of context, pragmatic revisions were undertaken with the aim of comparing different viewing situations. For instance, it was useful to examine the different ways in which distance learning might prove to be more effective for autistic learners and whether viewing the video in a non-social setting, free of distractions, was as significant a factor as anything in the construction of the video itself. In practice, due to problems with recruitment, the task became more oriented to studying a non-classroom situation of individual, guided learning online.

3.6.5 Data collection procedure

3.6.5.1 The initial ethical clearance having been obtained, the process of data gathering began. After some reflection on the task and in response to a brief pilot of edited video material (not the final material itself), a series of difficulties were encountered that necessitated modifications to the initial methodology. For instance, it was decided that an immediate question and answer session following the video presentation might not be enough to settle whether the material presented was valuable or whether it had a lasting effect. In addition, one well reported aspect of autistic cognition is that some individuals require extra time to absorb and come to an understanding of the material viewed (Marco, et al., 2011).

There is anecdotal evidence from the researcher's reading of various autism support fora that information immediately presented does not manifest itself in memory until some time after the stimulus, which also appears to be confirmed in the literature (Minschew, et al., 1997). It is in any case the researcher's own experience of being essentially 'blind' to information whilst it is being presented, but being able to recall considerable detail later that he was not consciously aware of at the time, suggesting delayed processing.

3.6.5.2 Since a single session would only have elicited an immediate response, the intention was to follow up longitudinally to what degree the material had been retained in long-term memory. . Furthermore, it was decided that it would not be sufficient to examine the effects solely on a group of autistic volunteers and that some degree of comparison with non- autistic individuals would be necessary to compare their responses. At this stage, the number of respondents was not known and it was considered that if the response was a sufficiently large one, the degree of variance between each of the three groups (autistic, self-diagnosed and non- autistic) could have been discovered and statistical methods applied to determine whether the variance was greater than would be expected by chance. If the differences were greater than by chance, this would have tended to support the premise that differences of cognitive style require different approaches. If not, it would have suggested a need for further investigation. Finally, bearing in mind the above caveat, it was decided to use more than one autistic group to eliminate any possible selection bias that might result from the population characteristics of an

opportunity sample recruited locally. A second group was therefore recruited online from a wider, more disparate autistic population to examine whether demographics, age or educational similarities affected the results in any way. This was not particularly successful and is discussed in more detail in the findings. In the event, responses from the three participants who watched the video as a group at the University were used as extra data for additional comparison with the online findings rather than as a separate research cohort in their own right.

3.6.6 Decisions made about the viewing options

3.6.6.1 By virtue of the distance and dispersal of participants, two alternatives were considered: viewing a DVD at home or viewing a digitised segment online. The pros and cons of both were evaluated, particularly the potential difficulties presented by a wholly Internet based task, which included filling in a questionnaire and watching a video segment; unequal access to sufficient bandwidth to view the segments effectively; the dangers of unauthorised viewing of copyright material that had been licensed only for the researcher's specific use within the study; and the quality of the video which would vary according to the machine used and jeopardise the ability to make some of the necessary detailed observations of the material. The researcher was not able to afford the cost of the duplication of DVDs or the postage of DVDs and paper questionnaires to all potential participants, so a decision was made that participants would view on line and complete the questionnaires online.

3.6.7 Participants in the non-Internet group and the issues arising

3.6.7.1 Attempts were made to recruit an offline cohort of participants. This proved

difficult for a number of reasons, some of which are particularly pertinent to the ethical questions.²⁵ At one point, the researcher was obstructed from progressing by staff at another University, by virtue of a preconceived societal notion of autism. This was after gaining ethical clearance to the satisfaction of the University of Birmingham, details of which had been provided to the other University concerned. Two colleges of further education and two universities were contacted locally in order to seek permission to recruit volunteers directly. This was initially intended to be an opportunity sample (Lewin & Somekh, 2005) of local university students, and fellow researchers from a non-autism related mailing list. A variety of difficulties arose at an organisational level due to the necessity of dealing with several colleges and universities with different procedures for securing permission and rules for recruiting volunteers. The first university considered was a post-1992 conversion, initially selected for two reasons. The first was that the researcher had some prior knowledge that the university included autistic students. The second was that the university, not being in the first rank of research universities, was likely to have attracted a somewhat different demographic and therefore a greater proportion of socially disadvantaged students. There is a common perception locally that it is less socially exclusive than the town's other university (one of the Russell Group), borne

²⁵ The dichotomy between the concerns of the University Ethical procedure and real life operation of ethics proved to be so remarkable that considerable space is devoted to this in the concluding chapter.

out to some extent by statistics. As John Denham (Denham, 2008) stated in his address on widening participation:

“Most of those with the aptitude to succeed at a highly selective university, but who don’t get in, do go to another university. We don’t find those students just amongst the target widening participation groups. We know that children from the majority of state maintained schools are under-represented in the most selective universities.”

3.6.7.2 This is an important point to consider, given the lower socioeconomic status and educational disadvantage of most autistic adults, a situation that has not improved since the Barnard et al. study (2001). The current researcher addressed an initial enquiry to the pro-vice chancellor of the university. This was met with various conditions; firstly the need to submit a copy of the Birmingham ethics clearance document, secondly the statement that recruitment by email was not allowed and thirdly that approval was also needed from *“our disabilities people”* (Marshall, 2008).

3.6.7.3 Whilst the researcher had some concerns to mitigate potential criticisms arising from the choice of recruitment method from what is considered by some to be a culturally elitist (Russell Group) University (thereby distorting the demographics of the research). This University was in the event not rejected, as it could still have provided an additional opportunity to recruit in the researcher’s locality. After initial contact further enquiries were referred through the Disabilities Office and then on to another individual who had been involved in a support project for students on the autistic spectrum. She was subsequently able to illuminate several

potential difficulties that were in the event encountered with this group. No volunteers subsequently came forth from either. After the final deadline for completion of the questionnaires, access to the stimulus material was removed from the Internet.

3.7 Follow up to the second stage

3.7.1.1 A research blog (Arnold, u.d. op cit) was established to make the research more accessible to online participants and interested parties, together with an email list for discussion. This was intended to allow participants to critique the research on an ongoing basis as it unfolded, thereby influencing its course should errors be detected. A year after the research, participants were emailed a second time to ask if they were prepared to answer further questions about their recollections of the material and their experiences of it.

3.7.1.2 Only three participants agreed to be interviewed either by email or in one case, face to face. This poor response rate is discussed later in the analysis of the findings in Chapter 4. Some use of field research was made, for instance, involving the audience whilst the researcher was engaged in teaching or presentation. The audience was explicitly made aware that the researcher had requested the audience's consent and that anybody who contributed to the discussion who did not wish their comments to be included could opt out. Above all, during the course of the research, progress reports were made available through the usual academic channels of presentation and publication and participants were encouraged to read

anything that was published. Further details of this are included in Chapter 4.

3.7.1.3 This chapter has set out the main methods used in the study and discussed the ethical and practical issues arising. It described the recruitment of the sample, the four video segments and the questionnaires designed to obtain information at the different stages of the study. The next chapter analyses and discusses the findings from the study.

4 Chapter 4: ANALYSIS OF DATA FROM THE TWO QUESTIONNAIRES AND THE INTERVIEWS

This chapter presents an analysis of the data from Stage One of the study, followed by a detailed qualitative analysis of the results of the online video task in Stage Two. It concludes for comparison with a brief consideration of what form an alternative, quantitative approach might take and why it would have been inappropriate for the current sample size. There is also consideration of the potentiality for further repetition of this research with a larger sample and the introduction of inter-rater reliability. Finally, there is an analysis of the three interviews. For the first part, some direct quotations have been selected from participants, but more importance is attached to this type of data in Stage Two.

4.1 Findings from the questionnaire in Stage One

4.1.1.1 The responses were collected online via the facilities provided by the Bristol Online Survey (University, n.d.) and downloaded and tabulated in an Excel spreadsheet.

4.1.2 Ethnic/cultural Background of the respondents

4.1.2.1 One hundred and eight people responded to this initial questionnaire. Given that this was an Internet based survey presented in the English language, it was not surprising to see that the majority of participants were drawn from either the British Isles (UK and Ireland) or North America (USA and Canada). There appeared to be an even split but it is not possible to be precise because email addresses did not always provide this information. There were also participants from Australia, the Benelux countries, Eastern Europe and Israel. Since the question on ethnicity was based upon the UK census categories and was voluntary, many chose not to complete that section. It would not necessarily make sense to non-UK citizens.

However, the background information that was gathered indicated a broad spread of participants.

Table 4 gives the personal details of those 45 respondents who made qualitative comments on the questionnaire. There were 28 who said they had a diagnosis of autism and another 3 were self-diagnosed. There were 17 participants who said they were not autistic. Most were female (77%) and 12 were male. Eighteen (40%) were aged between 40 and 50, ten were aged between 20 and 30, seven were aged between 30 and 40, one was over 60 and 2 were under 20. Two people did not give their age.

4.1.2.2 **Table 4:** Pseudonyms and status of participants who made qualitative comments on the questionnaire (n=45)

Fictitious name	Age group	Diagnostic status	Occupation	Nationality/Ethnicity
Alan	36 -40	Autistic	Working	Not given
Andrew	41 - 45	Autistic	Parent	British
Anne	41 - 45	Non autistic	Parent	British
Beth	46 - 50	Non autistic	Parent	Not given
Brenda	46 - 50	Non autistic	Parent	British
Brian	26 - 30	Autistic	Not given	British
Caitlin	46 - 50	Autistic	Not given	Irish
Charlotte	51 - 55	Non autistic	Parent	English
Cheryl	41 - 45	Non autistic	Student	Not given
Chloe	41 -45	Autistic	Not given	American
Christine	46 - 50	Autistic	Student	African American
Davina	31 - 35	Autistic	Working	Not given
Edward	41 - 45	Self diagnosed	Not given	Not given
Fred	26 - 30	Autistic	Student	British
Geraldine	51 - 55	Non autistic	Parent	British
Gillian	46 - 50	Self diagnosed	Not given	American
Gina	30 -35	Autistic	Not given	British
Janet	Not given	Non autistic	Not given	British
Jean	16 - 20	Non autistic	Not given	British

Jo	30 - 36	Autistic	Parent	British
John	41 - 45	Autistic	Student	Not given
Judith	46 - 50	Autistic	Student	American
Karen	30 -36	Non autistic	Parent of 13 yr old autistic daughter	British
Karl	21 - 25	Autistic	Student	British
Kate	16 -20	Autistic	Not given	Canadian
Laura	46 - 50	Non autistic	Parent of 7 yr old autistic child	Eastern European
Lena	21 - 25	Autistic	Not given	Not given
Lisa	46 -50	Autistic	Parent	Not given
Lotte	21 - 25	Autistic	Not given	Dutch
Malcolm	51 - 55	Autistic	Working	British
Mary	26 - 30	Autistic	Not given	British
Musa	Not given	Self diagnosed	Parent of autistic son	British
Norman	21 - 25	Autistic	Not given	British
Patrick	51 - 55	Non autistic	Parent	Not given
Peter	41 - 45	Autistic	Not given	Not given
Rachel	21 -25	Autistic	Not given	American
Rebecca	46 -50	Non autistic	Not given	American
Rita	36 -40	Autistic	Not given	British
Ruth	46 -50	Non autistic	Parent of 8yr old autistic son	Israeli
Sandra	56 -60	Autistic	Not given	American
Susan	31 - 35	Non autistic	Parent of 12 yr old autistic son	American
Tom	21 -25	Autistic	Not given	British
Tony	20 -25	Autistic	Student	Not given
Val	46 - 50	Autistic	Not given	American
Vicky	61 - 65	Non autistic	Parent	British

4.1.3 Data on all 108 respondents to the questionnaire in Stage One

4.1.3.1 Sixteen of the 108 respondents were students. It is interesting to note that of these

16 students, the majority were what would be considered to be mature students,

that is to say in the age groups 21 – 30 years and over. It is possible to conclude that like the researcher himself, some of the autistic participants would be returners to education, having faced difficulties in the past. Nonetheless, the participants generally appeared to be a well- educated and well-informed cohort as could be deduced from the quality of information they provided and their level of knowledge about autism and media. Twenty-nine of the participants were in work and a number of these were autistic, again indicating that not all the autistic participants were as disadvantaged as the charitable sector in the UK would suggest (Barnard, et al., 2001), with one of the autistic participants stating that she was a professor.

4.1.3.2 Thirty-six of the participants were parents or carers, not surprising given the media through which the survey request was given out, which attracted a mixed audience of both parents and autistic people. It was also evident that the category of parent/carer did not exclude the participant from being autistic themselves and there were examples of participants in both categories. There was some problem, however, in accurately separating this data as the question of occupation was exclusive in that it was not possible to tick more than one box, as if one were a parent and student, or a parent in work. This was pointed out by some of the participants who had to make a forced choice between categories. If the survey was used again, this would need to be amended.

4.1.4 Gender

4.1.4.1 **Table 5:** Gender of the participants for each given category of diagnosis available from the questionnaire (n=108 respondents)

Table 5. Gender, cross- correlated against category of diagnosis.

Gender	Autism.	Asperger syndrome.	Autistic spectrum disorder.	Not Autistic.	Don't know.	Other	Totals
Male.	3	24	2	2	0	5	36
Female.	3	28	10	13	2	14	70
Other e.g. intersexed.	0	1	0	0	0	0	1
I do not wish to specify.	0	0	1	0	0	0	1
Totals	6	53	13	15	2	19	108

4.1.4.2 As can be seen from *Table 5*, the participants consisted of 36 males, 70 females and two individuals who either did not wish to specify or who did not fit within the classification of a binary gender²⁶ Of particular note was the gender bias of the sample towards a larger number of autistic female participants given that in autism research generally, the majority of studies feature a ratio corresponding closely to that presumed to exist in the population with a 4 to 1 preference towards males

²⁶ The researcher is aware that in the autistic world as elsewhere there are more than two ways of expressing gender. For example, one prominent autistic advocate (not a participant in this research) is biologically intersexed and there are other categories of gender expression, such as transgender.

(Bailey, et al., 1995). If this is a representative ratio, one would not have expected the number of female participants with a diagnosis to be greater than the number of males. Amongst those without a diagnosis, the 'don't knows' and 'unspecified', the gender discrepancy was much greater, suggesting perhaps that amongst parents and carers it was predominantly the mothers who were interested in completing the survey; a fact that is anecdotally borne out by the characteristics of parent mailing lists the researcher was aware of.

4.1.4.3 This raised various questions, one being that the 'given' ratio is perhaps an artefact of various factors. For instance, there has been speculation that boys more often present with characteristics that are more likely to result in their being brought to the attention of a psychiatrist or psychologist (Attwood, et al., 2006). This diagnostic bias may well result in a strong recruitment bias in most scientific research towards males. It is possible that the current researcher's sampling method was not open to such biases and reflected a more accurate distribution of autistic traits amongst the population or that there was some other factor militating for a more even distribution between the genders, possibly that more females use the Internet socially and that the groups from which the researcher recruited reflected this bias, outweighing the expected gender imbalance in the other direction. It may well be that there are different characteristics of Internet use and that male participants with autism use the Internet differently and therefore are not so overwhelmingly present in online groups as they appear to be offline.

4.1.4.4 Since the analysis of the data was completed, there has been more research into the area of potential gender bias in the diagnostic criteria and a number of conferences have been convened to investigate the prevalence of autism in women and girls. Among the reasons for the missing statistics in earlier research has been the suggestion that certain characteristics may be masked better by girls or for instance that the stereotypical 'obsessive' interests of girls are more socially acceptable and less 'unusual'. There has certainly been much discussion on some of those mailing lists from which the participants were recruited on that topic, which goes beyond the current study.

4.1.4.5 Whilst this is outwith the scope of this research, it is nonetheless relevant to consider that there may be some impact in terms of the way autism ought to be represented in educational videos, particularly when considering the target audience who may feel excluded by the seeming focus on the masculine representation of autism. For instance, one of the respondents to the initial questionnaire commented on the importance of considering female as well as male differences, expressing concern about the literature which tends to focus on male difference:

“so much is put on to male differences but AS women bring up children, have to deal with school and systems but remain hidden (in order) to get the best for their child, I think AS women need their own videos too” (Lisa).

Maybe it is also to do with diagnostic fashion but a larger number of females appeared to have been diagnosed into the less specific, ASD 'catch-all' category.

4.1.5 Diagnosis

4.1.5.1 Clearly it was paramount to establish the diagnostic status of the participants so as to apportion the findings from the later part of the research correctly, the aim being to compare the responses of autistic against that of non-autistic participants. Nonetheless, diagnosis is not a cut and dried issue. To begin with, not everybody who identifies as autistic has a formal diagnosis, notwithstanding that routes to diagnosis themselves are variable according to what access one has to a range of professionals during one's lifetime. Given that Asperger syndrome, the most common form of adult diagnosis, has only been available since the 1990s and given that in many cases diagnosis is made during the educational stages of an individual's life (as autism is something that can impact severely upon education), there is going to be a proportion of older people who did not receive the diagnosis in childhood. As has been mentioned in Chapter 3, the study allows for self-identification as a category in itself. As one female participant in an age range old enough to have missed childhood identification commented, *"Probably Asperger but not officially diagnosed (Rebecca).*

4.1.5.2 If one had not allowed that as a category, Rebecca's comments from a self-evaluated autistic perspective would have gone unheard, for to have put her in the undiagnosed group merely for lack of a professional 'rubber stamp' would have been equally incorrect. As another participant commented,

“Support group members recognise me and say I'm the same, self-diagnosis is not quite right as it's more a self-realisation, also when my son/daughter were diagnosed my mother told me a GP had tried to diagnose me but she didn't let him the times, the stigma” (Lisa).

4.1.6 Participants' views on diagnostic issues

4.1.6.1 The diagnostic debate has certainly not escaped the participants, as reflected in the comments in the first questionnaire. For instance, with regard to the notion of a broader phenotype, a parent commented:

“As a parent, I do see some tendencies in my self!” (Anne),

4.1.6.2 This is an issue that certainly had a bearing on the interpretation of the results from the second stage, particularly when interpreting the AQ/EQ scores. The participants were given a range of possible professional routes to diagnosis in the questionnaire. With regard to diagnostic variability, there were several comments, with the three chosen below epitomising the situation.

“Professionals have diagnosed me as autistic spectrum disorder, Asperger syndrome, schizophrenia, and some more medical conditions. Internet experts have classified me as Other” (Cheryl).

“My official diagnosis is Asperger syndrome, but I do not like the current definitions, and if you actually check every 'symptom' on the official criteria, I fit classic autism (Kanner autism) better than Asperger anyway” (Lotte).

“ My son, some doctors say Asperger's, some on the spectrum, others, high functioning.... Very sensitive,etc.. So many labels” (Susan).

4.1.6.3 Indeed, if one considers that diagnosis is a term that originally meant 'opinion' in the ancient Greek, one can see that it remains a matter of opinion that so called

experts can remove as easily as they can give, focusing again on the role of the participants' more intimate knowledge of their own or their child's opinion. As a parent remarked:

"All the above (professionals) 1-5, actually have made the diagnosis. Which now after 3 years of feeling we know and all agree, now a new Educational Psyc. says he is NOT on the spectrum, just a "sensitive" child that has difficulty making and maintaining friendships and understanding the big picture of the world around and with that he has a few tics" (Susan).

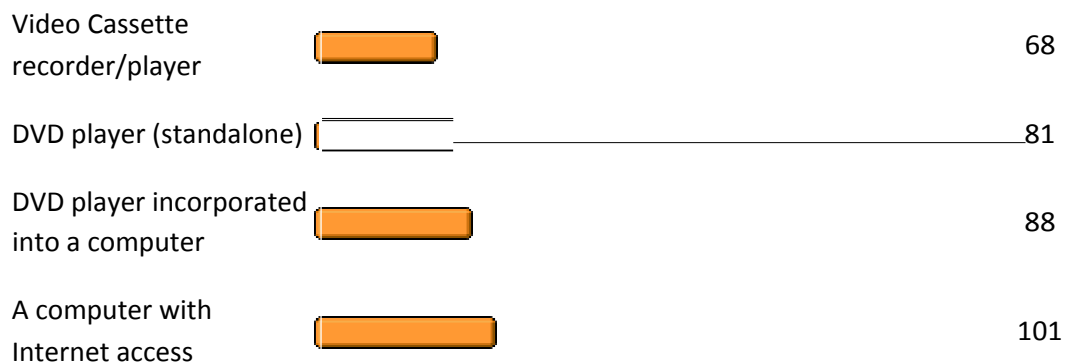
Finally, one person commented cynically with respect to differential diagnosis:

"What's all the fuss about!" (Brian)

4.1.7 Access to technology and individuals' purchasing/ viewing habits

4.1.7.1 One hundred and six of the 108 respondents confirmed that they had access to the technology to watch either a video cassette or DVD. The type of equipment available to the participants is shown in *Figure 1*.

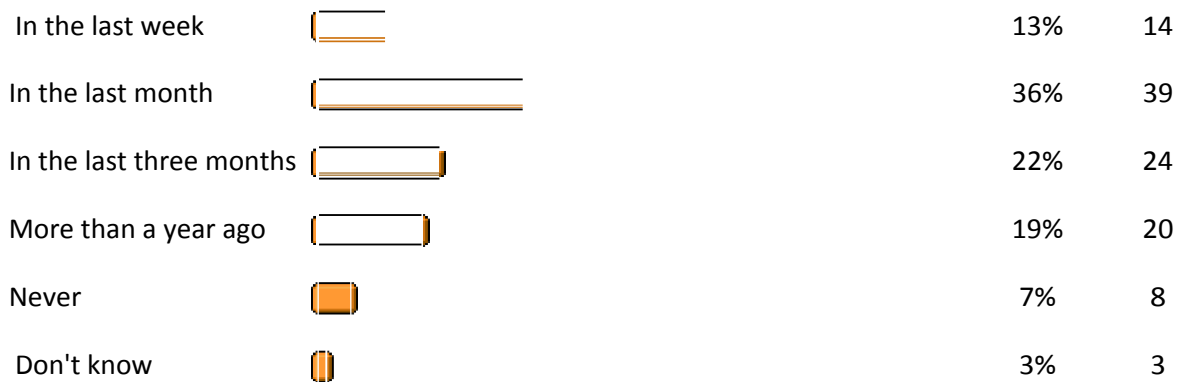
Figure 1: Type of media available to respondents (n=108)



4.1.7.2 The participants' DVD and video purchasing habits were examined, with the overwhelming majority having made a purchase in at least the last three months and a strong indication within that of those who had purchased more recently. In terms of the number of DVDs purchased, the majority had purchased fewer than ten in the previous year. It therefore seemed reasonable to conclude that video was familiar to and well used by the participants (see *Figure 2*).

Figure 2: Proportion of respondents who had purchased a DVD or video

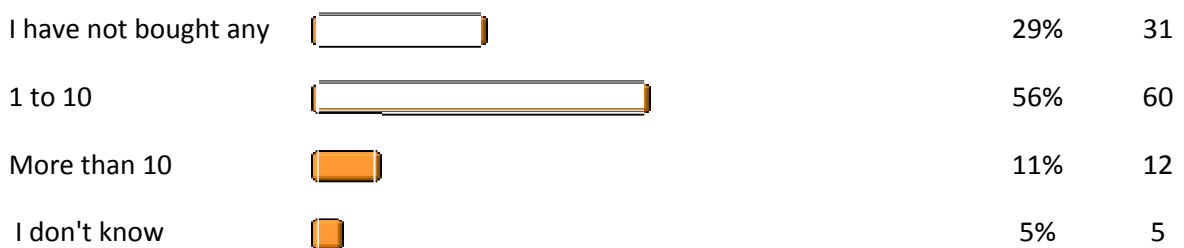
When did you last buy a DVD or Video?



More than two thirds had bought a DVD or video in the past year (see *Figure 3*).

Figure 3: Number of DVDs or videos purchased by respondents in the past year

How many DVDs or videos have you bought altogether this year?



4.1.7.3 Almost two thirds of the respondents said they had bought or rented an educational DVD or video in the past year and 55 of the 108 respondents had bought or rented a video or DVD on autism and a further 16 people had considered buying one (see *Figure 4*).

Figure 4: Number of respondents who had bought or rented an educational DVD or video or a video/DVD on autism or had considered buying a DVD/video on autism

Have you ever bought or rented an educational DVD or video (this includes borrowing from a library)?

Yes	64%	69
No	36%	39

Have you ever bought or rented a DVD/Video about autism or related issues?

Yes	51%	55
No	49%	53

6. Have you ever considered buying an Educational DVD/video or a DVD/video about autism or related issues?

Yes	66%	71
No	34%	37

The factors influencing their purchase of DVDs and videos are shown in *Figure 6*. It based on a Likert scale ranking of importance, with 1 representing the least important. There were

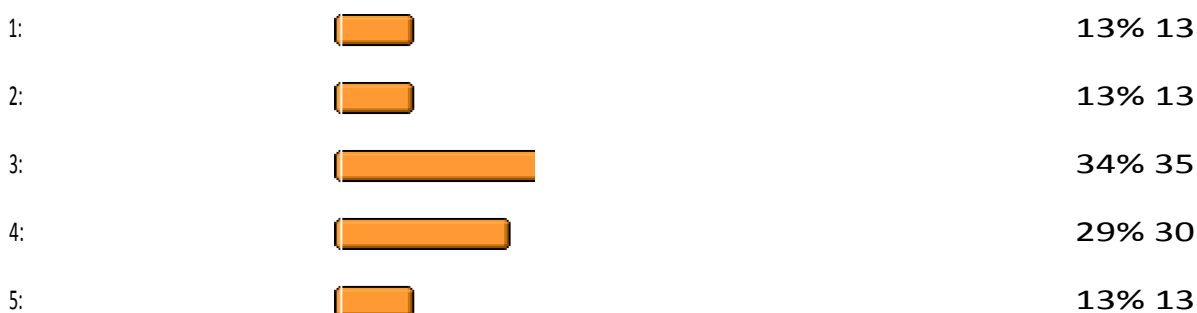
no clear cut determinants with a spread of responses across the factors. It appeared that personal recommendation was the most significant influencer as a whole. Price was influential but not of the greatest priority. Similarly reviews in either autism specific or non-specific media were not the greatest influencer and indeed of negative significance for a proportion of the respondents. The content and consideration for the audience was deemed to be important. Comments from respondents are given below and grouped by topic. It may well be that the high proportion of students in the sample had some influence upon the responses.

It is worth noting as elsewhere that the relative maturity of the sample and high proportion of students amongst the participant population, due to the inevitable nature of the self selection process, might mean that this figure is skewed for a wider less educated population.

Figure 5: Factors which influenced their purchase of DVDs and videos

If you were to buy an educational DVD/Video, what would influence your choice? Please rank in order of importance.

Price. 1 = least important, 5 = most important



A good review in an autism magazine. 1 = least important, 5 = most important



5:  10% 10

Reading about it on the Internet. 1 = least important, 5 = most important

1:  10% 11

2:  15% 16

3:  32% 34

4:  35% 37

5:  8% 8

Coverage in non autism specific media (eg. TV, newspaper, radio). 1 = least important, 5 = most important

1:  14% 14

2:  26% 26

3:  34% 34

4:  18% 18

5:  9% 9

Recommendation from a teacher or other professional.. 1 = least important, 5 = most important

1:  14% 15

2:  10% 10

3:  28% 29

4:  23% 24

5:  25% 26

.

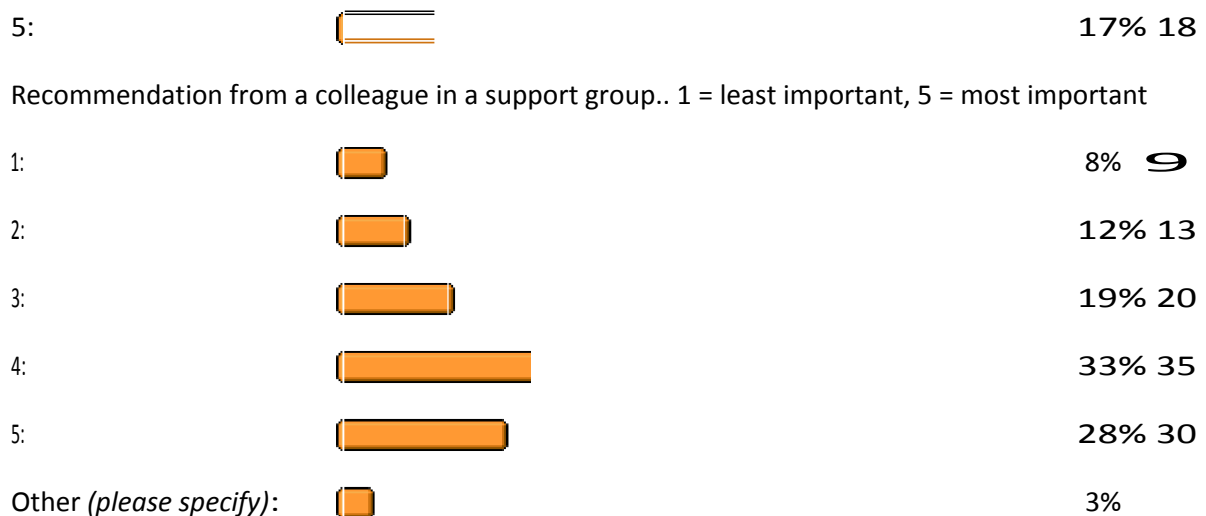
Recommendation from a friend of family 1 = least important, 5 = most important

1:  16% 17

2:  13% 14

3:  21% 22

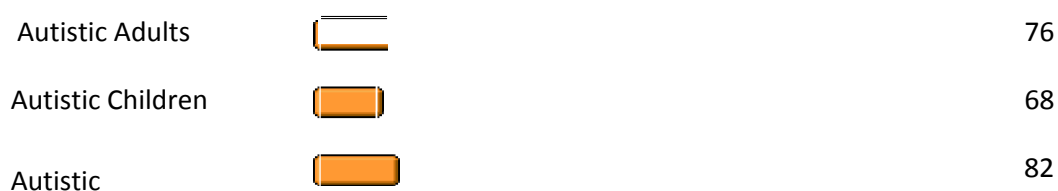
4:  32% 34






4.1.7.4 Respondents' views on the target audience

Although the focus of this study was on the use of video addressed specifically towards an autistic audience, it was nonetheless considered worthwhile to investigate what other target groups the participants might wish to influence and educate through the medium of video. From the selection of possibilities given in the questionnaire, all of the categories mentioned in the table were popular (apart from "other"), with well over half of the participants favouring these. Amongst these, educational professionals and parents formed the favourite target audience for the participants (see *Figure 6*).

Figure 6: Respondents' views on whom the videos on autism should be targeted



Teens/adolescents		
Educational professionals. (e.g. school teachers, classroom assistants, college support staff.)		94
Social work/psychology professionals		83
Employers		73
Parents		88

4.1.7.5 As can be seen from *Figure 6*, at least two thirds considered that all possible

audiences were relevant and a number specifically cited “*the general public*”, “*the broader public*” and “*everybody*”. However, several mentioned that there should be different videos for different intended audiences.

4.1.7.6 Some were more specific. For instance, Barbara commented:

“It would be nice to have a series with one main video and then specific add on ones for different audiencesI imagine it would be difficult to have one video to suit all audiences. Also, it'd be useful for educating the extended family.”

Davina wrote:

“I picked all of the above. Children would benefit from videos about the usual things that children would be interested in. Adults could learn things geared to adults like budgeting, relationships, work, housing, etc. Professionals and parents could really use a video that educates them about the perspective of autistic people and how to appropriate work with them (i.e: listen to autistics for a change). Employers could also stand to look past the stereotypes and learn about the many qualities autistic people can bring to the work place, as well as some of the accommodations that might be needed.”

Others had specific reasons for an inclusive audience, as Jo instanced:

“in order to lessen the chances of assumptions”. Norman added: “Anyone with a concern about minority rights/diversity/human rights issues” and Edward specified “anyone else who impacts public policy choices..... While the public

remains as generally ignorant about autism as it is, educating almost any audience would help."

4.1.7.7 Some participants were more explicit, citing specific examples listed here:

- *"Care Workers - support staff, Police & Emergency Services."*
- *"Police, fire, rescue, emergency, medical."*
- *"Medical professionals.", "Network TV."*
- *"Policy writers."*
- *"Medical doctors, psychotherapists."*
- *"School administrators. Cops."*
- *"All health care staff - doctors, nurses, fundholders (PCT staff etc). Media professionals (TV, radio and print).*
- *"Nurses and other "front-line" health professionals"*
- *" Police Officers Probation Officers Magistrates Prison Officers Solicitors Barristers Judges Members of Parliament" "Public safety and transit officials, doctors and dentists shopkeepers interested in making shopping environment more appealing or useable."*

4.1.8 Video materials needed for self and family

4.1.8.1 Respondents were asked whether video for family members would be useful.

Jean said it would be useful for "other family members (e.g. siblings; typical children, especially those who have autistic peers in their communities and/or schools)."

Karen thought of the autistic person him or herself:

"The child itself, a video showing children of similar age and type."

as did Lena:

"The newly diagnosed, regardless of age (obviously different ages have different needs). also service providers and General Public type career people who might run into autistics, and law enforcement sorts."

4.1.8.2 Of particular note with regard to the researcher's choice of three of the edited

video segments used in the study, some of the participants reflected the need for the autistic perspective *"as a counter to prevailing norms"* as Judith put it, adding further:

"It would be nice to have access to a video that showed autistic people as people who have a certain way of being as opposed to being people in need of a fix-that we will never be neurotypical (whatever that is), we will never feel neurotypical, and that acceptance is as important as the things we learn to cope and work in the world."

4.1.9 Consideration of different kinds of content for different audiences

4.1.9.1 As one might expect from the earlier comments where the participants opined that

the content of the video should vary according to the audience, several had something specific to say on whether different videos were needed for different audiences. For instance, Geraldine commented:

"Depends on the focus of the video, but I think that generally video is the most powerful tool we have to offer insight into the lives of families who live with autism. It is also an essential tool for learning. It is how my son learnt to talk (albeit with an American accent!)"

and Rita said:

"The same video wouldn't be suitable for all in my opinion. If you assume different materials then all groups could benefit."

Brenda added:

"If you mean a video to tell people what autism is, then d,e,f,g.²⁷ (If you mean to

27

d. Educational professionals. (e.g. school teachers, classroom assistants, college support staff.):

explain how autism affects your life and coping strategies, then any of above (categories)”.

4.1.9.2 It is quite clear from these comments that a number of the participants saw the potential of video in more general terms than those under consideration in this study; a reflection of the view that there is much that needs to be done in terms of raising awareness of autism from either the autistic individual or the parent’s perspective to a wide number of groups that are likely to have an impact on the lives of the participants and their families. Gillian summed up the need for targeting succinctly,

“The ones who know the least need it the most. :)” ,

whilst Cheryl commented controversially:

“I don't think autism is a useful category. The idea of educating people about it sounds patronising, and since videos can only deal with a few people or viewpoints or aspects of what is deemed autism, it is likely to increase stereotypes and prejudice”.

4.1.9.3 Of greater relevance to the question of the effectiveness of video would be the specific content of the video itself beyond its subject matter. That is to say the means by which the video is presented to the audience in terms of who is giving the message and what particular tone is used to deliver it. The participants were presented with a number of possible desirable features that emerged from

-
- e. Social work/psychology professionals.:
 - f. Employers.:
 - g. Parents:

consideration of the pilot survey.

4.1.10 Factors influencing the choice of DVDs and videos bought

4.1.10.1 Disability Rights and attitude portrayed in video materials

4.1.10.2 Disability rights and the attitude portrayed by video content towards autistic people

came out strongly in the comments:

“Information about the video's attitude to disability issues, as gained from cover, title, reviews, online info about author/director, etc - desired attitude would be social model approach, neurodiversity and autism acceptance (i.e. anti-"cure", anti-chelation, anti-ABA, anti-institutions, etc.), involvement of autistic adults presenting their own views and information as primary sources and autistic people seen as the "experts" on autism rather than non-autistic professionals” (Norman).

Davina concurred:

“The video/DVD would need to be respectful towards autistic people and not centred on this push for them to be "normal". It should be appealing, respectful and aware of an autistic's high intelligence (not condescending in other words)”

as did Kate and Caitlin:

“Whether it has disability rights stuff - I am not interested in the standard 'autism education' things but in stuff examining discrimination issues or challenging stereotypes, or maybe a personal account by an autistic person” (Kate).

“Whether it treated autistics as autonomous equals” (Caitlin).

Sandra, however, considered:

“Purpose of the DVD -- whether it will be important (within the context of the advocacy movement) to know its contents.”

4.1.11 Autistic specific perspective

In addition to the content itself, a number of participants expressed the view that an author with personal knowledge and a particular stance on autism would have a different outlook to another. Likewise, the individual featured in the video may influence the decision to view or not. Comments made included:

“The content. Who made it, what point of view it was about, if I thought it would be entertaining. The packaging and blurb” (Cheryl).

“My level of trust in the originator.” (Peter).

“Knowing the person who produced it, or the people who are in it.” (Beth).

“If I knew the producer or was interested in the subject.” (Mary).

“What else do I know about the person and/or organization that made the video?” (Christine)

“Who had produced the video - their background and experience - and who had funded it.” (Vicky).

“Who's in it (I hate stuff endorsed by celebs, unless they themselves have been affected by what they are endorsing!) I'd be more likely to be interested if it was sponsored or made by NAS or similar” (Barbara).

“Specifically the viewpoints of autistic adults--those who can give their viewpoints--via any means possible.” (Rachel).

*“ My opinion is that there should be more input from autistic people themselves than from professionals talking *about* autistic people.” (Tom).*

“ Respect for the autistic difference humour, facts not stereotype” (Gina).

“ Autistic advocacy (note: actually by autistics)” (Lotte).

“Autistic included at all stages as equal participants” (Caitlin).

4.1.11.1 Others were knowledgeable about the social model of disability (Oliver, 1990). For

instance, Norman commented:

“Presentation of autism within a framework of the social model of disability - no elitism, no segregationism, no medicalisation. Representation of as full a spectrum as possible of autistic people's communication methods and styles. Content focusing on the lack of accommodation for autistic people from society rather than the "deficit" in the individual.”

4.1.12 Relevance

Some said that the video would also have to be relevant to the viewer's situation

and interests, as Malcolm and Charlotte commented:

“How relevant to my own interests. I do not watch or read anything that does not interest me. I cannot focus or concentrate on stuff that is not within my sphere of interest” (Malcolm).

“Content - and age appropriateness + specific guidelines about which part of the spectrum it was targeted at” (Charlotte).

4.1.12.1 Cheryl had an interesting disability rights perspective based upon what is more

usually the realm of television documentary or news 'exposure' footage:

“I would like to see documentary evidence of the abuse that goes on in group homes, and of discrimination in action”,

whilst Laura was critical of the prevailing norms of the videos about autism that she was familiar with:

“Not the same old news about the challenges - focus on how to overcome the challenge, adjust or accommodate for the challenge, change the situation/environment in support of the person, model appropriate reactions and responses and how to be supportive - people are clueless, etc.

4.1.12.2 Stereotyping was also the concern of other participants such as Jo:

“Give a variety of examples, e.g. don't just show all young lads or children under the age of five.”

Jean and Musa were concerned about the practical applications of the video, that it should contain

“ practical advice/solutions/information” (Jean)

“some theoretical or practical aspect of autism which I believed would be worth learning about.” (Musa).

‘Being Me’ for instance would appear to fulfil several of the desirable criteria given in the numerous comments above.

This was echoed by others who added *“coverage matter”*, *“who produced it”* and *“level”*.

4.1.12.3 The user perspective has proved to be particularly interesting and informative and is discussed further in Chapter 5. However, from the perspective of an emancipatory paradigm, these comments reflect upon the importance with which the participants as exemplars of autistic people and their families regarded the question of an authentic voice representing that community and its views. This may be seen in contrast to the attitudes expressed in the output of those groups such as Autism Speaks who often problematize autism in terms of a disease epidemic to be cured. There have been a number of perspectives not only regarding the causations of autism (as will be outlined later) but in terms of what kind of societal remediation there should be with regard to the hypothesised ‘problem’ of autism. These include reliance on ‘science’ and research to provide a medically based “cure” thus perhaps obviating the need for a specific approach to educating autistic

people who would cease to exist as a category. This is the approach to education in Hungary which produced Conductive Education for people with Cerebral Palsy as, in effect, one of the preconditions for education in a mainstream school setting was that they could be ambulant. Needless to say this research takes the position that autistic people (and by further inference, disabled people) are as the researcher's late mother often said in her public speaking , *'like the biblical poor, a category who will always be with us'* and therefore an inclusive approach to education is what is necessary.

4.1.12.4 That is not to say that there do not remain considerable debates about the desirability of inclusion. The premise that autistic people should have a right to autonomy, as suggested by Charlotte, can form an important part in both peer education, as examples of an impaired group of individuals reconsidering the notion of how they are regarded within the medical gaze speaking to others who have yet to be introduced to that perspective, or of a persuasive population speaking to those who have influence over their lives. Both of these positions are crucial for many autistic people.

4.1.13 Views on the desirable characteristics of a video aimed at autistic people

The participants were asked a question regarding the desirable characteristics of an educational video/DVD about autism. These were ranked in descending order of

popularity (see *Figure 7*).

Figure 7: Desirable characteristics of a video/DVD aimed at autistic people

Characteristic	Number of respondents
Simple and clear language	65
Lots of pictures	44
Entertainment value	28
Special interest	29
Autistic people involved	96
Professional input	40
Parental input	33
Real life situations and examples	99
Other (<i>please specify</i>)	24

4.1.13.1 Of all of these, the first two were of almost universal importance, with no category being viewed as unimportant by less than a quarter of the respondents.

Respondents were also given the opportunity to comment freely on what they each considered important. For instance, several participants mentioned the importance of *“A subtitle track available, particularly if it **is** aimed at an autistic audience.”*

The desirability of captioning or subtitles is an appropriate consideration regarding the monotropic hypothesis (Murray & Lesser, n.d.) considered elsewhere in this thesis. Autistic people have difficulty in attending to the body language of a speaker and the content of the speech at the same time, looking perhaps at the mouth to extract more context and precision against the possible background noise or soundtrack, as hinted at in Klin’s (Klin, et al., 2002) study.

4.1.13.2 With regard to a musical soundtrack, Chloe was specific about her choice of preference:

“Decent, non-soppy music. I like rock”.

Whilst that might not be universal, it is a valid comment based on the experience of the mood music that often accompanies videos of a serious intent dealing with the subject matter of ‘disability’ as observed by the researcher (Whichever Way you look at it it's still Autism, 2005) in his deconstruction of cure-focused video. *“Precise language”* (Fred) and the cadence of the video were understandably instanced by a number of participants who were concerned that an autistic audience can be expected to have deficits in the understanding of language either through ambiguity or the presentation of too much information at too rapid a pace.

Davina commented:

“I would say logical thought rather than simple and clear language (Simple and clear makes me think too much of condescending language...I could be misinterpreting though)”,

as did Lisa:

“Slow down and don’t use so much speech that the pictures/film with it have lost its relevance or taken on a new relevance.”

“The information to be aimed at an appropriate level for the audience. Too little or biased info can have a very negative impact on the use viewing/their perception of individuals with an ASD. The information could be delivered in a way that the viewer can understand it through their preferred/required way of processing the information. This could be just visual, just audio, written words etc. The way the viewer interacts with the film could be on their terms and not an overload of unnecessary input which distracts them from being able to gather the information. (if this is possible)” (Janet).

4.1.13.3 Judith, however, qualified this somewhat:

“While simple and clear language might be accessible to a larger and more diverse group of people, as an adult, I want more information, both clinical and practical. Clear language is important, but I'm tired of dumbed down videos”.

and Charlotte suggested,

“Visual examples that explain a point that has just been put over (e.g. Temple Grandin in a programme explained how her brain processes info - after Francesca Happé spoke the technical stuff) a great way to put the hard stuff into real terms. Would be nice to see more classically autistic adults used too”.

4.1.13.4 This is particularly noteworthy when considered in the second stage of this study

where one of the segments of video presented goes precisely against this advice.

Only one participant (Karl) commented in any detail about professionalism or production values.

“Really good production values. Nothing second rate or amateurish. Subtitles “ adding “I'd probably get something politics related as I normally don't get educational DVDs. If it stood out as a documentary or informative video in its own right for instance something like "Enron: The Smartest Guys in the Room , Aileen: Life and Death of a serial killer" or Space Race or timewatch. Also while maybe it would explain concepts it wouldn't be insulting to my intelligence. Also smart presentation and good production values”.

4.1.14 Caveat about the responses given in the first questionnaire

4.1.14.1 Whilst the response to the first questionnaire was four times greater than the

number of participants who undertook the second stage, it is still a relatively small survey in terms of the potential population. Despite the usual caveats regarding the possibility of a small sample size being skewed by its selection characteristics, favouring a largely educated, English-speaking base population who clearly have a self interest in participating, compared to say the analysis of data gleaned from truly random sampling (if such a method were possible or even ethical using the

Internet)²⁸, this is still an important study from the qualitative perspective of considering the individual responses in the context of what else is known about that population or more to the point what is only assumed but not actually known. Whilst from an empirical perspective this questionnaire asked only about perceptions of videos, the second stage of the study explores some of the general assumptions about content, clarity and language against actual video examples with the participants' reactions to these.

4.1.14.2 The information gathered through this questionnaire insofar as it gave voice to certain concerns, which may well be more generally held, does, when triangulated with the more specific data of the second stage of the study, allow some important conclusions to be drawn as are detailed in Chapter 5. It is clear from this particular data set that there is a message coming through about respect for autistic people, something not seen in the videos produced by organisations such as Autism Speaks, (Willingham, 2013) to elicit funding for research. The comments would also seem to indicate that besides the autistic audiences who can benefit from video to teach them about themselves and their own world, there is an equal need to carry that message to the wider community of people who will be meeting autistics in their work, be that as first responders, educators, in health care or in the supermarket. That is not the remit of this particular study however, which aims to examine whether video has particular recommendations for use with an autistic audience.

²⁸ Given the number of unauthorised mailings via commercially acquired lists (so called spam) and the antipathy towards it, any random mailing would likely be treated with suspicion.

4.1.14.3 From that perspective, this first questionnaire indicated that there is a video buying public which consists of autistic people and their families who have preferences, opinions and ideas as to what kind of content they individually consider to be important factors. Some of this is clearly aligned with their knowledge of autistic difficulties surrounding language, sensory overload and interests. Respect for autistic people can be shown in more than just the way material is presented as actually intelligible and useful to the audience. Other factors are important such as the way in which the audience of autistic people is generally perceived, not as a pathetic and pathologised group of broken or inferior people to be fixed, but as human beings who have particular needs and cognitive preferences that must be catered for if a video is to truly achieve its objectives with that audience. In all, the data, subjective though it is, can be considered for what it adds to the second stage of the study, as a form of triangulation, or at least the surveyor's 'datum' (base line).

4.2 Impact of the first questionnaire on the second stage of the research.

4.2.1.1 Whilst data collection was ongoing and analysis anything but complete during the selection and editing stages of the four video segments, the impact of some of the comments could still be considered with respect to the material eventually selected and how closely that matched either the anticipated or stated requirements of the participants.

4.2.2 Out and About video segment

Whilst this clearly met some of the criteria based on simplicity and clarity of its language and presentation (reinforcement with practical illustration and example), and served a practical purpose in terms of a didactic about everyday living skills, the video did not meet the more subtle criteria evinced by several of the commentators such as including an emancipatory disability rights perspective, incorporating first hand narrative and showing people identified as being autistic themselves. This is all examined in more detail in terms of the respondents' comments given in the second questionnaire. However, it is somewhat inevitable that the video would fail on several of these, given that it was not a video targeted solely or specifically at an autistic audience.

4.2.3 Outside In video segment

4.2.3.1 '*Outside In*' could be seen to fare somewhat better from the perspective of including autistic adults. However, as will be seen from the more specific comments, it could be regarded as failing to embrace a sufficiently 'disability rights' oriented objective in that it begins with a somewhat clinical narrative of autism and might appear to concentrate overly on the deficits of the individuals without offering clear solutions. It is a characteristic that could also be attributed to the larger, unedited production video itself.

4.2.4 Being Me video segment

4.2.4.1 *Being Me* on the other hand fulfilled a number of the participants' desiderata, in that it is clear that the narrative comes from autistic people, specifically adults, talking about real life experiences and problems and offering solutions in a non-judgemental way. Where it does fall down is on production values. Although this is something that only one participant commented on in detail, it is evident to the researcher in a professional capacity. These poor production values also tend to mitigate against the overall clarity of the film. However, as will be seen in the next part of this chapter, the participants were not as concerned about this as the researcher had expected them to be.

4.2.5 Artistic Autistics video segment

4.2.5.1 In terms of its emancipatory content, production by and for, and including autistic individuals, the entire piece can be considered to exactly match these criteria. The entire piece however, was not considered for editing - only one small segment of it - which fails on some of the desiderata in that its avowedly artistic artifice leads to some confusion.

4.3 Findings from the second stage of the study

4.3.1.1 This section begins with a brief consideration of the participant characteristics for the group who went on to take part in the second part of the study and considers

what kind of questions arise from the data. Details of the reasoning behind the choice of questions is given, followed by the in-depth analysis of the rich qualitative data which ensued. Having dealt with the qualitative analysis, there is a more speculative section dealing with the possibilities and pragmatic difficulties of using the quantitative data that were also produced in the process. There is a more detailed critique of statistical approaches and analysis of the data in general in the final chapter of this thesis.

4.3.2 Participant characteristics in the second stage of the study

4.3.2.1 Of the 108 participants who completed the recruitment questionnaire, 68 indicated a willingness to be included in a further study. Whilst the data do not provide the number of those who actually attempted the second stage of the study, only 17 went on to complete it. Eight of these had diagnoses of autism, Asperger syndrome or an autistic spectrum diagnosis from a clinical professional. Nine did not have a diagnosis. Of that nine, four answered positively to the following question:

“I have not been diagnosed but I consider on reflection that I have sufficient autistic characteristics to merit a diagnosis if I were to seek one”.

4.3.2.2 For the purposes of the study, they were therefore regarded as self-diagnosed. The five non- autistic participants therefore served as a comparison set for the diagnosed individuals, with the consideration that if there were major differences between the responses made by the autistic and non-autistic groups, the responses from the ‘self- diagnosed group’ might fall closer to one or other of those groups, giving some indication of the accuracy of self-diagnosis.

Table 6: Gender ratio of the respondents who took part in Stage Two of the study (n=17)

Diagnostic status	4.3.3 Gender		
	M	F	Other
Diagnosed	3	5	-
Self diagnosed	2	2	-
Non autistic	-	5	-
Totals	5	12	-

4.3.3.1 The questions considered were:

- Would a group of people diagnosed with an autistic spectrum condition be significantly different in their responses to a group of non-autistic individuals?
- Would a “self-diagnosed group” be significantly similar to the diagnosed autistic group and different from the non-autistic group or vice versa?
- Would the self-diagnosed group be sufficiently different in their responses from either of the other groups to be considered a discrete category?

4.3.4 **Technical analysis of the data:**

4.3.4.1 The spreadsheet was broken down into questions relating to each video segment

for comparison. The questions were scored as any test of recollection might be, according to the following categories:

- Wrong or missing
- Partially correct
- Satisfactory
- Accurate, for instance more information given than a merely satisfactory answer

4.3.4.2 The questions were designed to elicit the three separate kinds of response given in the next section, although some of the questions were framed in such a way that they could be used to investigate more than one type of response. An overall score for each participant was calculated. The scoring of the answers was necessarily interpretative; an issue discussed later and determined by the researcher's judgement of how much information could be drawn from each question. The scores were also broken down into a sub score for each category of participant, (ie. autistic, self diagnosed, and non autistic) to allow each group to be statistically compared should there be sufficient responses for this.

4.3.4.3 The spreadsheet was colour coded to assist the researcher (himself a visual thinker) in comparing the different categories of each of the questions and was also grouped according to the categories of participant - autistic diagnosed, autistic self-diagnosed, and declared non-autistic groups. It was anticipated that the analysis of the data by both qualitative and quantitative (in the event of a sufficient sample size) methodologies would throw further light on the accuracy of some of the theoretical bases of autism discussed earlier. For example, one of the groups might have demonstrated a characteristic difference from the others that would appear if the scores were aggregated using standard statistical techniques, a difference which might have been due to weak central coherence, poor theory of mind or any of the other suggested distinguishing features of autism according to the theories discussed in the literature review.

4.3.4.4 This would be beyond the idea that the data would not only be sufficient to distinguish a significant difference between autistic and non-autistic scores, making it evident from the data whether the group who had not been diagnosed as autistic but nonetheless suspected they could be, would be equally distinguishable in so far as which of the other two groups it shared its characteristics with.

4.3.4.5 Whilst such an ambitious approach might show promise with a sufficiently large sample, it has to be treated with caution in this study, as is discussed in the next chapter in more detail. For example, if one considered any of the questions that ask the participants to discern some particular background detail as in Question 13 on the first segment.

“There are two scenes where Duncan phones Krishan up to wake him, can you name two differences between the scenes?”

or Question 21 on a later segment :

“For each of the two participants, name five visual features that you observed about the background they were filmed against”,

4.3.4.6 One might be able to discern from the better performance of one group against the other that there was evidence for a particular theory. That is to say, because of weak central coherence (Happé, 1999), the autistic group would score higher on the cognitive tasks. Similarly, if one examines the responses to the questions that assume consideration of the thought states of people in the video or the original intentions of the director, it may be possible to conclude that there are considerable deficits in theory of mind (Baron-Cohen, 1997) of the autistic contra the non- autistic respondents. By virtue of diagnostic criteria themselves, which posit social deficit in autistic people, autistic people would be expected to score lower on those questions which called upon them to exercise their judgement on the motives of the film’s director, in other words those questions which come

under the heading of ‘interpretative’ for this study.

4.3.4.7 However, as it was clear that the sample size for this study would not be large

enough, the qualitative data was relied upon to a greater extent to decide whether

such differences did in fact appear to exist and what could be interpreted from that.

4.3.4.8 **Table 7:** Details of the participants involved in the second stage whose responses are directly quoted in this thesis (n=15)

Pseudonym	Age group	Diagnostic Status	Occupation	Nationality	AQ score cut off is above 32	EQ score Cut off is below 30
Anne	41-45	Non autistic	Parent	British	Not done	Not done
Beth	46-60	Non autistic	Parent		30	20
Charlotte	51 - 55	Non autistic	Parent	English	Not done	Not done
Denise	51 -55	Non autistic	Parent	American	23	26
Edward	41 -46	Self diagnosed			34	8
Frances		Self diagnosed			29	17
George		Self diagnosed			Not done	Not done
Heather	31 - 35	Autistic	Parent		Not done	Not done
Irene	31 - 35	Autistic	Parent		Not done	Not done
John	41 - 45	Autistic			Not done	Not done
Kate	16 - 20	Autistic		Canadian	27	23
Leonard	55 - 60	Autistic			38	18
Mary	26 - 30	Autistic		British	35	22
Norman		Autistic		British	37	14
Olivia		Non autistic		British	15	20

4.3.4.9 Some selection of the most appropriate comments to illustrate the findings has been necessary and some rigorous editing to avoid including too much, in the event only 15 of the participants have been quoted as being those who wrote most.

4.4 Detailed analysis of the responses to each video segment in turn.

4.4.1.1 To recap what was stated in the Methodology in Chapter 3, questions were framed in three, not necessarily mutually exclusive, ways to elicit different kinds of information about the participants' responses to the four video segments. This section goes deeper into the analysis and explains some of the reasoning behind the questions themselves. Wherever possible, the researcher has used participants' direct quotations and own words to illustrate the analysis. This is a core value in maintaining that the research is considered as fully emancipatory in spirit and in keeping with the philosophy of constructivist grounded research (Charmaz, 2006). The researcher recognises the need to summarise, however fears that something of the original spirit can be lost if this goes too far. This is particularly the case where the researcher's own phrasing and necessarily academic tone of discourse could be at odds with the unadulterated raw output of the participants as they respond to each question in turn. This sometimes adds surprising results and forms of language that would not ordinarily be voiced in academic research. It is also the case that dangers can arise from the act of selection and summary, in that although this is a conscious choice of eliminating repetition or limiting the length of the discourse where it grows unwieldy, there is the ever present danger of introducing an unconscious bias in favour of what the researcher prefers to say, rather than what

has actually been said. The researcher would rather err in the direction of the repetitive and verbose.

4.4.1.2 The researcher's personal involvement with the production of two of the videos was beneficial in terms of framing the questions to have an understanding of the intentions of the authors of these respective segments. In the case of "*Outside In*" and "*Being Me*", however, more close up interaction is seen. In either case, too close attention to the 'mise en scene', or particular visual 'attractors' might be considered to represent a countervailing pressure on the attention system of the viewer, contributing nothing to the essential message.

4.4.1.3 From the researcher's knowledge of the background to "*Outside In*", it was the case that "mise en scene" was considered an important factor; the director having been trained in that particular tradition of video construction. The appearance of the autistic students in a naturalistic and real life background was considered important, however this necessitated running a narrative (spoken by the participants and prompted by the director and recorded elsewhere) over the top as having them speak directly to the camera would have interrupted the naturalism.

4.4.2 **Out and About video**

4.4.2.1 In '*Out and About*', some of the important information was contained in the visual format, reinforcing the message showing either a close up or cutaway. For example, when Krishan (one of the characters) is washing his clothes, it is important to convey the message that there is a correct amount of powder to be put in, and when Anna is boiling an egg, equally to emphasise what setting the cooker is on. This is important background information. However, to the observant, there are

other details that could be picked up peripherally such as the name on Krishan's cooker or the colour of the plug on Anna's toaster. This is not relevant information. However, going back to the original notion of a difference in cognitive styles between the autistic and non- autistic audiences, it might be considered that an autistic viewer with strong local coherence would find such details easier to focus on whether they were relevant or not.

4.4.2.2 *Out and About* also accidentally afforded the viewer the chance to 'spot the difference' in that there were scenes recapping parts of the action in summary that were clearly not filmed contemporaneously with the other material and contained subtle differences. It was considered that autistic people may have a greater ability to detect these differences given that dislike of change and acute powers of observation are fundamental traits of autism.

4.4.2.3 Examples of the questions are given below with the reasoning behind them

4.4.2.4 **The questions:**

4.4.2.5 "*Krishan puts half a cup of powder in the washing machine, on the package it tells you how much this is, what is the quantity?*" and "*What level does Anna set the cooker at?*" can be seen as important didactic ones. It is important in doing these tasks, that these quantities are observed and recalled for future reference.

4.4.2.6 However, the questions: "*What is the name on Krishan's cooker?*" and "*What colour is the plug on Anna's toaster?*" are not relevant to the didactic and attention is not being drawn to them. Therefore if these are recalled that might indicate an alternate focus to peripheral or background information.

4.4.2.7 In asking the question, *“There are two scenes where Duncan phones Krishan up to wake him, can you name two differences between the scenes?”* there is more than one interpretation that can be drawn. The participants were also asked why they thought the scenes were different as that would reveal something of how the participants thought the narrative was constructed.

4.4.2.8 The researcher has little doubt that the questions he set to test superior observation and discrimination of detail from the background were difficult and this was remarked upon by some of the participants from both groups. The researcher also knew the content of the videos very well and so is likely to have picked up on details and meanings that the participants who only watched it once or twice might have missed.

4.4.2.9 It can also be noted again as a piece of constructivist grounded research that the researcher was being informed as much through the participants’ responses to the task itself as by the interpretations that were constructed from their answers. Taking for instance the ability to even make the observations, one can take Edward’s remark which illustrates the difficulty from the participant’s perspective. He states:

“The video format was too small to read (on 2nd viewing with larger format, saw Whirlpool)”.

4.4.2.10 The researcher however, was satisfied that providing a variety of formats was sufficient to get around the problem. He had tested every observation to be asked

at the smallest format that he was himself able to observe all of the details that were requested. It has to be understood that availability of broadband has increased during and since the formulation of these questions but the researcher had to work within the limits available at the time. On reflection, the researcher may have been demanding more of the participants' concentration for the smaller format than would be considered necessary today.

4.4.2.11 **Taking the questions individually,**

4.4.2.12 The first question asked , “ *What was the name on the cooker?*” and contained semantic information. Only two of the non- autistic participants even attempted this and only one person was correct. Significantly perhaps, they were the only person to have viewed the segment twice. Similarly, only four of the self- diagnosed group attempted the question but all who did were correct. No-one who had revealed that they had viewed the segment only once was correct. This would have been a very difficult element for anyone to recall on a single viewing and the ability to prime one's focus for a second attempt would be valuable. Although in this very small sample, the autistic participants scored better, it is not possible to say that is because they have more ability to take in peripheral data (fewer filters) or that they succeeded because they were more willing to make more than one attempt having primed the focus of their attention.

4.4.2.13 The second question required the viewers to recall a colour on a feature that had nothing whatsoever to do with the narrative and was truly peripheral. Surprisingly, as many non- autistic as autistic participants got this right. Perhaps for all of the

participants this was less cognitively demanding than it appeared, although Irene, one of the autistic participants, commented: *“I have no idea, I was looking at the purple flowers.”* This participant only viewed once, perhaps giving credence to selective interest distraction that could have been counteracted by a second viewing. As it turns out with another segment, she was an exceptionally skilled observer. Another interesting curiosity was a slight reversal in those who got the first right, getting the second wrong and vice versa. There may be some subtle cognitive reason for this but the researcher can only speculate about that.

4.4.2.14 The third question asked for a quantity, which was relevant to the message of the segment but again not many got this right and all who did were autistic. Edward, who found the video too small²⁹ complained again that it was: *“too small to read details, is it not half a cup?”* The researcher accepts that whether one has a bias for semantic or purely symbolic information, a number presented briefly in a small sector of the video might be challenging to anybody and so it proved to be. There was a fourth question that was unable to be formally scored as there was a fault with the online form which meant the box could not be completed. Some of the participants (from the autistic cohort) used their initiative to provide the answer elsewhere and were correct. Like the question regarding the plug, the information was simply there in the background but had no relevance to the narrative or the didactic. This was less relevant than the plug, which at least had marginal reference to the use of appliances considering that plugging in is one of a set of sequential

²⁹ Perhaps it would have been beneficial to ask the participants which of the particular video formats they chose to view due to whatever limitations their Internet access and bandwidth may have imposed.

activities necessary for making toast, even if that was not emphasised in the video.

4.4.2.15 There was also a question regarding the level at which the cooker was set, requiring observation of an important piece of information. With regard to the "spot the difference" tasks, nearly all participants performed equally well, which was quite good considering some had only viewed once. At least it demonstrated that their attention was engaged and their short term memory equal to the task. The remainder of the questions concerning the video for the most part concerned information that was either central to the visual narrative or the spoken commentary, with only two of these asking for an interpretation or opinion regarding how the piece had been edited together. The educational import of the video was to instruct the user in the correct sequence of events in preparing for a day ahead, cooking breakfast and washing clothes, as well as the importance of punctuality. This was sufficiently transparent throughout for all groups with no individual scoring lower than 75% on this segment.

4.4.2.16 Unfortunately, some confusion was introduced with the interpretative question concerning the diachronic in that it was repeated. The answers across the two were aggregated. However, the error afforded the researcher an opportunity to observe how the participants coped with this unexpected repetition. The question was scored on the basis that an attempt at the question would score one, as the participant had thought about the process underlying the construction of the video in the order it was presented. A reference to the differences in the diachronic (the technically correct answer) scored two and a maximum of three was scored for a

well thought out explanation of why those differences might have occurred. For example, the answer

“Because we are looking at events from each perspective, as opposed to a straightforward chronological order” (from John, an autistic student), was contrary to strict theory of mind deficit descriptions of autism. His explanation accurately summed up a possible reason, whilst demonstrating the ability to appreciate other perspectives. John was not alone amongst the autistic participants in this ability.

4.4.2.17 Norman, commented very similarly:

“It has been divided up between the 3 characters so that each person's point of view of the events is shown separately, meaning that for the same point in time to be shown from more than one person's viewpoint, it logically has to be at least partly out of sequence.”

In this case Norman has gone one step further than merely acknowledging the perspectives of the actors portrayed to noting the perspective of the video maker too, in that logically it had to be done in the way it was.

4.4.2.18 No non-autistic participant offered anything like the same level of interpretation.

For instance, Beth commented:

“With three people's stories, the video would be too fragmented if it was done strictly in chronological order.”

This was only scored as a two, because although observing a different diachronic, it failed to say anything about perspective.

4.4.2.19 Leonard, an autistic participant, also gave an answer only scored as a two as the

researcher found it to be somewhat confused. He said,

“As in, the three characters' experiences being shown as three continuous sections, although they are occurring in parallel? That is one choice of way to do it, I guess. Why that way, and not another? I don't know - you would need to ask

the director?" This reply had to be aggregated with the second attempt at the same question with a different answer "As in, the first three sections make sense, then they are followed by some oddly partially unrelated sections of video? Might that be just to confuse the viewer?"

4.4.2.20 It appeared that he had spotted the technicalities of the differences but had not been able to come up with a satisfactory answer. This would be an expected response from a classic theory of mind explanation of autism, whereas the higher scoring answers confounded it. Another detail tending to confound this explanation of autism was that the non- autistic participants did not score particularly well on this question either.

4.4.2.21 Beth, the non-autistic participant, scored a two for her answer: *"With three people's stories, the video would be too fragmented if it was done strictly in chronological order"*,

whereas Ann, also non- autistic, scored one with *"To make you think!"* The latter was not informative, equally Denise's (non- autistic) reply: *"The "scientific" explanation might have gone first...the rest as I recall were more humanistic"* was an attempt at an answer but did not seem very satisfactory in terms of an explanation.

Comments such as: *"I don't have an opinion on the sequence"* from Edward, a self-diagnosed autistic, *"Don't know"* or *"Huh?"* indicated that the participant had failed to grasp the point of the question. There were several possible ways to cope with the anomaly of the same question being repeated. One was to ignore it and move to the next, another to use the answer space to draw attention to the error, a third to repeat the same answer in slightly different wording and the fourth, anomalous in itself, to give a different answer. The autistic participant previously quoted with two answers aggregated into one came in the fourth category. Only two (autistic) participants made direct reference to the error.

"This looks like a mistake in the test as it's a repeat of the last question. I'll put the answers for the next question (16) here as there isn't a box to put them in " (Norman).

4.4.2.22 As the analysis progressed, this was not the only question that caused problems for the participants due to errors in constructing the questionnaire. Whilst this was as problematic and disappointing to the researcher as it was to the participants, it may well have turned out to be a boon in disguise as discussed in the summary to this chapter.

4.4.3 *Outside In video*

4.4.3.1 The researcher's personal involvement with this video and particular insight into the motivations of the Director was beneficial in terms of framing the questions. 'Mise en scene' was considered an important factor; the Director having been trained in that particular tradition of video construction. The appearance of the autistic students in a naturalistic and real life background was also considered important. Pragmatically this necessitated running a narrative (spoken by the participants and prompted by the Director and recorded elsewhere) over the top, as having them speak directly to the camera would have interrupted the naturalism.

4.4.3.2 In the case of 'Outside In' and 'Being Me', (the next segment) more close-up interaction is seen. From a theoretical perspective, too much close attention to the 'mise en scene' or particular visual "attractors" might be considered to represent a countervailing pressure on the attention system of the viewer, contributing nothing to the essential message. This in any case was one possible expectation the researcher had if weak central coherence was in operation.

4.4.3.3 In the case of *'Outside In'* however, the 'mise en scene' was intended to convey particular reinforcing messages over the narrative. For instance, where one of the participants is talking about his 'obsession' with films, he is shown against a background in his room which features numerous film posters. The other participants' special interests are also reflected in the choice of setting. This ought to have proved another opportunity to discern the degree to which the viewers paid attention to it and to consider whether such 'mise en scene' as a narrative convention is as effective a reinforcement of the narrative as it is for a non- autistic audience. It might also have something to say about the degree of monotropism or selective attention in the viewer. For instance, many of the questions took the format of "*For each of the two participants, name five visual features that you observed about the background they were filmed against.*"

4.4.3.4 Viewing the next part of the clip posed a different set of challenges, as the segment was particularly about two different individuals' perceptions of their own autism. The educational content of this segment was the provision of an opportunity to discuss the various signs and symptoms of autism and to compare these with the reality as being experienced. In an educational context, the video could be shown to a relatively naive audience who were not aware of why it was the people on the film were diagnosed with 'Asperger syndrome' and what it was they had in common with others who had been similarly diagnosed. The individuals in the video, all real people and not actors, were of different ages but not naive with regard to the impact of the diagnosis on their lives and what it was about them that could be considered 'autistic'.

4.4.3.5 The segment was introduced with a somewhat 'clinical' definition of Asperger syndrome, that offered the opportunity to compare this description with what the presenters experienced themselves. In terms of the study, the segment afforded some opportunities for testing the observational powers of the participants and whether particular details were distracting. The style of the introduction, which was performed, filmed and lit in a particular intentional way also afforded the opportunity to see if this was more transparent to one group than another or if it could be consciously decoded by them, as one might expect with a non-autistic audience to whom a particular hidden semiotic (Mcluhan, 1964) might appeal more.

4.4.3.6 Dealing with this last issue first, Charlotte, one of the non-autistic participants, correctly spotted the lighting technique: "*Half of face in shadow*", also adding pedantically "*pronounced Asperger's incorrectly.*" This seems the kind of response one would expect from an autistic participant if one were matching answers blindly to category of participant. Edward, one of the self- diagnosed participants, had an element of self-doubt about his observational skills and memory but was nonetheless technically correct: "*My memory of him is tilted away and to the left; however, I doubt that is actually in the video.*" This was confirmed by Frances, another of the self- diagnosed participants: "*He wasn't facing the camera face-front*".

4.4.3.7 George, the third self-diagnosed participant, noted that, "*He seemed aggressive*".

This is technically an incorrect response but it would indicate perhaps that the film

technique had an impact on the interpretation in making what was in terms of content and voice delivery a straightforward narrative. The lighting/camera angle technique is one traditionally used in horror movies to unsettle the audience. The researcher believes here that the editor was using this ironically as an unstated comment on the narrative. The Director had a dislike of the clinical approach evidenced in the classic horror or film noir treatment of the narrator in homage to James Whale's *Frankenstein*. In this, prior to the action of the film, a narrator comes on stage to relate,

"I think it will thrill you. It may shock you. It might even - horrify you. So if any of you feel that you do not care to subject your nerves to such a strain, now's your chance to - uh, well, we warned you." (Frankenstein, 1931).

4.4.3.8 Mary, one of the autistic participants, commented: *"He was very close up and appeared to be autistic"*. Another autistic participant, Norman, remarked: *"He was anonymous - the viewer is not told who he is or what authority he has on his subject"*. The former is interesting for the error of attributing a diagnosis and perhaps again it is the technique that creates the impression. The latter answer is the correct one.

4.4.3.9 The educational questions were straightforward tests of listening and memory in that the participants were supposed to take the features of Asperger syndrome as described by the introductory narrator and relate them to each of the two diagnosed individuals in the video. There was a potential problem with this given the way that a large proportion of the sample was drawn from people who either through their own diagnosis or that of family members and being participants in

online fora where autism is discussed, might already have known 'too much' about Asperger syndrome and apply foreknowledge to the question. The correction to this was to ask them to name features taken from the narration only.

4.4.3.10 As expected, the more features the participants were asked to remember and relate, the more difficult it became progressively. What is of major interest is not so much how the different groups performed, but to selectively read from the answers and find information of sociological relevance as to how a group, either autistic or identifying as such, and a non- autistic group might view themselves. This would be likely to condition how each group would see the video. George, one of the self-diagnosed participants, reported feeling angry (he was also the participant who read the hidden message of the narrative delivery as aggressive):

"I am having difficulty remembering as some of the things said made me angry and I can only remember being annoyed and that the man seemed quite aggressive".

4.4.3.11 From the remainder of his answers, this clearly affected his ability to extract a great deal of information from the video, and many questions were answered by a series of "can't remember".

4.4.3.12 With regard to the dilemma of foreknowledge, one diagnosed participant, Kate, honestly observed: *"I have a lot of trouble telling where I've learnt something from and I know a lot about AS already, so may not do this right*" Leonard, another autistic participant, also brought prior knowledge of the Diagnostic and Statistical Manual (op cit) to the questions: *"I went a bit blank, with his mispronunciation of "Asperger's", and can't really be sure which characteristics he named specifically.*

All the classic DSM ones, I believe, rather than anything particularly useful.”

4.4.3.13 Apart from the shared pedantry over correct Austrian pronunciations (which used to be a common fixation on Internet fora, as the researcher recalls) with the non-autistic Charlotte, quoted earlier, Leonard appeared to have firm conclusions about the condition and the value of the diagnostic manual’s traits, which he saw as predominating in the narrator’s perspective of the condition. Although he did not mention perspective-taking in the subsequent question calling for analysis of the visual style, this participant was capable of seeing that there was more than one perspective of AS that could be portrayed. This is counter again to the (Baron-Cohen, 1997) ‘Theory of Mind’ explanation. Leonard seemed quite judgemental elsewhere as well, displaying knowledge of other psychiatric conditions and making attributions according to what he saw, as he wrote:

“I felt that the first participant suffered from OCD³⁰, rather than showing any particular sign of Asperger’s syndrome. AS has some superficially similar obsessional aspects. The two diagnoses can be present simultaneously” and elsewhere: “Ability to reliably organise time. OCD interferes with this, randomly. AS may or may not get timing correct, dependent on how important it is to the person to do so.”

4.4.3.14 The inevitable likelihood with any adult educational endeavour of bringing a perspective and foreknowledge to the task is something the researcher cannot avoid either. It can be observed from close experience with the online fora that this kind of judgemental attitude is not uncommon amongst diagnosed individuals who overanalyse every online appearance of a character, looking for autistic traits or

³⁰ Obsessive Compulsive Disorder

their denial. With regard to the observation questions, Leonard appeared to have strong opinions as well commenting several times: *"Forced to answer 18c, when I have nothing further to say."* Denise, a non- autistic parent, also noted some characteristics of Obsessive Compulsive Disorder in both individuals portrayed: *"strict adherence to routines (OCD checking in one case and a movie watching routine that starts 48 hours in advance)"*. This participant also had observations to make about the electronic questionnaire, commenting more than once: *"How does "up to five" make this answer mandatory?"*

4.4.3.15 Apart from this instance, remembering and attribution of characteristics did not seem significantly difficult across the groups. However, what may be of significance is the way the characteristics were described. For instance, two of the diagnosed participants and only diagnosed participants mentioned the characters feeling like outsiders, something they perhaps shared and identified with.

4.4.3.16 In relation to the questions regarding the differences between the two video protagonists, there were some interesting observations made. Some of these seemed to run counter to common assertions regarding the characteristics of autistic people. In one case, an example which went counter to the general observation in the analysis, was that the autistic group was more likely to view the video more than once. The reason given for not doing so appears to be one of honesty rather than a lack of desire to do so. Irene, an autistic participant, commented:

"I'm sorry, I can't answer the rest as I said I got distracted with other things in the

film and it would be cheating to look at the video again. And whilst I can tell you that the older man with the ears had trouble reading facial expressions and that the younger lad had difficulty in feeling part of society, I can't link up very well how they compared or contrasted to each other. "

4.4.3.17 She also made other observations which seemed to belie the degree of distraction claimed. For instance, contrary to any generalisations about gaze (from the Klin study (op cit) or difficulty in face processing, this participant clearly took an interest in the physical appearance of one of the protagonists, noting:

"I lost track a little at this stage, sorry. I was looking at one of the participant's wideish eyes and the other one's sticking out ears. But they were both very obsessive, albeit about different things."

She also recorded other observations:

"The younger bloke was watching a programme with a brown haired middle aged man talking to a woman. He (younger lad) was lying on a blue duvet with the soles of his feet pointing upwards. He had a black controller thing in his hand."

4.4.3.18 Considering the comments made by Edward, regarding what he thought could not be seen on the video, this participant clearly had keen powers of observation. This extended not only to what was going on in the video but what was going on in a video in the background which the protagonist was watching and all in a single viewing. Another of her comments on the background behind the second protagonist was:

"The younger lad had lots of film posters up, including a big one with 'Titan' written on it" - a reference to the poster for the film 'Titanic'.

4.4.3.19 Mary, another autistic participant, provided evidence in her answers that she understood 'Theory of Mind' in that she noticed the emotional state and indeed the gaze direction of the first protagonist: *"As the video progressed the 1st participant*

appeared less nervous as he used eye contact more with the camera.” Irene was not the only participant who seemed to notice the gaze of the protagonists. Contrary to Klin’s conclusions in the ‘Virginia Woolf’ study (op cit), Edward, one of the self-diagnosed participants noted:

“One seems to make eye contact with an interviewer off-camera to the right of the camera. The other seems to make no eye contact with gaze turned down and shifting more.”

From the researcher’s own knowledge of the video and the participants, this was an accurate observation.

4.4.3.20 Kate, an autistic participant, also observed the lack of eye contact, which she

considered as an autistic characteristic: *“avoiding eye contact, the one guy didn’t look at the camera”.*

It seems to be the case that the autistic and self- diagnosed participants were more observant in general than the non- autistic participants, perhaps because most of them watched the segments more than once, though in the case of at least one participant, Irene, this was not the case. It could therefore be argued that repeat measures do not always result in greater observation if the observational skill of the individual is not that high to begin with.

4.4.4 Being Me video

4.4.4.1 Being Me, having been filmed more naturalistically, took the segment’s

protagonists as they came and did not afford the same opportunities as Outside In to draw any conclusions regarding the background as it was apparently random.

Nonetheless, when asked about differences in style and preference, the participants revealed information about which they preferred. The questions asked of Being Me were more about comparing the video with the foregoing segments than about interpreting the video itself. This tested the participants' recollection of what they had already viewed and the educational import of that in order to compare it with what was being presented in Being Me. This proved partially problematic due to the researcher's unintentionally ambiguous phrasing of some of the questions, as pointed out by several of the participants.

4.4.4.2 Whilst this presented the researcher with some problems with regard to scoring the answers for the quantitative analysis of the results, it was not so much of a problem for qualitative analysis. Those participants who took the time to provide detailed answers either made it clear in their responses, or the context of the answers resolved which particular segments were being compared. The manner in which the participants responded to the ambiguities was in itself an education to the researcher as well as a reproof that he should have taken more account of the known autistic difficulties with ambiguity

4.4.4.3 The first question asking the participant to: "Identify five characteristics of Asperger syndrome explained by the narrator that are the same as the characteristics explained by the narrator of *Outside In*" was perhaps not the easiest from which to glean qualitative information, given that a number of the supplementary questions invited simple 'yes' or 'no' responses. Whilst this question was unambiguous in respect of the segments referred to, asking for a straight comparison between

Outside in and *Being Me*, it nonetheless presented problems to some of the participants in each of the categories. For example, one autistic participant commented:

"I can't recall much about this segment...seem to have a mental block, difficulty in keeping work" (Denise). Another wrote: "I have to say I am finding it very difficult to remember what was said the video seemed to jump around in style" (George).

4.4.4.4 Kate, a younger autistic, remarked as she had in previous segments on her lack of memory: *"As I said above I can't remember who said what, but the descriptions were pretty much the same,"* whilst Leonard, an autistic participant, said:

"I'm afraid that, having forgotten the narrator's list, I cannot give an answer to this", responding to each of the supplementary questions with a critique of the online process where an answer was required before moving on: *"Forced to answer 23b (etc), when I have nothing further to say."*

4.4.4.5 Sensory and communication issues were amongst those remembered by non-autistic participants, Ann and Beth. Social issues were also picked up by Edward, one of the self-diagnosed autistic participants. Norman, a diagnosed autistic participant picked up on communication difficulties, whilst Mary, in the same group, picked up on repetitive behaviour. Indeed in the autistic group, all, save Leonard, referred to sensory issues.

4.4.4.6 The second question was in a similar vein: *"Identify up to five characteristics of Asperger syndrome which were included in either outside In or Being me, which were not included in both."* With these again being for the most part questions asking for little detail, the results were aggregated for further discussion. Obsession

was noticed by Beth in the non-autistic group as being in one segment but not another and Irene noticed the same, as did Norman and John amongst the autistic participants. Disclosure was an issue particularly focused on in the edits from *'Being Me'* observed by the non-autistic Denise, and the autistic, Mary, and non-autistic Olivia, who all commented on this.

4.4.4.7 Other observations were made on gullibility, overly literal thinking or speaking, difficulty learning, difficulty with busy situations, repetitive speech or actions, difficulty in reading body language, making irrelevant remarks, being upset by routine changes, inability to carry on conversations and social and behavioural awkwardness.

4.4.4.8 Mary, an autistic participant, mentioned the effect of emotions in autistics in the two segments *"sexual side of Asperger syndrome mentioned in Outside In (Lawson, 2000)... fitting into society was only mentioned in Being Me "*. Denise also made some other interesting general observations as to how in *'Outside In'* the *"people seemed lonelier, more detached"*, whereas in *'Being Me'* they *"Seemed to have had a degree of success..., even being misunderstood. "* She also noted a *"Pre-post diagnosis difference in how one was treated " in 'Being Me'*. Autistic participants Edward and Leonard, criticised the format of the questions themselves, citing in Leonard's case that he did not feel his memory worked in that way, whilst disliking the forced choice of up to five in each instance.

4.4.4.9 The researcher is not sure what conclusions can be drawn from the more individual responses here. It would take a greater number of participants - both autistic and

not autistic - to see if any distinct patterns emerged as to whether anything was more noticeable to either group and whether autistic people are more sensitive to autistic styles of body language as discussed further with respect to the final segment. One might expect to find such differences because of what Milton (Milton, 2012) calls the Double Empathy problem.³¹

4.4.4.10 The next set of questions was of particular interest to the researcher as these dealt with the interpretation of or ability to interpret narrative, stylistic and intentional differences between the segments. Given the researcher's knowledge of the different production backgrounds of each segment, it was of particular relevance to observe any differences between autistic and non-autistic perceptions, given the import of correctly identifying the audience and catering specifically for it in educational videos.

4.4.4.11 Identification of differences in the narrative style between the first and second video segments

4.4.4.12 The participants were asked to: "*Identify up to five differences between the narrative style of the first segment and the second.*"

4.4.4.13 As it turned out, this was a somewhat ambiguously phrased question, as although the intention, as with the previous questions, was to compare the differences of emphasis between '*Outside In*' and '*Being me*', others took the question literally to identify the first segment they were asked to compare as '*Out and About*', taking it all in chronological order. Norman, an autistic participant, pointed out:

³¹ Milton notes that autistic people have less difficulty understanding other autistic people, and likewise for non autistic people amongst themselves. The difficulty comes when one group attempts to understand the other.

“Not sure how to answer this because i am not sure exactly which parts of the video you mean by "first segment" and "second" - I could attempt to answer if you made it clear whether you meant the different video segments ("Out and About" and "Outside In") or different parts of "Being Me"..."

4.4.4.14 The difficulty for the researcher in interpreting what was meant is illustrated in

Ann’s comment:

“1st segment the language was very relaxed and informal 2nd segment the language was more formal and direct”. It was not possible to confirm which segments were being talked about here, without the researcher making a value judgement as to the truth or otherwise of those statements when applied to a spectrum of three possible segments. As discussed elsewhere, this acutely highlights the problems of a researcher’s interpretation unconsciously biasing the conclusions drawn.

4.4.4.15 Charlotte, one of the non- autistic participants, commented:

“The first segment is narrated by someone who probably isn't on the spectrum the second segment is narrated by people who identify themselves as being on the spectrum can't remember anything else”.

This would tend to indicate contextually that she was referring to ‘*Out and About*’ as the first segment, as that was a constructed theatrical piece of video not narrated by an autistic person, whereas both ‘*Outside In*’ and ‘*Being Me*’ featured autistic participants talking but in different ways. Although ‘*Outside in*’ was introduced by a non-autistic narrator, one participant suspected he was otherwise.

4.4.4.16 From Denise’s comments:

“1st...not sure what they were trying to talk about 2nd...seemed sad, like the dark side of autism. “ “1st...happy, if somewhat judgemental. We know who the goody-two shoes was... 2nd---real lives “

It can be deduced that Denise was looking at the segments in chronological order. It might be interesting to investigate further why the tone of the first was happy as against the second sad, as the researcher could see through the artifices of each

segment how that viewer's interpretation could be constructed. It was also interesting to note that despite the propensity towards over literal interpretation being a trait of autism that the participants had identified, the question was as ambiguous to the non-autistic participants as anyone else.

Edward, a self-diagnosed participant, had a great deal to say about the tone of each piece and it was clear that he was referring to them in literal chronological order. From the perspective of a media researcher, his observations proved very astute. He said:

"The 1st segment used a very patronizing female voice for narration. I don't recall any narration from the second segment. The actors in the 1st segment have little or no speech with a female narrator apparently assuming the position of the watcher providing all the speech mostly treating the actors in the 3rd person. The participants in the 2nd segment did all the talking describing their own experiences from a 1st person perspective. The 1st segment had minor shifts in chronology to set up the payoff or reveal of Duncan's call. The 2nd segment had little or no chronology. The 1st segment had obviously scripted action with somewhat overdone acting. The 2nd segment had little scripted action mostly just showing people speaking about themselves. I don't know why a question about the 1st and 2nd segments is in the section about the 3rd segment".

4.4.4.17 The comments made by Frances, an autistic academic, were similar:

"The first was a narrative story, the second was factual the first wasn't as explicit about behaviors the second felt like it was for parents--it was much more detailed in the language used".

Frances was even more blunt about the 'patronising' tone that Edward described: *"the first one was speaking to me like I was a bit simple".*

Heather, an autistic participant, from the context of her comment seemed to be comparing 'Outside In' with 'Being Me':

"1st used repetitive language, it felt as though I was being involved and encouraged to listen. The people were asked questions: the narrator spoke to them on my behalf".

Indeed this was the structure of *'Outside In'*.

4.4.4.18 Irene, an autistic parent, compared the segments thus:

"Simple, clear, narrative style in first and longer sentences, more discursive style in the third. We saw the narrator in the third, but not in the second. Lots of visual references by narrator in the first, but not in the third".

Whilst it is clear that she was referring to the chronological third segment as the 'second' in the question, it was not altogether clear which she meant by *"the first"*.

4.4.4.19 It would also appear to the researcher that John, an autistic participant, was comparing segments in actual chronological order in his comments:

"in the first segment the narrator uses a observational/informative style in the first segment the tone can be critical at times also the tone can be complementary at times in the second segment the narrator uses a purely informative style also the narrator doesn't show emotion".

In referring to complementary and critical tones, this would appear to bear out the narrative structure of *'Out and About'* and its strong instructive message.

4.4.4.20 Kate, a Canadian autistic, appeared on the other hand to be comparing the latter two segments: *"first segment had only two people first segment less arranged by topic first segment no topic intros"*.

Also autistic, Leonard referred to the segments in their chronological order and his observations seemed to align closely to Edward's:

4.4.4.21 *"I found the script of the first segment to be most condescending. It seemed to be delivered in a form suitable for pre-teens, say. The narrator at the start of the 2nd segment seemed to be reading from a script. This section was quite "authoritative", in an unpleasant way. The two participants in the 2nd segment seemed to be speaking freely. This was far preferable"*.

4.4.4.22 Mary, another autistic participant, however, compared the latter two segments as the researcher had originally intended in the ambiguous question:

“1st segment was listen and read 1st segment was more about a summary of autism 2nd section showed how the 1st section manifested in individual Aspergers 2nd section goes into more detail 2nd section sensed more emotion in Joe’s part on disclosure than to his narrating part”.

Olivia also compared the same segments narrated by Joe in *“Being me”*.

“You can see him and he uses first person Being me narrator is on autism spectrum. He describes what it is personally like Outside in narrator over top of video simply just describing what it is like. Outside in no description of characteristics”.

4.4.4.23 Despite the ambiguity, it was still possible to identify some themes. For instance, comments echoing the findings of the first questionnaire as to what people would like to see, particularly in terms of autistic participants. Some of the autistic participants once again showed themselves to be very media aware and aware of the tone in which material was presented, to the point of calling one of the segments “patronising”. This illustrates a particular difficulty given the lack of homogeneity in the “autistic spectrum” with regard to the intellectual abilities of individuals and finding the right balance in audience between simplicity and clarity on the one hand and underestimating the audience’s abilities and general educational level on the other.

4.4.4.24 The next question, calling for the participants to: *“Identify up to five differences between the visual style of the first segment and the second”* unfortunately contained the same ambiguities as the previous question, which had not shown up

during the pilot stage. It is clear however, that the following observations were taking *'Out and About'* as the first and managed to identify unambiguously major differences.

"1st segment had very varied different angles" (Ann, an autistic participant).

"Much more of the participant's environment is shown in the first segment" (Beth, non-autistic).

"1st one was externally shot – busy" (Charlotte, a non- autistic participant).

" 2nd one was inside a cafe and the narrator did not move" (Denise, non-autistic).

"1st well lighted 1st active, lots of movement 2nd spotlight on speaker ", "2nd unscripted 1st---rehearsed" (Denise).

4.4.4.25 As before, Edward, a self-diagnosed autistic, gave particularly detailed information, even taking account of the ambiguity in the question to cover all bases:

"The 1st segment mostly used well-lit interior sets with minimal set dressing. The 2nd segment appeared filmed in actual residences with as much natural lighting as possible." "The 1st segment used mostly straight-on eye level shots intercut with close-ups of things. The 2nd segment made more use of up-angles etc. and close-ups of people". In case you really meant the 2nd and 3rd segments: The 3rd segment used more exterior shots than the 2nd segment with even more natural lighting. The 3rd segment used more wide shots of individuals engaged in activities than the 2nd segment",

This sums it all up very well.

4.4.4.26 Irene, an autistic woman, was equally observant:

"More "film" looking, clearer, controlled camera movements in the first one and more choppy and "documentary" style filming in the second one. One room seen in the second clip for each of the interviewees, but several rooms, plus an outside location seen in the first clip".

Others noticed the clear difference in settings too:

“choice of backgrounds--one homey, the other not “ (Frances, an autistic academic).

John, an autistic participant commented:

“in the first segment the setting for the video would have to be the homes of the main characters in the second segment the setting seemed to vary more”.

4.4.4.27 Not all were as vigilant however, pointing out the difficulty of universalising any of the traits of autism if one were looking for imputed visual strengths.

“Didn't notice visual style at all, I'm not a very visual person” (Kate, an autistic participant).

“Visual style means little to me” (Leonard, an autistic participant).

4.4.4.28 One of the autistic participants, Mary, characterised the differences in another way:

“Changed less in the 1st section so only words appeared on screen filmed in different locations for the 2nd section 1st section felt like a tutorial on the subject 2nd section involved specific examples and showed facial expressions showed an example of when mentioning AS could cause problems. Such as the police being called when Mark was in distress”.

This was accounted for by the fact that she was referring to a different set of segments due to the ambiguity problem again, as pointed out by Norman, a British autistic person:

“Not sure how to answer this because i am not sure exactly which parts of the video you mean by "first segment" and "second" - I could attempt to answer if you made it clear whether you meant the different video segments ("Out and About" and "Outside In") or different parts of "Being Me"...

Olivia (non-autistic) was clear in respect of the segments she was comparing, however:

“Outside in following someone's life Being me describing what life is like Being me more like an interview in plain room outside in, real life see what they do, where they live”.

4.4.4.29 Ambiguity therefore continued to blur the analysis with respect to the final question in this questionnaire bloc: *“Identify five key points that you think the maker of the video was trying to draw attention to”*, for whilst the intention was to be discussing *‘Being Me’* specifically, the ambiguity led some of the participants, for example Ann (non-autistic?), to comment more widely, referring specifically to *‘Out and About’* to begin with and then turning to the other two segments:

“It is better to be organised. Don’t turn the gas up on the grill too high! AS varies from person to person. Disclosure has its good and bad points”.

4.4.4.30 In enumerating their observations, others picked up on common themes between *‘Outside in’* and *‘Being Me’*:

“That everyone is different. That there are various similarities but that they are not common to everyone characteristics of AS how the characteristics affect people in their lives. “ (Beth, a non- autistic participant).

“People with Asperger syndrome are different and see the world differently which explains why their reactions appear different” (Charlotte, non autistic parent).

Charlotte’s other comment: *“People should NOT disclose to others unless vital to do so”* was interesting in the emphasis it put upon not disclosing, as were her other observations:

“Women with AS feel vulnerable even amongst males with AS Males with AS often have poor attention to things unimportant to them People should not always inform an employer of their disability “

Denise observed: *“Asperger’s is a disability. Asperger’s is not a death sentence. Asperger’s can make attaining goals difficult, but not insurmountable. There is reason to hope. We all need help, unless we are too organized for our own good!”*, pointing out a generality or commonality between all people which some autistic people would characterise as trivialising difficulties.

4.4.4.31 As before, Edward, a self-diagnosed autistic, had a considerable contribution to make, which was pertinent considering the researcher's inside knowledge of the videos in question.

"The 1st segment was very explicit about what it was trying to draw attention to hitting the viewer over the head with it both in choice of shot and narration: a messy bedroom, a late hour, a mobile phone call, using a spoon to handle eggs in boiling water, instructions on a porridge box etc. I think the video maker of the 2nd segment was trying to draw attention to the speakers and their mannerisms. I think the maker of the 3rd segment was trying to draw attention to autistics and to their adaptations in daily settings. Sunglasses to adapt to light sensitivities. Wide brimmed hat to adapt to light sensitivities" .

Frances, the academic autistic, also commented on the 'normalcy' of autistic people, perhaps hinting at the social model of disability:

"Adults with AS have typical lives adults with AS can have social relationships and friendships there is a feeling of misunderstanding/stigma/not fitting in" .

The third self-diagnosed participant (George) came back to the heterogeneity of the autistic experience, *"That AS is different for different people"*.

4.4.4.32 Not everybody could remember the order of the conversationalists, however:

"I can't really remember the 2nd" (Heather, an autistic participant).

Irene, an autistic participant, also noted points about social construction and heterogeneity.

"I have no idea about the first clip, except to highlight the difference between organisation and disorganisation. However, with the other two clips then one of them was to highlight the impact that autism and people's reaction to autism has on their lives. That people view autism and/or Asperger's differently. That it affects them in some similar, but some different ways. That there are differences in how they appear to others".

Interestingly, in the same way as the non- autistic Charlotte, John, who was autistic, felt that *"there is a time and place for disclosing "*

Kate, the youngest of the autistic participants, observed: *"Basically, the features of AS Social impairment, Obsessiveness, Sensory issues, Ways of coping "*.

Leonard, also autistic, made a pertinent observation not specifically related to autism but disability in general:

“The first segment - that someone with a clear physical disability can be at least as effective a person as two who have no apparent problems. The second segment - I'm not sure “.

Mary, an autistic participant, concurred with others regarding autism not always being a disability and its often unseen nature:

“That there are ways of coping with being AS That being AS can be a positive thing That different Aspergers have different characteristic's of their AS. that Aspergers should be shunned or hidden away. That Asperger's is hidden and people should be more aware of how they are interacting with an Asperger” .

4.4.4.33 Norman again highlighted disclosure: *“Benefits and risks of disclosing autistic status”* and *“sensory issues in autism”* but also aspects not mentioned by any others: *“The prevalence of autism in the population Lack of awareness of autism among the general public and professionals Prejudice and hostility experienced by autistic people in mainstream society”* , indicating the ability to make individual interpretations as well as widely shared ones.

4.4.4.34 Olivia (no- autistic) noted some of the negatives:

“Social awkwardness inability to read body language, facial expression non autistic people react differently can give hostility not many people understand what Asperger's is”.

4.4.4.35 Whilst undoubtedly the ambiguity made it hard to discuss the original intent of this section of the questionnaire - comparing *‘Being Me’* with the immediately preceding segment with which it shared similarities in terms of using autistic people and their commentary, as well as significant differences in the way they were reported, the uncertainty nonetheless in the spirit of grounded research allowed

statements and comparisons to be made that were of equal interest and which suggested that the questionnaire should have invited a wider comparison of videos than it did. What can be said is that both autistic and non-autistic viewers were able to identify the salient points of diversely styled videos and had in some instances strong stylistic preferences. For some autistic participants, *'Out and About'* offered instructional material that was too "in your face". Although there is discussion of this again later, the other two videos with their direct involvement of autistic individuals in real life situations, albeit with considerable differences of style and emphasis, also confirmed some of the preferences of a wider number of initial participants that this would be a good thing.

4.4.4.36 Whilst the questionnaire gave scope for participants to comment in considerable depth, more in-depth interviews may have revealed even more if the methodology had included these in the early stages of the research rather than at some time after the initial interest of being a participant had waned. There is certainly scope for more qualitative in-depth enquiry.

4.4.5 Artistic Autistics video

4.4.5.1 *'Artistic Autistics'* was another piece which afforded privileged insight into the construction for the researcher and it offered more opportunities to note both the background and details of the individual actors. The background for the segment chosen was constant and more significant as 'mise en scene', although it did not relate in any way to the spoken material. Any information recalled from the

background beyond the context in which it set the piece (a set of conversations in a cafe) was therefore irrelevant and possibly distracting. However, since this was shot in a naturalistic situation, like the scenes in *'Being Me'*, there was no way to construct and manage it artificially as there was in the case of *'Out and About'*, and *'Outside In'*. The only opportunities to do so were the two camera operators' abilities to focus away from distraction where possible, the scenes having been shot with a static and a roving camera and intercut together.

4.4.5.2 It was not as straightforward as with the other segments to frame relevant questions in the three domains. The didactic content of the video was spread equally between the visual and the competing narrative, there being both a message about the narrator and after the fashion of MLuhan and Fiore (1967), a hidden message in the way it was presented through the different body language of the autistic and non- autistic protagonists in the segment. A question was asked, for instance, regarding the rings on the finger of one of the conversationalists which was intended to be very trivial, That information played no part in what the participants were being asked to observe from the educational viewpoint (namely to spot differences in body language between autistic and non-autistic people in conversation). However, it was again something the exceptionally observant may well have noted. It was also dependent on a rewrite this first part of the necessary observation on the part of the viewer about a facet of the actor's appearance that was only indirectly mentioned, namely that he had to be first identified by being the only male participant wearing spectacles. The question being, *"Did you notice anything particular about the right hand of the man who is wearing spectacles? If*

yes, please explain.”

4.4.5.3 Other questions took the form of, for example :“*How many people can you see in the background to the conversation?*” and “*Is there anything in particular you noticed about them?*” with a conditional follow-up question for each. This prompted the viewers to offer information about their understanding of the construction of the piece and its meaning, “*If you answered yes, please explain what you saw.*” It did not spring to mind at the outset when designing the questions in terms of what the answers should reveal indirectly about the participant’s response, that there would be a flaw in the methodology. The participants all potentially had the ability to improve on their initial observations by repeated viewing, perhaps with their attentional focus first primed by the questions. Nonetheless, if the task required degrees of skill that were not readily available to any group of participants because of fundamental and significant differences in cognitive style, there ought still to have been an observable effect, and it is conceivable that it would be possible in any repeat of this study to control for that variable.

4.4.5.4 In the event, control of the variable proved difficult, the only measure being the question that was asked of the Internet participants as to number of times they had viewed the segments before answering. This of course relied upon the honesty and sincerity of the participants but fortunately several of them not only recorded how many times they viewed the edit overall, but also revealed which portions they reviewed the most. It still did not compare like for like, either in the case of each

participant within the group or participants across the groups. In practice, to eliminate any question of difference caused by the number of times viewed, each participant ought to have been restricted to a set number of viewings before answering. Given the nature of the study, it is difficult to see how that could have been done for a random Internet group, although it is something to be considered if this study was to be repeated.

4.4.5.5 Had the study consisted only of live viewings, there would have been some real comparison between them and the Internet participants. However, pragmatically too few participants were attracted to the project to make this a viable proposition. The only other practical way of observing the effect of multiple viewings would have been cumbersome indeed, given the time involved. That would have been to reconstruct the study with each live participant watching as many times as they liked within a given period under observation until they felt content to answer the questions having sufficiently primed themselves first. The researcher readily accepts these criticisms and would advise any future researcher that if it were possible to control that variable in some way, perhaps through the technology of its delivery, that should be done in the interests of greater reliability. Once again it comes down to the best Weberian traditions of making the most of what was available. In this particular study, there was little choice but to take what information could be gleaned from the answers as they presented themselves.

4.4.5.6 This segment proved qualitatively different from the preceding ones in a number of ways. It was also the segment in which the researcher had the greatest

involvement in its production. The video was produced after the start of this research study as a deliberate adjunct to it. It was part of a collaborative effort with the undergraduate director of the video in which the experience of making a co-operative video was part of that undergraduate tuition and process. As an experienced video producer, the researcher was involved in tutoring the autistic student producer in the practical techniques and theory of video editing and therefore had some influence on the final production. The researcher had no say in the artistic values or scripting and storyboarding. This inevitably led to an interestingly different piece, which in terms of analysis, lent itself to a different set of problems to those encountered in the analysis of *'Being Me'*.

4.4.5.7 Although this was the video with which the researcher had the most direct involvement in terms of its filming, editing and public showing, there were some problems with regard to objectivity. It turned out that some of the respondents to the questionnaire had viewed the entire video in a wider context than the segment presented. This led to a dilemma that the researcher had not fully anticipated when he was showing the video whilst having been one of the protagonists in it, that he would be recognised by the audience. Whilst this was not a matter of concern during the video's premiere before an audience of students from the University at which it was produced, it potentially compromised the research aims when it was presented at an Autscape (Autscape, n.d.) conference on behalf of the director who was unforeseeably unable to present it herself. Given the characteristics of the online recruitment of volunteers for the research, there was always a strong chance that at least one of them may have attended such a culturally important event to

the autistic community in Europe. This turned out to be the case, as is illustrated by the type of responses to one of the questions. However, given the nature of the research, these responses have been included for the value that they add to the qualitative analysis and almost as a case study in drawing attention to the dilemmas of emancipatory research when one is deeply involved in the target community. This has already been addressed in the methodology by means of reference to Charmaz's Constructivist grounded theory.

4.4.5.8 For all that the attendant difficulties as revealed in some of the participants' responses might have led a researcher using a different methodology to reject that data as compromised, the researcher feels to the contrary, that it adds value from the grounded perspective of revealing new lines of enquiry into that community. Leaving aside the counterpoint of the narrative of the video that did not directly relate to the action, the segment was used in the context of emphasising the relative normalcy or difficulty of discerning autistic people from non-autistics in an apparently normative social context such as conversation in a café, as illustrated. However, the director of the piece instructed the camera operators to focus on the body language of the conversationalists and edited the conversations to highlight this. That gave the opportunity to pose a range of questions which could shed some light on the so-called peer generated hypothesis³² of 'autidar' and illustrate, given that the previous segments had already primed the participants with regard to the characteristics of autism, whether this had any impact on the ability to recognise

³² A term coined within the autistic community analogous to 'Gaydar' signifying the uncanny ability of a member of the outsider community to recognise one of their own from familiarity with associated mannerisms.

some of them on sight, as has already been suggested earlier in this chapter.

4.4.5.9 Question: Identification of five similarities between the person speaking and any of the participants in the previous three video segments

4.4.5.10 To add to the complexity, questions were also asked relating to the narrative of a young autistic adult speaking over the conversations who was also the link between the conversations as the principal and constant conversationalist with a variety of other individuals shown.³³ The first question therefore related to the narrative rather than the presentation: *“Can you identify five similarities between the person who is speaking's life experiences and any of the participants in the previous video segments?”*

4.4.5.11 Some of the participants found the task difficult. Irene, an autistic parent, stated:

“No, I can't, I'm afraid, I noticed that the first woman was a plump mid length haired woman who waved her arms about, then there was a skinnier woman wearing an orange hat, that Larry was there with a name badge with a chain round it and dark glasses. But I can't see how they compared to the person who was giving the interview, whilst Leonard, who was also autistic, commented: ““Maybe if I had read through the questionnaire, prior to watching the video, I would have been able to answer these questions better.”

4.4.5.12 The second question however, was set to test the participants' observational powers and recognition of autistic mannerisms:

“Which of the five people whom the narrator is shown talking to, do you think have Asperger syndrome?”

For each of the conversationalists featured, there was a follow up question:

“ Please name two (or more) characteristics of the conversationalist which

³³ In various conversations and during the question and answer session following the two presentations of this video, it was not always apparent to the viewer that the linking person was also the narrator.

explain your choice."

4.4.5.13 First conversationalist (diagnosed with autism)

"She looked uncomfortable talking, lots use of hands" (Ann, a non-autistic participant).

"Not sure, but tending towards agreeing just because of the way she moves." (Beth, non-autistic).

"Rigid body stance, hands a little flappy and she rocks her body" (Edward self-diagnosed).

"Can't remember the order but I think the first one was the fat girl in the white shirt, and I remember her rocking" (Kate, an autistic participant).

"Facial expressions and body language seem a bit exaggerated" (Mary, an autistic participant).

"(leaving aside that i know her... ;)) Looking down/away from the speaker while listening and speaking Rocking back and forth while speaking Hand movements strike me as typical of people with AS" (Norman, an autistic participant).

4.4.5.14 The point being illustrated was that participants in both the autistic and non-autistic

groups were able to guess correctly and give supporting observations that were

clearly evident and accurate. Norman illustrated the problem of being unable to

control for the unexpected, that of being acquainted with the actual individual in

question. Not everyone agreed, however. John, diagnosed with autism early in life,

gave the following reason:

³⁴ In a sense this illustrates the problem of foreknowledge within a limited pool of potential participants available for a particular study. The researcher himself has often felt that a number of studies, because they draw upon the same pool of volunteers (eg Cambridge University department of Psychiatry) introduce an unfortunate bias. For instance the researcher has himself participated in a number of studies.

"She looks too under control", whilst Denise, a non-autistic participant, thought she was too "Interactive" and "smiling", thus illustrating that both autistic and non-autistic people can make the wrong judgement based on the negative – is negative the right word? perception of some autistic traits.

4.4.5.15 Leonard, an autistic participant, commented on the difficulty of associating the narrative with the presentation and being distracted by it:

"I was not taking any notice of the conversationalist, once I saw that the soundtrack was not connected to them. In fact, at the start, I was trying to identify which of the two people at the table was speaking",

suggesting a monotropic approach to the task.

4.4.5.16 Questions regarding the second conversationalist.

Ann, a non-autistic participant, was correct again:

"He was rocking", a fairly obvious stereotype.

Edward, an autistic participant, also noticed the rocking:

"Much less certain about this one, but the way he appears to express excitement grabbing the sides of the chair and rocking suggest Asperger to me, and in one shot he appears to be looking down instead of at the other person".

John, an autistic participant, based his decision on a different criterion:

"He is sulking forward in his seat".

Mary, also autistic, noticed: "fleeting eye contact and little body language".³⁵

4.4.5.17 As a somewhat younger autistic person, Kate commented: *"some middle-aged guy, had a few odd mannerisms"*. Norman, an autistic participant, had more to say:

"Looking down/away from the speaker while listening and speaking Wearing loose clothing for comfort Something i can recognise but cannot quite describe verbally about his posture and facial expressions "

³⁵ One can suppose that Mary does not regard autistic traits such as rocking as "body language", suggesting a received normative perception of what autistic people do that non-autistics do not.

Beth, a non-autistic participant, was not able to gauge that the participant was autistic:

“Disagree again, not really sure, this is a guess”, whilst Norman an autistic participant quite correctly indicated: “I do not feel that a few seconds of video is any basis on which to diagnose an aspie”.

4.4.5.18 Taking on board the basic truth of Norman’s assertion, the task was somewhat mitigated from a cold identification by the underlying supposition one could make that given the context of the video and the questions asked, there was a likelihood that the conversationalists could be autistic. Using this same segment in another context, the researcher observed the potential bias of a non- autistic student audience to assume that they all would be. The conversationalists were in fact the director of *‘Artistic Autistics’* and her partner, both having had a diagnosis whilst of school age.

4.4.5.19 The third conversationalist was problematic for an altogether different reason, in that it was the researcher himself who had not anticipated being ‘outed’ through some participants’ recognition of him and foreknowledge of his diagnosis; the unintended consequence of presenting at ‘Autescape’. He had supposed wrongly that none of the online participants would be familiar with his physical appearance, not contending with the possibility that some of them might be attending the Autescape event. Notwithstanding this coincidence, three of the non-autistic participants correctly identified him as autistic on the basis of observation: *“flicking fingers”* (Ann).

“the sunglasses inside (as in, wearing sunglasses inside a building)” (Beth).

“seemed to find it difficult to look at narrator. Seemed uncomfortable ” (Denise).

“big hand movements” (Olivia).

4.4.5.20 Although compromised by recognition, Edward, an autistic participant, agreed with

Beth’s observation:

“I recognize Larry from his online sites. Wearing sunglasses inside suggest light sensitivities, and Larry rocks ever so slightly while speaking”. Norman, an autistic participant, made similar observations: “(leaving aside that i know him... ;J J Hand flapping/stimming Wearing dark glasses indoors”.

The third, self-diagnosed participant (George), said: *“I know of him”* and Mary, an autistic participant, commented: *“cannot answer as i know the conversationalist”*.

Others also recognised the dilemma:

“If this was Larry, I'm not sure of the sequence” (Irene - autistic).

The researcher was unsure what to make of John’s reasoning: *“He looks a little like Einstein”* other than that he should attend more to his grooming, as this was not really a satisfactory basis for an answer.

4.4.5.21 The fourth and fifth conversationalists in the segment were not autistic. Whilst this may ideally have provided a referential index for the autistic conversationalist from which their mannerisms might have been seen to diverge, this was not necessarily evident to all. The inclusion of non-autistic participants was intended and their appearance was used to illustrate the dangers of making unfounded assertions about the traits of autism. In the educational context in which the researcher has used this segment outside of this research, non-autistic students have been led astray by the context into assuming that all of the conversationalists were autistic by association.

4.4.5.22 The majority of participants seemed to agree that the fourth of the

conversationalists was not autistic, for example Ann says: *“Good eye contact”*

“Posture (she looks very relaxed whilst chatting), plenty of facial expression and eye contact”.

Beth: (non-autistic)

“ She has a very relaxed stance and makes good eye contact. She doesn't exhibit any obvious stims and many of her gestures are social acknowledgments, prompts or cues.”

Edward (self diagnosed) *“very relaxed and unanimated”* , and George (self-diagnosed)

“Some girl, can't remember anything about her but she seemed normal” (Kate an autistic participant.

“Looks like she has very neurotypical facial expressions Is wearing clothes that i think most people with AS would find difficult to comfortably wear for sensory reasons” (Norman an autistic participant.

Two of the autistic participants thought she was autistic, however:

“she looks crazy in an artistic (sic) way” (John)

“fiddling with her face, apart from that hardly moved in the film” (Mary autistic).

Again this suggests the possibility of a confirmation bias.

4.4.5.23 The fifth conversationalist was a wheelchair user, which added another

confounding factor in that a pre judgement on other forms of disability might

influence the analysis. For instance the participants being unused to encountering

autistic people who also use wheelchairs, or on the other hand, supposing that one

disability suggested another. Edward (self-diagnosed) commented on this:

“ It's certainly possible the final conversationalist has Asperger but his other disabilities mask any obvious signs. It's also possible I was distracted by the wheelchair”.

*"Guy in wheelchair, can't really tell but I think he was just physically disabled
" (Kate, an autistic participant).*

"Didn't see any visible signs" (Ann, non- autistic).

"interactive (wheelchair?) smiling" (Denise, a non-autistic participant).

"No idea" (Beth, a non- autistic parent).

*"Seems to be looking at her in a very direct, neurotypical eye-contact sort of way
Mannerisms a bit difficult to judge because of physical impairment but seem
more neurotypical than AS to me " (Norman, an autistic participant).*

*John, an autistic participant, thought he was autistic but without justification:
"just a guess..."*

Mary, an autistic participant who had seen the complete video at Autscape, declined to answer, being aware that he was not autistic: *"cannot answer as have seen in another autistic artists section of the film"*.

4.4.5.24 The remaining questions were observational, intended to see whether the autistic group had superior visual abilities and attention to detail. The first of these questions unfortunately revealed another flaw in the electronic questionnaire where space had not been allowed to answer, however it was evident that some of the participants found a way round that.

4.4.5.25 *"Where do you think the conversations took place? Please explain the reasons for your answer."*

"Looked like a college cafe, spacious but institutional seats and noticeboards - but seemed a bit like speed dating" (Charlotte, a non-autistic participant) further surmising " (took place at a college student union...just a guess)"

"no 30.a, coffee bar at place of study b. that's³⁶ what it looks like and they're all students " (Heather, an autistic participant).

³⁶ (a) and (b) referring to the question number's subsidiary questions

*"I can't answer 30, so it took place in a university as Larry was researching there"
(Irene, an autistic participant)*

"30. I wasn't taking much notice of the place. It may have been something like a student's union. Traffic, noticeboards, etc" (Leonard, an autistic participant).

"Answer to q.30 (as it has no box): Coventry University, as it looks like a university environment and Coventry University is mentioned in the video credits" (Norman, an autistic participant).

"cafe because they had a drink sitting down at the table" (Olivia, non-autistic).

Those participants who commented used their powers of deduction as much as observation, though it was interesting to note that one of them had taken notice of the credits.

4.4.5.26 ***"How many people can you see in the background to the conversation?"***

“, there are about three people, one of whom is a woman with a black head covering on her head. “ Irene an autistic participant

“Is there anything in particular you noticed about them?”:

“They were together (noticed 3 or 4 in background” Beth (non-autistic)

“Eating popsicles” Edward (self-diagnosed)

“2 or 3 One used a wheelchair “ Frances an autistic participant

“Yes, the woman mentioned above and a middle aged bloke had glasses on, round rimmed ones.” Irene an autistic participant

“first 3: all looked South Asian, 1 male and 2 female, both women wearing headscarves, all aged about 18-25 4th person: couldn't see enough of him/her to tell much “ Norman (autistic).

With such a small sample it is not possible to be conclusive, however it is certain that more of the autistic participants who answered this in detail observed the background although they did not all notice the same things.

4.4.5.27 The final question was directed not at the background but toward the specific characteristics of one of the participants that might have seemed fairly insignificant.

“Did you notice anything particular about the right hand of the man who is wearing spectacles? If yes, please explain”

“He was wearing 2 rings” Ann

“Rings on 2 fingers” Charlotte a non-autistic participant

“He is wearing rings on 2 fingers” (Norman)

“Wearing rings” Heather an autistic participant

“He had 3 rings on that hand but none on the other.” Mary

“Two of his fingers were sticking out” John an autistic participant

Out of context, Charlotte (non-autistic) also observed *“Flapping - seemed speeded up on the video as well.”* Since the speed of the video was not in any way speeded up, this was most likely an artefact of the computer streaming the video. This was not particularly conclusive so far as producing evidence of weak central coherence, particularly given the difficulties regarding what exactly is meant by that in the real world as discussed in Chapter 2.

4.4.5.28 What can be said overall of the analysis surrounding *“Artistic Autistics”* is that it does not add a great deal to the general thesis so far in terms of differentiating between an autistic and a non- autistic response, with regard to what might be expected from the theoretical perspectives discussed in Chapter 2. However, it does suggest some interesting side lines, perhaps giving scope for further investigation of what is suggested in terms of what it says about a potential autistic community and the vaunted ability of recognising people who are more like oneself more easily than those who are not, which suggests the “double empathy problem” (Milton,

2012) as relevant to the understanding of different responses.

4.5 Quantitative analysis

4.5.1.1 As was discussed at the beginning of the section covering the analysis of the responses to the video viewing task, a statistical analysis of the scores would be potentially of value in case it could reveal any hints about the validity of the background theories of autism which could be explored with a larger study, where the statistical techniques would have greater potential to indicate the likelihood of correlation with such theories as weak central coherence and so on.

4.5.1.2 The researcher therefore attempted to see what the statistical information might suggest, notwithstanding the limitations because of the small size of the sample. It was an exercise to see how it would appear and what the implications for a larger study might be. This section of the analysis is therefore of necessity more speculative than the qualitative analysis and it is appropriate to discuss some of the implications before drawing the final conclusions even if that does seem premature at this stage.

4.5.1.3 When the data were aggregated and graphs were produced using means for each group, it did initially appear that there was some evidence for the theories. However, this was probably illusory, as discussed in the critique of this method, particularly because statistical methods can produce anomalies when applied to low numbers and individual cases.

4.5.1.4 Applying other analytical techniques to the data did show up the unreliability of this initial hypothesis. In addition, the results from each video segment were tested against each other for aggregate scores and also individual group scores in each of the three domains, specific references to which are to be found in the poster included in the *Appendix 7*. It would appear that the calculation of means from such a small example artificially suggested that greater differences existed in the cognitive and educational domains than might actually be so. It proved impossible to answer for any differences in the responses to the interpretive questions. For all that, the third of these proved impossible to answer. It was not possible to discover from the quantitative results alone which of the main groups (autistic or non-autistic) the 'self-diagnosed' category most closely resembled. With only five non-autistic participants in the online group and the overall small size of the sample altogether, a sufficient difference in responses could not be discerned. There was no discernible difference between the results whichever way the self-diagnosed group were aggregated, be that with the undiagnosed group or the diagnosed group. Taking the opportunity to examine the qualitative information provided however, a greater insight into resolving this question and is discussed in the more detailed qualitative analysis.

4.5.1.5 The results of the study were also analysed by looking at the data from each of the four video segments separately. (Details again can be found by reference to the Poster in *Appendix 7*). A sufficiently large sample ought to have been able to reveal something regarding the response to the stylistic differences between the four video segments, which would indicate future best practice in creating such material.

Again it would be unfair to claim too much from the analysis of the data in this small sample.

4.5.1.6 Whilst the researcher had initially considered presenting the results in graphical form (as he had done for the poster), it became apparent that such charts would not add to the understanding of what the mere data revealed and would in terms of the small size of the sample be misleading for a number of reasons which are outlined as the questions are considered.

4.5.1.7 For instance, the differences between the responses of the self-diagnosed group, when taken on their own, appeared to be worse in some aspects of the test than others. However, that would largely be due to an artefact of the appearance of the information when presented in that form. Whilst they appeared to be closer to the non-autistic group for the cognitive task (which would erroneously suggest their self-identification to be unreliable), they did interestingly enough, score particularly lower than either group for the other two tasks, suggesting that this was more to do with the individual characteristics of the individuals rather than a group similarity.

4.5.1.8 To attempt the application of statistical tests of significance would clearly be inappropriate for such small numbers. The researcher therefore sought to resolve the questions in other ways. He tried aggregating the self-diagnosed group firstly with the non-autistic group and then with the autistic group to see if it removed the apparent particularity in either way. In actuality, it made little difference which way the self-diagnosed group members were aggregated, reducing the apparent differences between performance on the cognitive tasks only slightly when they

were aggregated as non-autistic.

4.5.1.9 Whilst it could still be considered that with regard to the cognitive tasks, the self-diagnosed group members were in error in their self-identification, this was something that could be triangulated in other ways, since two out of the three self-diagnosed participants did complete AQ/EQ tests are examined in more detail later in this chapter.

4.5.1.10 The results nonetheless, although they looked promising, raised various suspicions in the researcher's mind that aggregating scores into means for each group was erroneous and misleading, not only due to the small size of the groups but for two significant reasons. Firstly, as has been described elsewhere, the online task was one which permitted a different approach to the task being carried out in a classroom situation. It allowed the viewer to pause, to rewind and to view multiple times. Fortunately, the questionnaire was designed to distinguish between the participants who had taken advantage of this. For instance, nine participants in all viewed only once, but one self-diagnosed person used pause and rewind effusively and one viewed a clip twice.

4.5.1.11 One non-autistic participant (Beth) watched the segments twice and the last segment (with the heaviest observational load) four times. Another autistic participant (John) admitted to watching more than three times, one twice, and one had the same viewing pattern as the non-autistic participant who watched more than once. It should be possible to aggregate the results accordingly to see if multiple viewings had an effect within the group or if it could be eliminated across

all groups to see the difference. It would not be unreasonable to suspect that for those who had taken advantage of repeat viewings that this might lead to considerably higher scores indicating the usefulness of this as an educational technique for individuals working alone. If the effects seen were indeed statistically significant, it ought to have been visible when the results of those who viewed only once were compared with those who viewed several times. Those groups would in effect form yet another sub category within the data, which it was necessary to evaluate in order to consider the weighting to be accorded to the evidence in the data.

4.5.1.12 Inclusion of more participants, in particular non-autistic individuals, could also help increase the comparability of the results across the groups and lead to firmer conclusions. There does remain the problem which is discussed in the conclusions that there is a continual problem of self selection bias in research and recruiting a sufficiently large sample of individuals who have no connection with autism would be more difficult than engaging those who are living with autistic relatives, siblings and children, who are more likely to share some of the traits of autism.

4.5.2 Comparing the mean scores for groups who viewed the segments more than once with those who did not.

4.5.2.1 The results this time were even more interesting, especially if one treats the study as if it were part of a larger population study³⁷. If one were to consider only those

³⁷ Which most small studies in the scientific literature seem to assume uncritically, at least in the prepared press releases.

who viewed the videos once (practically analogous to a classroom situation), the cognitive effect was effectively reversed and contrary to what one would expect from weak central coherence theory: the autistic group was significantly worse than the non-autistic group. The self-diagnosed group scores appeared very similar to the autistic group scores this time. The score on the ability to interpret the paradigms of video construction, however, remained as expected from the theoretical perspective of the autistic audience being of a more literal disposition and less perceptive of video artifice. Nevertheless, for the group who watched the videos more than twice, the effect seemed to return very strongly.

4.5.2.2 If one were to accept this and consider it ecologically valid, one could advance theoretical reasons why an autistic group may perform better on multiple viewings in terms of executive function. That is to say that forward planning is enhanced by the experience of multiple viewing where rehearsal has assisted with the familiarisation with the material. However, the researcher considered this to be wishful thinking and a trap too many researchers might fall into at this point before properly considering the confounding factors, one of which was blatant. The result of further analysis had to be considered as anomalous because separating the data in this way left a quantity of one for the non-autistic group, meaning that the result could be totally chance and meaningless, rendering the data insufficient to draw any conclusions.

4.5.3 Other considerations

4.5.3.1 Whilst it could conceivably have a great impact on the cognitive recognition tasks if the participants were able to view the videos several times, priming themselves more effectively on each, and whilst that might also have a cumulative effect on understanding the educational message of the video, it is debatable whether it would affect the interpretation of the video. Given the uncertainties of the foregoing, it was the researcher's conclusion that the use of the mean was wildly misrepresentative of the facts in each individual case as is examined further. Of course it may still be said that a higher proportion of each group scoring higher (or lower) in the different tasks between each group could negate the effect of perverse outliers skewing the data. The researcher could not conclude thus without at least examining the ranges of the data to see if that was a viable conclusion.

4.5.4 Range of non-autistic scores

4.5.4.1 Looking very crudely at the ranges without applying any statistical measure, it appeared quite clear that the non-autistic group was a lot tighter and more consistent than the other two groups and that the autistic group displayed an extraordinary range. Without invoking anything else at this stage, it would be enough to account for the initial anomaly of the self-diagnosed group, which in this analysis bore much closer relation to the autistic group. Again, the reason being clear without going much further, that by eliminating those who viewed several

times, the range of individual performance reduced. That might seem to be a fairly self-evident conclusion, although in terms of actual numbers it is difficult when the number of participants in the case of the self diagnosed group, who only viewed the video once, falls to a quantity of one.

4.5.4.2 Ignoring the self diagnosed group, what stood out on the repeat analysis was that although the range of scores for the non autistic participants could be seen to diminish in terms of having a slightly lower cut off point for the cognitive question set, the autistic group continued to have a greater range than the others.

4.5.4.3 Finally, the effect of repeated viewing of the segments was considered. However, with the non-autistic group on this occasion being considered as a quantity of one, any suppositions have to be considered inconclusive. So overall, in spite of the small size of the sample, could anything be concluded from this exercise? In terms of looking at the ranges, the answer is yes. With a quantity of two for the self-diagnosed group, the researcher was forced to conclude that drawing a wider conclusion was questionable for this study, but at least the the autistic group showed a narrowing of the range on two tasks, with not much change (except for one individual) on the interpretative tasks. This may be an effect but a much larger study would need to be done to substantiate this.

4.6 Summary

4.6.1.1 The problems of applying statistical techniques to small data sets have already been discussed. Apart from small study size, statistical approaches have their limitations in specific fields of study in any case given that, by very design, they are intended to

bring data into conformity, bringing disparate results closer together by eliminating the outliers. There is also the problem of taking qualitative material and aggregating it in any way that can give rise to meaningful quantitative analysis in order to produce axioms and proofs of hypotheses and conjectures.

4.6.1.2 Whilst the task which involved the viewing of the edited video segments was designed in such a way as to produce scores for the three main questions, there emerged a number of problems associated with the objectivity and essentially quantitative method which strongly suggested that the interpretive approach to the data was the best one in terms of following the overall methodology to its conclusions.

4.6.1.3 One of the problems lay in the infrastructure of the questionnaire itself, arising from the difficulties of constructing an electronic questionnaire with the unforgiving nature of the software. This became apparent with the technical unanswerability of certain questions which would not have occurred with a paper version. Secondly, there was an unanticipated problem with ambiguity in language. Thirdly, given the ever present interpretive problem associated with the type of response, since many of the answers demanded wordy articulations rather than multiple choice answers or Likert scales of scoring, it was difficult to mark those answers as correct or incorrect in a truly objective way. This latter has some implications for the replicability of the task as being an individual project for a doctoral thesis. There was no opportunity for collaborative research with inter-rater reliability that could be tested.

4.6.1.4 Given that the task was an educational one, which was an attempt to impress upon the remote viewer various facts, advice and observations about autistic living, the measuring of that had all the difficulties of evaluating any educational task - be that in the classroom, by use of technology or guided self -discovery and inevitably suffered from all the problems of a limited study; a sampling in effect of a much larger and longer process in order to give some variety to make comparisons from. There is scope to derive from this experience, advice for future researchers into this topic

4.6.1.5 Nevertheless the evaluation of the data, in terms of a phenomenological approach, was invaluable. It was the very individuality of the responses and the relationship that the respondents had with the researcher through them that was invaluable. Whilst some grand objective to validate or dismiss the existing cognitive and behavioural theories of autism was always going to be impossible by this method, this was not what it set out to do. Nonetheless some highly interesting observations in relationship to those theories came out.

4.6.1.6 Firstly, it is the case that some autistic people are highly skilled at observing what are potentially insignificant and possibly distracting details. That is, however, a skill and not a deficit as such. Not all autistic people have been good at it and not all non-autistic people bad either. As has become apparent elsewhere, the autistic people seem to have taken a different approach to the task, the importance of which is discussed in the concluding chapters of this thesis.

4.6.1.7 The research methodology did provide the means to look at that, even if it was not as precise as the technology of a psychological laboratory would allow were the research differently framed. Of particular interest was the light thrown upon the Theory of Mind problems in autism which would also suggest more naivety in the autistic than non-autistic participants. This was clearly not the case. The participants were well informed and well aware of the way in which contemporary media works; they were very sensitive to the nuances within the different production styles and had strong opinions about them, strong enough in some cases to affect the performance in the task, which is a definite finding in this research for the implications that has.

4.6.1.8 Light was also thrown onto the ability of autistic people to have an awareness not only of their difference from so called 'neurotypicals'³⁸ but their similarities, to the extent of having an enhanced ability to recognise each other as a distinct cultural neurotype. There is a lot of scope to take this further given its implications for education, as Milton (op cit) already has in highlighting the Double Empathy Problem.

4.6.1.9 The research also revealed both the difficulties and the enhancements of an emancipatory approach of co-discovery in which the respondents are often effectively talking back to the researcher, as Charmaz puts it, in jointly constructing the outcomes.

³⁸ The word is an example of a coinage within the autistic community that has spread outside to both educational and scientific communities even if it is often employed incorrectly

4.6.1.10 There remain problems of objectivity in other respects; that of the selection of volunteers, as it is clear that the non-autistic participants were not some cultural and neurological isolate from the community under study such that they would provide a complete contrast. Indeed, as has been apparent, most of them were parents of autistic people themselves and therefore anything but remote from involvement in the questions which this research asked or outcomes it sought.

To borrow from Solomon's phrase (Solomon, 2013) in talking about disabled and marginalised children "*the apple does not fall far from the tree.*" There is a broader autistic phenotype to be considered which makes it hard to consider the non-autistic parents as the polar opposites of their autistic offspring. It is a dilemma that would be hard to solve. The essential problem lies in whether it is ever possible to realistically recruit an independent group of non-autistic participants given that the motivation to participate in research will always militate towards a cohort of participants with a share or interest in the subject of that research.

4.7 A discussion of the Cambridge AQ/EQ scores in relation to their performance on the video observation task

4.7.1 There exist a variety of instruments available to both diagnosticians and researchers in order to provide some measure of comparability between studies. ADOS and DISCO (referred to in the Literature Review) are both proprietary and involve expensive training, beyond the reach of an educational researcher. However, an

alternative has been made available in the public domain for this purpose. It is not a diagnostic tool as such, but a general screening test that can be used in a clinical setting. The scores obtained on this measure could be used to describe a sample for research purposes.

4.7.2 The structure of the test involves two questionnaires with a Likert scale with gradations of agreement and disagreement. There is a set of statements which the respondent has to consider and grade as strongly agree through to strongly disagree. These are designed to ascertain whether a person might have characteristics in common with autistic individuals. The scores can then be used to determine whether a person should consider undertaking a full diagnostic assessment.

4.7.3 A number of dummy questions are introduced so as not to allow the respondent too much insight into the import of the individual questions. The results are scored and two quotients are produced. It is generally the case that people who have been formally diagnosed score within a particular range, and a cut-off score is given and respondents scoring above this are then deemed to have features in common with other autistic individuals. Notwithstanding the doubts surrounding the construct of autism which has become a running theme throughout the research, it was felt necessary to institute some external measure to validate at least some of the participants. For reasons that have already been elaborated in Chapter 3 in the methodology, the Cambridge Battery was chosen.

The researcher felt it unethical to insist upon all the participants undertaking this check, given the scepticism and hostility it arouses in some parts of the autistic, self advocacy community (cite). However, it was still considered to be a worthwhile endeavour by the researcher in terms of the conclusions that can be drawn from the analysis of the results when compared with the other ways in which the participants can be divided from their approach to the main study.

4.7.4 In the event, nine of the participants undertook the battery, although only eight of these completed Stage Two - the video viewing task. With reference to the diagnostic status of the participants, as reported in the initial questionnaire, two were undiagnosed, one was self reporting, one intriguingly did not specify, giving the following justification: *"I took the AQ test, and my name is on both, so you can see where I fall, if I'm on the spectrum."* The remaining five had diagnoses of either Autistic Spectrum Disorder or Asperger syndrome.

The tests are scored with the Autistic Quotient part of the test having a maximum score of 50 with the research (cite) suggesting that 80% of confirmed diagnosed individuals score 32 and above. The Empathy Quotient on the other hand is predicated on the notion that a low score indicates autism, that is to say of a maximum of 50. Eighty per cent of diagnosed participants score 30 or less. Their scores are given in *Table 8*.

4.7.4.1 **Table 8:** Participants, diagnostic status and AQ/EQ scores

Pseudonym	Diagnostic Status	AQ score	EQ score
Beth	Non autistic	30	20
Denise	Non autistic	23	26
Edward	Self diagnosed	34	8
Frances	Self diagnosed	29	17
Kate	Autistic	27	23
Leonard	Autistic	38	18
Mary	Autistic	35	22
Norman	Autistic	37	14
Olivia	Non autistic	15	20

4.7.5 In terms of the EQ test, none of the participants scored above 26, so by that criterion, all of the 9 participants would be in the autistic range. The highest score of 26 was a non- diagnosed parent, the next score of 23 was a diagnosed individual with the next score down being 20 - an undiagnosed parent again.

4.7.6 Given the notions on which the test is predicated, of autism being an empathy disorder, one might have expected at least one of the non diagnosed participants to score outside of the range, but this was not the case. The researcher has been left to reflect on whether there was some other common factor amongst the participants that led them all to score so low, maybe relating to the test itself and the propensities of people who are prepared to take it.

4.7.7 Coming on to the AQ test, again the results were somewhat anomalous. Nobody scored less than 15. This was a marked inconsistency in that the same individual (Olivia), who does not have an autism spectrum diagnosis nonetheless scored within the autistic range for the EQ measure as did everybody else. This was an individual clearly identifying as, and considered non autistic for the purpose of this study (Olivia). There was also an undiagnosed parent (Beth) who scored as borderline, scoring close to the cut-off of 32 on the AQ measure and below 30 on the EQ measure. Frances the equivocal participant who had left it to the researcher to decide her status would, like Olivia, appear to be autistic by one count but not by another. However, for the video viewing task, if not the initial questionnaire, she identified in the self diagnosed autistic category.

4.7.8 Looking at the data in terms of the categories of participant, Autistic (diagnosed) Autistic (self diagnosed) and Non-Autistic, it is not as clear as one might expect it to be and the confusion persists in the study. Two out of the three self diagnosed participants took the test and one of them was within the autistic range on both measures. The other was outside on one measure but not so much outside as one of the diagnosed individuals.

4.7.9 The overlap in ranges would be expected within a small sample. It would take a much larger sample to make the data clearer, as in the case of the original research on which the findings of the Cambridge Battery are based. However, there are other suggestions in the data that the results are not so much by accident or chance

and that all of the participants are much closer than would be expected by virtue of the way the sample has self selected, being that some of the participants, whilst not autistic, are the parents of autistic children.

4.7.10 If one follows the model of the “Broad Autism Phenotype” one would expect fuzzy boundaries and the closeness of traits in parents, if autism is predominantly a genetic condition, although of course the same could be argued from the cultural position. None of this was very welcoming to the researcher, who at the outset had hoped that there would be clear boundaries between the autistic and non autistic groups, but what has emerged neither helps nor defeats the notion that the self diagnosed participants firmly belong in one camp or another. It was nonetheless expected by the researcher that there would be difficulties in adequately distinguishing a control group sufficiently non-autistic, for the purposes of the study.

4.7.11 The researcher next considered if there were any relationships that could be drawn between how the participants scored on this battery and how they approached the video tasks. As has already been indicated, after considering the initially misleading appearances of the aggregated data, there were not any significant differences in performance on the cognitively based questions to say positively that either the autistic participants or the participants who believed themselves to be autistic stood out as being less confused by anything that could be interpreted as giving support to the weak central coherence theory of autism, nor was there a positive

enough difference to give support to the theory of a weaker theory of mind giving rise to a lesser ability to make specific interpretations of the videos.

4.7.12 In either case, the one discernable trait that separated the autistic and supposed autistic participants from the non autistic, was in terms of how many times the participant had watched the sections of the video. Autistic people are likely to view it more than once. Was it possible then that there could be some correlation between the Cambridge Battery scores and this particular trend in the data?

4.7.13 In this case, the answer was yes. In the case of the four participants taking the Battery who had viewed the video only once, disregarding actual diagnosis, only one of them, Leonard, had scored significantly in the autistic range of the AQ test. The other three all fell below 30, including one diagnosed participant, Kate, one non-autistic participant, Denise, and one self-diagnosed participant, Frances. Interestingly, amongst the non-autistic participants who gave the video more than one viewing, the AQ score of 30 was close to the autistic range, so perhaps this participant,, Beth, a parent of an autistic child deserved being included in a broader autism phenotype group, rather than as a non-autistic participant.

4.7.14 If indeed the criterion of a tendency towards perseveration (in this context the cognate of the medicalising “perseveration” being the positive and socially valued attribute of perseverance) were to be used to distinguish into which group the participants belonged, it would make the claim (though not 100% certain) that one

of the self diagnosed participants and one of the non-autistic 'controls' had erroneously judged the category to which they belonged. However, the contrary interpretation has to be added that once again the sample size is altogether too small when considered in this way not to admit an element of pure chance in these findings. For whatever reason, Leonard, one of the more strongly autistic (according to the Cambridge Battery score) individuals did not emerge from his responses to the study, as someone who strongly demonstrated the stereotypical characteristics of autism. Chance may indeed have had something to play in this distribution, because there is a tentative indication from the participant's response that they had an alternative reason than boredom for not repeating the video. It appeared that they were interrupted before they could view again and seemingly never took it up again.

4.7.15 Before leaving aside any further conclusions, however tentative, that could be drawn from this data set, the researcher considered whether there were any other possible correlations between the Cambridge Autism Battery scores and the scores from the video analysis. Considering first the desire to use any of the scores to indicate whether self diagnosis or identification with known autistic traits is reliable enough to include the participants alongside those clinically diagnosed, the researcher looked at the most equivocal to emerge from the AQ/EQ score and how they might otherwise be distinguished from the study's data.

4.7.16 In this case, that individual, Frances, was one of the lowest scoring across all of the measures. It is to be remembered that according to expectations, any individual autistic participant would score high on the cognitive measure and low on the interpretative; the educational measure notwithstanding. One may estimate that any autistic population is likely to include particularly disadvantaged individuals whose performance may skew any overall score downwards but the demographic data from the questionnaire belies this interpretation as the individual is a University Professor! The other self diagnosed participant (Edward) for whom the AQ/EQ data was available by contrast, scored well within the expected autistic ranges in that measure and also scores highly across all of the measures in the study. This participant did not give any data regarding employment status.

4.7.17 Taking Beth, the non-autistic participant who would in most probability actually come out as broader autism phenotype, there is no difference between the cognitive and interpretative measures in the study whatever, and the scores are toward the higher range overall, again nothing to indicate the individual's status within the autistic spectrum from the study's results. Denise, one of the most clearly non-autistic of the participants on the AQ/EQ measure, whilst equivalent to the equivocal control participant, Beth on the educational score, did show a significant difference on the cognitive and interpretative measures in the direction one would expect. There was however, at least one participant who conformed to what one would stereotypically expect if both Happé's and Baron-Cohen's hypotheses were true.

4.7.18 One of the more strongly autistic individuals on the AQ/EQ measure and confirmed by diagnosis, also scored stereotypically in the opposite direction. However, as if to contradict this, the second strongest candidate for confirmed autism scored as lowly across the entire range as the University professor in the self-diagnosed category. The common point between those two also being that they viewed the videos only once. Of the other two for whom AQ/EQ data exist, the most equivocal on that score had a profile of video scores almost equivalent to the previous two examined and the more strongly autistic on AQ/EQ measures scored as one would expect of a non- autistic participant, much higher on the interpretative than the cognitive measures.

4.7.19 What was it possible to conclude from AQ/EQ data?

4.7.19.1 In all, the researcher concluded that the AQ/EQ data, although supposed to be of value to researchers as a check against the autistic identity of the participants, was of very scarce value in this study except to conclude that the value of having had resort to it was useful in the Popperian sense of indicating the negation of the hypothesis that it was either useful or significant in terms of the study. It is also possible to conclude that the sample size was altogether too small to allow for anything but random, or otherwise explicable, variances. Educational level did not seem to be one of these, given that people educated to tertiary level could score badly on all the study measure. The problem is that the few individuals who did score according to type, when correlated to the AQ/EQ measure, were equally

contradicted by those who did not.

4.7.20 Other conclusions to be drawn are that the EQ measure in particular is not an effective one nor is the theory of mind hypothesis. Nobody scored well enough in performance on those questions for which good “empathy” at least in the Baron-Cohen sense for a correlation to be deemed possible - there was just too great a range. Equally, for a difference between the cognitive and interpretative measures to be an indicator of autistic status, both Happé’s and Baron-Cohen’s theories would have to hold up. However, as has been seen in the context of this study at least, neither holds up satisfactorily given the range of performances. It could be argued that the whole study was flawed yet again by not being standardised across a single viewing of the video, advantage being given to those who had persisted and made repeat viewings.

4.8 Technological context

4.8.1.1 The literature review has already dealt with a brief history of video use in education, including its earlier antecedents as well as some specific applications to autism with their respective studies, and the methodology has dealt with the editing and production of the specific study material. However, this research has yet to discuss the actual technologies in current use in their respective contexts and what conclusions can be drawn, particularly with regards to how the findings of this study can be put to use. This is remedied in this section, before those conclusions and recommendations themselves, which grow out of the application of the

findings to what is equally crucial to autistic difference in this study, the medium itself. To sum up from the literature review, video has mainly been seen as an adjunct to “chalk and talk” teaching, as a substitute for delivering lessons remotely or to introduce themes and material not possible in the classroom. The review covered lantern slides, (which have a separate history if one considers PowerPoint to be the natural successor), training films, broadcast lessons and finally video and DVD. This has shown a technological progression from photographic reproduction to electronic recording on tape and to more compact and durable media such as the CD and DVD. It has also covered the gradual shrinking of this technology from something that required a projector or access to television, to more affordable video recordings and technology available initially in schools and places of education and later available in practically every household, as shown in the data from the first stage of this study.

4.8.1.2 It has also made a more recent transition from something requiring a video cassette player and television to something that has become an integrated entertainment device closely and inseparably associated with the computer. Most recently, the separate recording and playback medium itself is becoming redundant with digitization and streaming from Internet based storage, be that interactive file sharing or a phenomenon such as YouTube.

4.8.1.3 The transition has become so fast that the scene has changed considerably since this study began and where it is at now, with online streaming, challenging the purchase of DVD off the shelf for dominance as the quality of streaming has

improved and the marketplace adapted. Whereas the study began with having to accommodate the slowest computers and internet connections, video is now routinely distributed at far higher resolutions and speeds. This the researcher suspects is the future of the medium for it's use in educating autistic people. However, it is necessary yet to summarise the former uses considered in the study and conclude finally as to their effectiveness or lack of it.

4.8.1.4 In this study, the medium has specifically been considered in three ways:

- Video modelling (when examining the practice of ABA)
- Video in the classroom, as a substitute or adjunct to conventional teaching
- Video as a form of remote study (whether through distributed DVDs or streamed on the Internet)

4.8.1.5 The first, for reasons which were discussed in relation to the philosophy and practice of ABA, was considered not to be of benefit in an overall educational program of increasing independence (whatever that means) or building self-reliance and esteem. The second was found not to have any specific advantages for autistic people over and above any other category of learner. The third was found in the context of the study to have particular recommendations for autistic people, as it utilised certain autistic strengths, the lack of which made it less attractive to non-autistic learners.

4.8.1.6 The second is not particularly dependent on any one form of technology over another, as all (save direct broadcast) have the ability to be stopped and restarted

in a strictly linear fashion. It allows some interaction with the material through the interruption of the diachronic. The first and the third, however, take advantage of more than the ability to step into the diachronic, as they depend upon the ability not only to pause but to pause and go back ad infinitum. For that reason, it is necessary to examine the technologies of delivery themselves and see how relevant or important they are to an autistic audience over and above considerations of style and construction that have already been examined.

4.8.1.7 There are two things necessary to the understanding and perception of the moving image. One of these is the ability to decode the semiotics of image itself, as was covered by the examination of the potential impact of central coherence theory and also the video literacy of the viewers by reference to their ability to detect theatricality and nuanced editing. The second is fundamental to the human experience in general and that is the ability to understand a “narrative” which is dependent upon causality and time. Time and sequence are of the utmost importance in the construction of a video in order to give it a coherent message. What is different about the post photographic generation of technology is the ability to have a different relationship to that time, than that which would ordinarily be experienced. That is, there would an analogue of a theatrical performance, where one engages with Act One, Scene One and progresses scene by scene to the finale.

4.8.1.8 It should be noted again that within the most current technologies has been the ability to control the diachronic, to pause time, and to loop back within the

narrative, repeat, or to fast forward, avoiding some sections. Even more so now, it is possible to construct one's own diachronic out of an assemblage of material, to become in effect one's own editor. Perhaps a third should be added, that is, in order for the preceding two to happen at all in the viewer's perception, there has to be a clear enough representation through the medium itself in which that representation is encoded. (There is a certain failure here, in that it is not possible to retrospectively determine through which of the various video streams each participant encountered the stimulus material).

4.8.2 Formats and resolution

4.8.2.1 Film and its various resolutions and formats are not relevant except insofar as in the past, 16mm film has taken the place of the television camera for outdoor material. It is an irrelevance however, because the output has been bound by the television set, which until the advent of high definition television, has lagged behind the best of 35mm film. There has always existed more than one television format and it is more than a matter of the difference between early black and white transmissions and the advent of colour. There are national differences between the number of lines scanned (including additional lines with purely electronic and non-visual information) and the speed (frames per second) of the recording. There are other differences too, beyond the scope of this study. Furthermore, notwithstanding national differences, there have been differences historically between the format of videos and the recording/replay technology available. Early educational recordings

were often made in the now obsolete Betamax standard, which afforded a superior image to the winner of the war of standards, VHS.

4.8.2.2 VHS in either the US or UK standards, presents (if one compares it to the current computer graphics standards) a lower pixel count (fewer lines scanned,) than standard broadcasting. It is equivalent to the lower standards of computer graphics at about 480 x 250 pixels. DVDs (and more latterly BluRay) present a higher standard, although with DVD at 720 x 576 (UK PAL), this is not particularly great compared to digital photography which does now rival 35mm in its fine resolution capabilities. The resolution as noted earlier has a bearing on the ability to distinguish salient material from background. Leaving aside for the moment such concerns as resolution and data rate, it is the affordances of current technology that have the most to offer, notwithstanding some potential difficulties if the user does not fully understand all aspects of the technology.

4.8.3 Affordances

4.8.3.1 At the onset of this study in 2007, the traditional VHS cassette was still an active technology with a considerable legacy in terms of materials produced and available, and the machinery to view it. The technology itself was relatively simple, provided one did not wish to record a TV programme in advance (with all the associated problems of setting the recorder that have become the butt of much humour). The ability to load a tape, to set it in action, and to pause and to rewind are well within the grasp of even of a preschool child. There would even appear to be evidence, for

example, Baron-Cohen's (Baron-Cohen, 2003) work on systematising, that autistic people have a particular facility with mechanisms and technology in general. This is certainly anecdotally confirmed by many of the researcher's acquaintances. DVDs are not that much different, only more durable, less likely to wear out as the digital signal cannot degrade as an analogue can.

4.8.3.2 By the time this study had reached the stage where video material was presented to participants, however, there was a hastening trend toward the computer being the most important medium, whether to play DVDs or to show pure digital files. There was no call for a video version of the material and although it was available on DVD, it had become apparent for reasons already explained that the computer was the most popular medium for viewing the material.

4.8.3.3 Technically speaking, the video material was streamed rather than downloaded, that is to say the method of delivery was such that it was available in real time. As described in the Methods chapter, a variety of formats were made available to take account of the different specifications of computers and to take account of various Internet connection speeds. An option to download was available however, and it can be assumed that some participants would have the ability to record and copy streamed material for later viewing. What was abundantly clear was that a proportion of the participants did view the material repeatedly (the autistic participants) and it is clear from that, that they had no difficulty in doing so. There was no feedback from the participants to suggest otherwise.

5 Chapter 5: REFLECTIONS ON THE RESEARCH, CONCLUSIONS AND IMPLICATIONS

5.1.1.1 The final chapter of the thesis is written in several parts and the researcher does not feel it is adequate to call the entire chapter, the 'conclusions', as the work does not end here. Reflections seems to be a more adequate title for the chapter as that relates to the notion of reflective practice in education, together with the way in which the journey itself has been as enlightening and educational as the outcome. In engaging with the emancipatory paradigm in the world at large, the researcher has come to a number of parallel conclusions to those on the hypothesis itself that need to be expressed to put the whole thesis into a more realistic framework of grounded research than an exhibition piece destined for the dusty shelves where doctoral theses can die.

5.1.1.2 This thesis is greater than the sum of its parts in that it not only examines the research questions, it is an exploration of the academic research process from an insider perspective. The general conclusions anticipated at the outset are not all concurrent with the final ones. A variety of themes other than a direct answer to a specific hypothesis were always likely to occur because of the methodology chosen. Perhaps the foremost of these has been what it means to be an autistic researcher, researching questions related to autism amongst autistic people. The primary conclusion that can be drawn from that is a universal for autism research, that researchers should not approach autism with too many preconceptions, particularly regarding limitations on what autistic people are capable of. They should put away their 'autism spectacles' and view things as they are without. A second leading on

from this would be that if more autistic people were involved in framing, research, and in carrying it out, this would be more likely. Another inference to be drawn is that one could also regard this research from the starting perspective of Film Studies and conclude that Film Studies needs to recognise the existence of a diverse audience. In particular, if one follows the cognitivist school, it is necessary to recognise a diversity of neurotypes and cater for all. Autistic people are a sufficiently large minority in the community for that to be an important consideration.

5.1.1.3 Finally it is necessary to look carefully at the wider ethical issues raised by autism research, particularly when autistic people themselves have not been considered as anything other than the subjects of it. The chapter sums up otherwise loose ends before making some final recommendations for the use of video and for further research. Before this can be done, it is necessary once again to ground the ethical position of such studies and the technological context of video which has been subtly shifting throughout this study.

5.2 Is the conventional approach to ethical clearance sufficient?

5.2.1.1 Whilst seemingly straightforward and routine a process, the issue in question is becoming increasingly problematic in research as evinced by the papers and discussion at Keele University's Centre for Professional Ethics conference (Keele University, 2010). As awareness of vulnerable groups grows, there is a widespread perception that it is becoming more difficult to obtain ethical clearance to research particular groups and to use particular perspectives. This was an opinion widely expressed amongst the delegates at the Keele conference during questions and informal conversations.

5.2.1.2 Originally, ethics focused on ensuring that research participants were not subjected to dangerous and harmful procedures that might occur in medical experimentation (autistic people being traditionally considered within a medical model framework in the literature as outlined in Chapter 2). The concept of ethical approval has extended to sociological and psychological work due to the dangers of participants being exposed to trauma during the procedures or in recollection of these. The oft cited examples of Zimbardo and Milgram (Gross, 2005, pp. 455-468, 867-886) clearly illustrate these dangers. Furthermore in the realm of education there are always concerns about access to children and young people (Morrow, n.d.) and the dangers of researchers abusing their positions of authority and influence.

5.2.2 Ethical implications for a 'neurodiverse' researcher

5.2.2.1 Whilst the researcher chose not to work with children (although this methodological approach may well be suitably modified for this age group), issues of informed consent have nonetheless become an issue within the research of autistic adults for a variety of reasons. Firstly, there is the socio-psychological positioning of autistic people within a traditionally problematized group as 'disabled' and in particular, within the even more problematical concepts of mentally disturbed, distressed or intellectually impaired individuals (Beresford, et al., 2010) (Rapley, 2004)). Secondly, the impact of the theories themselves on the construction of the group being one whose agency is challenged, for example, through the misapplication of the research of Baron Cohen (1997) and others into

‘theory of mind’ (discussed at length elsewhere with respect to theoretic bases of autism and in the findings). Here it is envisaged, at a simplistic level, that autistic people are less aware of the impact of their behaviours on others through the semantic and pragmatic problematisation of autistic people’s understanding of language and instruction, for instance the oft reported (Happé, 1991) tendency to understand language at a literal level.³⁹

5.2.2.2 It is the researcher’s opinion and experience that services for autistic people have grown in a fragmentary way. These first focused on children with the original concepts of autism as a ‘mental disease’ of infancy (Rimland, 1964) and only later addressed the residual problem of adults in society who have often fallen into the category of ‘mental illness’ within health and social services. The researcher need look no further than his own experience, having been allocated a social worker from the local authority’s ‘mental health team’, causing confusion and a lack of clarity.

5.2.2.3 It can certainly be supposed and demonstrated that autistic adults are more vulnerable to comorbid mental distress (Ghaziuddin, 2005) or that they have been misdiagnosed and dealt with inappropriately in the past within that category. The longstanding case of Piers Bolduc (Foggo, 2003) in which Piers was sectioned under the mental health act, kept in Broadmoor and medicated inappropriately for

³⁹ Happé effectively ‘pathologises’ the writings of three autistic authors, such that the style of the text is given more prominence than the substance. Although at a more advanced stage in her career she expressed regret at what she did when she was becoming established, the book is still in print, referred to and cited by a new generation of researchers and students so that the harm continues to be done. Nonetheless with reference to Autistic difficulty with Ambiguity she does advance an interesting reference to the work of (Sperber & Wilson, 1986) which relates to the communications theory that this researcher has seen in connection with ‘media studies’

Schizophrenia, is but one illustration; the researcher's experiences with the National Autistic Society and the autism community provide other examples (Hare, et al., 1999). Notwithstanding the reality or otherwise of any noumenal⁴⁰ basis to these conceptions, it is without doubt that autistic people are regarded as particularly vulnerable, whether they be children or adults and therefore in need of exceptional consideration or protection.

5.2.2.4 The researcher need go no further in illustrating the difficulties raised by this particular objectification of autistic people than detailing a problem that occurred in the recruitment of volunteers, even after the University's full ethical consent had been given. Being familiar with a local further education college which focused on 'special needs' with a particular interest in educating young people with Asperger syndrome, it initially seemed a good venue to recruit from. However, in the event, this proved difficult for a number of reasons. The initial inquiry was made to the Principal and referred on to a 'gatekeeper.' This individual made what were regarded by the researcher and his supervisor over-intrusive demands and took an equivocal stance toward the proposal, having been given the same amount of detail that had satisfied the University involved. There seemed to be some point of distrust in the notion of an autistic student carrying out the research and an exaggerated response to the perceived vulnerability of this group of students that could not be overcome. This was despite the researcher's qualifications and the research supervisor's intervention. It was therefore concluded that the degree of

⁴⁰Immanuel Kant, "das ding an sich" or the undeterminable truth behind appearances.

supervision and intervention the college requested would have interfered with the integrity of the study and no recruitment was pursued from this College.

5.2.3 The traditional ethical approach

5.2.3.1 In terms of addressing the perceived or real problems with the autistic participants, two principles needed to be established. Firstly, given the potential difficulties of genuinely informed consent (eg difficulties with ambiguities in any consent form or explanation, together with a notional inability to understand the implications of giving consent as would be implied from some theories of autism), it was necessary to elucidate in uncomplicated/unambiguous language just what the participants could be involved in. It had to be made clear what might be expected of them, but also that they had the right to withdraw at any stage (see *Appendix 4* for a copy of the information given on the consent form). Secondly, it was important to ensure that the stimulus material itself would in no way harm the participants. The notion of harm itself is of course difficult to determine, given its subjective nature, an issue which is considered again in the conclusions to this research.

5.2.3.2 Whilst it may be assumed that any educational material would be of benefit rather than harmful, there is nonetheless a history of concern that the visual media are potentially harmful (Philo, 1990) and the whole predication of the research is that at the very least, visual media are influential. Harm might be anything from being exposed to traumatic images or being unduly influenced toward aggression or

depression by them.

5.2.3.3 Hypothetically, exposure to educational material concerned with self- actualisation could be difficult to digest mentally and cause some distress. However, without undertaking research into this, how could one ever know? In the event, as discussed later, much was learnt from the participants' reactions to the stimulus material. It was nonetheless obvious that the material ought at least not to contain anything that was particularly graphic, offensive or beyond the ordinary constraints of an educational video. Given that the researcher had identified videos that had been published for and used in the education of autistic individuals and their families, this was not likely. One could suppose there are categories that would be of great concern for many young autistic people (eg videos that go into detail about sexual relationships) (Lawson, 2000).

5.2.3.4 These initial and conventional ethical problems were all satisfactorily dealt with through the University's ethics procedure and an appropriate consent form and information sheet were devised and agreed (see *Appendix 4* for copies of the form and accompanying information). The consent form was also available electronically and this document had to be completed before the participant could continue and complete the electronic questionnaire.

5.2.4 An extended application of ethics

5.2.4.1 There are also other issues given that the researcher himself is situated within that category of 'vulnerable' persons with whom the research deals. Notwithstanding the challenges to the notion of the researcher's own agency as an 'impaired mind', something certainly subjected to critical sociological gaze in the anecdote just related, other questions are raised (eg notions of objectivity or subjectivity and external and internal validity (Gross, 2005). There are also wider questions of ethical relevance that can be dealt with by looking at the research from the perspective of the emancipatory paradigm, which motivates many researchers from within traditionally devalued and disadvantaged minorities in terms of "*private troubles and public issues*" (Tregaskis, 2004). The researcher within such a context has an ethical duty to produce accurate research, not only in terms of the academic directive but to do justice to the community s/he belongs to by not perpetuating false or overly negative stereotypes.

5.2.4.2 However, that very awareness leads to the paradox of acknowledging the potential biases of taking a position that is inevitable from that moral directive. This became more apparent as the research progressed and the methodology solidified into specific questions and choices of how the answers might be interpreted by a potentially different and non-involved observer. These are issues that are returned to at various points in the thesis, as it was important to keep them in mind throughout.

5.2.4.3 Having been both a consumer of others' findings (as a student) and a supervisor of two research studies produced within the framework of disability politics (Bains, 1991) and (Malkin, 1990), these two demographic studies involving liaison with the local authority and the two sponsoring bodies, the researcher has always been aware of the presence of researcher bias, particularly when working with interpretive data. As Thomas says (2009), one is always interpreting from one's own history and another person reviewing the same data may do so differently. It was not until the actual analysis of the first qualitative results that the researcher became acutely aware of his own positioning with respect to the outcome and began to question strongly the possibility of objectivity. However, as is outlined further in the chapter, an encounter with another social researcher produced further literature that was able to guide the research back from the extremes of scepticism into the realms of theoretical viability.

5.2.4.4 One of the problems in researching this group is the societal preconceptions and devaluation of people with autism (Waltz, 2008), notwithstanding the legal implications that have already been outlined of studying group members who, whilst adult, are still considered to be vulnerable. This is not an irrelevant speculation because it seemed to have some effect in making the recruitment process more difficult than it would otherwise have been for a group considered to be more 'robust'. This raised additional ethical concerns not considered by current ethical clearance procedures about the researcher's positioning within the paradigm of emancipatory research and the necessary questioning of some of the degrees of incapacity imputed to the autistic population to which the researcher

himself belongs (Waltz, 2006, op cit).

5.2.5 Researcher as participant observer and insider

5.2.5.1 Whilst it was not an explicit part of the foregoing considerations necessary for formulating a conventionally ethical methodology, the researcher was aware of a wider ethical perspective that informed the process pervasively. In addition, there was the researcher's own positionality within the debate, which was eventually accommodated by adopting Charmaz's (Breckenridge, et al., 2012) constructivist grounded theory. The researcher was informed both by an understanding of the wider ethical questions raised by the practice of participant observation (Robson, 2003) and the particularities of being more than a participant in the sense of being involuntarily immersed as an insider in the culture of the group that was under his investigational purview.

5.2.5.2 Elsewhere, as in the sociological discourse surrounding the 'classic' ethnomethodological studies of (Whyte, 1943) and (Humphries, 1975) there have been ethical concerns⁴¹ regarding whether members of a group under study should know not only whether they are being observed but more so what the purposes of that observation are in terms of the impact that could have on their lives. It is therefore of concern to a researcher who regards himself as part of an autistic

⁴¹ Whyte's study involved immersion within a non-law abiding community of street gangs, raising concerns of personal safety and involvement in illegal activities with only the gang leader being aware that he was a researcher. Humphries was involved as an observer, fulfilling a particular cultural role within the homosexual community when homosexuality was illegal.

community that its members are not abused or exploited within the framework of the research. For both Whyte and Humphries, there were concerns with the illegality of the activities of those being observed, that denied them the possibility of being insiders in the true sense. However, for one who considers himself an insider within a potentially devalued society, the personal integrity of the researcher is of the greatest ethical concern over and above the usual questions. If the researcher does not remain committed to his roots, then he is at risk of losing his status within the community and the community is likely to be damaged by external appropriation of the perceived status of the researcher as an acceptable rapporteur (the so called self-narrating zoo exhibit (Sinclair, 2005)). This is predicated on what the researcher regarded as an ethical question in itself. This was not only that the research should do no direct harm to the participants but that they should not be treated even remotely as an 'availability heuristic' and inadvertently harmed through the insult to the community described by Derrida (1974)⁴² in his critique of Levi Strauss as an act of 'violence'. It was therefore essential that the research question itself was framed as one that was beneficial to the community of autistic people in general of which the participants were part. Furthermore, the question itself should not be a trivial one, either in the sense of being insignificant or being a question that was, as has already been said by reference to Duhem and Quine (op cit), not capable of being adequately answered within the terms of the research.

⁴² Derrida tells the story of Levi Strauss' introduction of the concept of writing to a chief of the Nambikwara Indians and of his writing down of Indian girls' sacred names (not to be revealed), which he subsequently revealed in his literature. Derrida considers that to be an act of cultural violence to his hosts.

5.2.5.3 Notions of objectivity gave the researcher no small problem. On the one hand, his individual ethical understanding that research should not only be informed by practical ethics, but also be purposeful and valid demanded that the study should be objectively quantifiable, replicable and not perversely influenced in outcome by the subtle pressures of the researcher's insider status and possible desire for a particular outcome. On the other hand was the growing realisation that quantitative methodology was not particularly serving the community to the fullest extent in revealing, within the emancipatory framework, just how the participants related to the process of being researched and having the opportunity to make their voices heard through it. This would not be achieved by a set of statistical tables, however replicable, as epistemologically speaking they would of themselves indicate nothing of the position of the researcher toward the participants or their reflections of the process.

5.2.6 **Constructivist Grounded Theory**

As alluded to earlier in both the literature review and the methods chapter, the researcher discovered an alternative approach to Glaser and Strauss' classic grounded theory, having been introduced to Kathy Charmaz's Constructivist Grounded Theory (op cit) whilst presenting at a poster conference. This led the analysis of the findings.

5.2.7 Whilst the research was progressing, a further ethical point emerged, which had been present from the beginning as a motivating force - the researcher's stance

toward the genre of autism research in general. Although that had been the impetus which led to studying and later researching the education of autistic people, it was becoming evident as an emergent process throughout each stage of research that the study itself was becoming self reflectively a journey of enlightenment into research methods as they are applied in different fields. This was particularly true of, “science based” medicine, wherein the bulk of research into autism is situated, and the humanities based approach through educational research, sociology and critical literary studies. This led to further investigation not directly germane to the topic but a definite by-product of the research, which is detailed in *Appendix 8*, the poster presented at the Cambridge University Neuroscience conference of 2010 being one such example (Arnold, 2010). These wider ethical concerns may seem irrelevant to the current research topic but are fundamental to the understanding of the entire context of the study, of the approaches taken, and to the actual and desired outcomes which extend beyond merely satisfactorily answering the question in either a positive or negative way dependent upon the findings. In retrospect, this became something more than just a collateral and unexpected ‘spin off’ from the research in terms of papers and posters produced along the way, but a fundamental ‘principle’ which became not only a strong motivation to continue but of equal importance in exploring the research question.

5.3 A critique of statistical methods

5.3.1.1 An early conclusion drawn when devising this research was that a quantitative statistical methodology would in all likelihood not prove possible or very useful. The rationale behind the decision is discussed further/consolidated here, along with the implications for the Social Sciences arising from over use of statistical reasoning.

5.3.1.2 Historically, statistical methods have been used in the Social Sciences to seek out correlations in large data sets, with Durkheim's classic work setting the paradigm (Durkheim, 1897) . Classically, epidemiology has also sought to establish causal relationships through the analysis of statistics, the most famous case being that of John Snow and the water borne spread of cholera (Waller, 2002). More recently, the incidence of adenoma (nasal cancer) was linked to working in the furniture industry (Acheson, et al., 1968). The relationship of this to autism might appear tenuous but there have been recent attempts to correlate autism epidemiologically with births of children to older parents (Reichenberg, et al., 2006) (Idring, et al., 2014) and, somewhat bizarrely, television viewing (Waldman, et al., 2006) and rainfall (Waldman, et al., 2008).

5.3.1.3 As suggested in the Methods chapter, the researcher could again invoke the Duhem Quine indeterminacy hypothesis (Harding, 1976)⁴³ to explain why the competing hypotheses cannot all be right, notwithstanding that some theories based purely on

⁴³ This is sometimes referred to in the philosophy of science as the Duhem-Quine 'underdetermination' problem where a number of hypotheses which are mutually contradictory seem to have equal validity in explaining a phenomenon, though they logically cannot all be true. It usually suggests that there are some basic flaws in the premises of the research that do not allow enough data to be produced to determine the question adequately, often relating to fact that knowledge has progressed to such an extent that researchers have to take previous hypotheses on trust rather than prove them from first principles.

correlations between tenuously hypothesised factors fall foul of the '*correlation indicates causation logical fallacy*' (Vigen, 2015). Indeed Frith, quoted below, has said as much when commenting on the Waldeman paper:

5.3.1.4 *"This study shows the danger of simply collecting prevalence data without a specific hypothesis. Sadly, the correlations found cannot be interpreted. It is likely that this result will vanish just like correlations found previously with season of birth, position in sibling order, parental age and vaccines."* (Science Media Centre, 2008)

5.3.1.5 It can, for instance, be shown that almost any factor that has increased during the last half of the twentieth century correlates with another increasing factor, the growth in diagnostic accuracy for autism being but one example. Another example is the link - which some say is causal – between a rise in violent crime and violent video games (Fournis & Abou, 2014) but one could also cynically say that this was linked to the increased use of plastic carrier bags, as there has been an increase in the usage of both in the same time period.

5.3.1.6 It would nonetheless appear that no peer reviewed scientific paper can ever be published without a statistical analysis of variance. The researcher suspects from the sociological perspective that this is due to peer pressure and expectation rather than honest peer review. In reading many of the papers that form a background to this study, the researcher has noted that statistical analyses of small samples often appear to be there more because of the culture of research and the way that statistical packages such as SPSS (IBM, n.d.) are available than methodological necessity. Notwithstanding the logical difficulties with establishing causality through correlation, the directionality of it being the first unanswered question, there is the rather obvious example that almost anything that has increased in the

20th -21st century can be correlated to something else that increased. This all verifies that unless one is aware of all the factors, one can easily attribute false correlation (Vigen, 2015) in spite of impeccable statistics, particularly when the numbers are small, as they often are in autism studies (Pellicano, 2011).

5.3.1.7 One can take almost any phenomenon of the twentieth century and correlate with the growth of autism over a similar period. Nevertheless, the more obvious manifestations of autism which grow out of underlying differences in perception may be becoming more visible as autistic people are unable to adjust to the pace and 'noise' of industrial society (Wilson, 2014), or perhaps societal changes brought about by the industrial revolution led to the social construction of discordant and disorderly behaviour due to the changing demands of society emphasising greater homogeneity in the workforce. However, if those are causally linked correlations, they certainly put paid to the notion that television viewing increases autism, which, if true, would be bad news for the researcher who is attempting to validate the use of video as a useful educational medium for that population.

5.3.1.8 Having disposed of the caveat that correlation cannot prove causation, apparent correlation can still strongly suggest lines for research, particularly where there is a strong theoretical framework to suggest a mechanism underlying the relationships. This was the case in Acheson's (op cit) work with adenoma in the furniture industry, with the probability of excess nasal cancers being directly related to the carcinogenic properties of the dust from resinous woods and other compounds used in the industry before protection was commonplace.

5.3.1.9 One still has yet to beware of apparently convincing statistics however (Westover, et al., 2011) (Ioannidis, 2005), for even with the classic example of Snow and cholera, there were and still remain criticisms of false correlation. Whilst the mapping of cholera cases was indisputable, the argument was not even at the time wholly persuasive since the evidence could as well have supported the airborne theory (Waller op cit). It is only hindsight and microbiology that have proven the stronger case.

5.3.1.10 Returning to the current research question, does the study bear out any of the causal hypotheses? For example, in terms of weak central coherence, it would have been expected that the autistic group members would score higher for their ability to observe peripheral features and according to the theory of mind/social deficit hypothesis, that they would score lower on the ability to understand manipulative editing (interpretative questions). As was seen in the initial graphs (see *Appendix 7*), that did appear to be the case but statistical analysis of variance could not be applied to back this up and in any case what would it lead to? If a statistical analysis were all that the experience of the participants could be reduced to, such a study would be a failure in terms of any participatory stance as it would, in homogenising the results, effectively ignore the personal and experiential responses of the participants finding themselves engaged in an academic study of this kind.

5.3.1.11 It is quite apparent that the researcher took the right step in emphasizing the qualitative data over the numerical data produced. This does not mean however, that a repeat study with larger numbers may not yield clearer results, although it

may well end up a very different kind of study. However, perhaps from a statistical perspective, it might be an advantageous line of research not to take the standard statistical measures as an indicator but to consider the ranges themselves because there was some slight suggestion that there was a bigger difference between the overall ranges of autistic performance when compared to a more tightly defined band of non-autistic responses. This is something altogether to be expected considering that autistic people are divergent not only from non- autistic social expectation but from each other, to a greater degree.

5.3.1.12 Indeed, combining the input from the two questionnaires and reflecting upon pertinent sources from the literature whilst comparing other experiences of using video in a practical way, gave results which were altogether more informative than numbers alone. Additional interviews, though few, also allowed a greater focus in the form of 'case studies' to explore this further.

5.4 Conclusions

5.4.1.1 The conclusions can be separated into the researcher's final thoughts on the effectiveness of video for autistic people and leading from that further conclusions relating to the phenomenon of autism research which arose from the research process. That is to say elaborating, in the case of the main conclusion, why certain autistic characteristics strengthen the argument for the use of video, but also examining further some of the difficulties that can arise from the medical model of autism in terms of the questionable scientific models and the recommendations for

more critical interchange between the different bodies of autism research. This is followed by certain recommendations, one of them being the need to carry on with this particular line of research, but others relating to the use of video specifically and finally the recommendation for further engagement with the academic and professional world, and how this has been accomplished as part of the research process so far.

5.4.1.2 Given that one of the aims of this research, as outlined in the Methodology section, was in part predicated upon notions that although there are conflicting accounts of autism in the scientific literature, it might be possible that one of these would have more validity than the others. Further, that this might be sufficient to have some influence on and be capable of explaining autistic traits as they relate to education. So did this study give any kind of answer to that question or does it remain relevant at this stage?

5.4.1.3 Questions of cognition have their role and these are examined in the light of recommendations for future directions of research, but what of the educational import of the material that the participants were exposed to in this study? Considering that one of the problems of the Mind Reading DVD cited in the literature review was that it was inconclusive regarding the long term generalisation of the lessons learned into the background of future life, can the same be said for this research?

5.4.1.4 Whilst it is difficult to conclude whether the stimulus material for the current research, compiled as it was from a variety of sources, can be said to have contributed much in the way of lasting effect either, the lack of any long term effect has to be realistically considered from the viewpoint of:

- limited aims of the project utilising samples of more complete works;
- appearance without the context of the original;
- aims to discover specific data regarding the reaction to the material which is not necessarily relevant to long term effects, that is to say what usual observations had been made from the participants reactions to it during immediate viewing of it.

5.4.1.5 In terms of absolute gain from this research however, much has been learned at the individual level about how this particular group of autistic people responded to video and advice is given further into this chapter on the importance of continuing with such research from more than one perspective. There is certainly sufficient material to conclude that there is enough of a positive effect in terms of autistic people reacting to video in a particular way to suggest that it should at least be replicated.

5.4.1.6 With the inevitable limits of a small study notwithstanding, the researcher feels there was sufficient justification in the analysis for a positive conclusion regarding the essential question of the effectiveness of video. These are the benefits that arise from catering for specifically autistic traits. The justification for this assertion does not necessarily come from the researchers having considered Central

Coherence theory as a basis for why autistic people may respond in particular ways to the medium. As stated in the introduction to these reflections, the coup de grace of statistical significance could not be given due to the contingencies of a small study size and unexpected flaws in the progress of the online methodology.

Nevertheless, the conclusions that could be drawn grew out of considering the rich mine of qualitative content. This remains phenomenologically interlinked with the theories, given the content of the videos themselves and the researcher's prior experience drawn from many years of interaction with the autistic population from whom the participants were drawn, for example, through Usenet and email exchanges, running a support group, learning the art of video production alongside autistic peers and utilising video in formal presentations.

5.4.1.7 What is important is that there was qualitative data, not only in the comments but in the answers themselves. The answers to the preliminary questionnaire suggested that there was a very aware group of people who wished to see autistic people represented in videos in general. There was evidence of strong self-identification in the answers of those who went on to do the full study, highlighting that this was by no means a group of naive participants.

5.4.1.8 Given the reservations arising from the lack of adequate comparisons between the autistic participants who viewed the video segments more than once and the non-autistic group who were too few to be definitive, every conclusion drawn must be considered to be somewhat tentative. However, the researcher still thinks that, limitations of study size notwithstanding, there was sufficient qualitative and

background material within the study to allow conclusions to be drawn. It is important to note that the autistic participants, whether or not they performed better at some tasks than others, did express preferences with regard to the type of presentation and material they preferred. It ought perhaps to be self-evident that material presented in ways that are preferable to the viewer should have more impact than otherwise, as their selective attention will be engaged and not enraged by it (Murray & Lesser, n.d.)

5.4.1.9 Whilst recognising that the population under study was a mature audience that had been through the main learning experiences of life, it is important to note that it is likely that although particular preferences and prejudices may have been learned, they were learned in ways related to the cognitive style of the learner and therefore more likely to reinforce those particular styles than mitigate against them. It is far easier to conclude from the results that there may be individual differences within the autistic community, which explain why not all of the autistic audience did view the segments more than once, and why weak central coherence or enhanced visual perception and discrimination cannot be assumed for the whole of this population.

5.4.1.10 Of equal importance to educational outcome per se and the participants' cognitive skills were their abilities to understand the motivations and methods that underpinned the way the video segments were originally constructed, that is to say the differences between them, the whys and the wherefores that go into the total syntagm (in the Saussurian (Saussure, 1974) sense, of image, text and diachronic.

5.4.1.11 Rather than looking at numerical data and manipulating that in ways that might in reality mean nothing, the researcher from the outset was concerned with what the viewers had to say about the experience and worked back from that to what could be deduced from it to conclude positively about the original hypothesis or what bearing the participants' commentary had on any of the key psychological theories of autism in terms of either confirming them or critiquing their basis in fact.

5.4.1.12 Various effects might arise from the effect of multiple viewing, regardless of any particular autistic propensity to do so or to gain more from it. One is that it is natural that having viewed once, and seen the questions afterwards, one could prime oneself to look for the answers on a second or even third viewing. The corollary of that might be that in spite of that, there might be something particular about the cognitive style of either group which would either show more significant effect of multiple viewing or a lesser one. Unfortunately with the lack of sufficient controls for the autistic group viewing multiple times, it is not possible to definitively conclude anything, one participant who on multiple views in two out of the three instances did not match the average of their peers on a single viewing

5.4.1.13 With regard to interpretation (and this is where film theory comes in), the autistic group members did not as a whole perform so badly as to conclude that they were cognitively incapable of making these distinctions, merely that performance on this was variable.

5.4.1.14 The researcher, looking aside from the results, came to the realisation that the autistic audience was by no means as naive as one might have supposed given the

classical descriptions of autistic people in the literature, and that the participants did appear to have strong preferences.

5.4.2 Further conclusions

5.4.2.1 It is appropriate at this point to list the other possible conclusions besides the main one in no particular order of precedence, in order to consider their validity in relation to the evidence and to make further recommendations, without which this research would be failing in its objective of not only furthering knowledge but putting it to best effect. From the results of the study, it can be concluded that:

- autism research is not an exact science, if it is a science at all;
- models are not a good enough fit to draw conclusions but contain a grain of truth;
- autistic attention to detail and powers of observation are a positive factor for video based learning;
- autistic people's cognitive styles and insight should be respected.

5.4.3 Autism research is not an exact science

5.4.3.1 It has been a recurrent theme throughout the research that there were difficulties in basing it around any one theory of the origins and cognitive impact of autism. This emerged from reviewing the literature where there are works devoted to listing and evaluating the rival theories for instance (Bowler, 2007). It could also be

said from attending various conferences during the course of this research that the territory was severely disputed; the revision of DSM that was in progress during this time being a good example of the supplanting of one paradigm⁴⁴ by another, and the subsequent disputation by the losers in that argument (Mc Partland, et al., 2012)⁴⁵. Notwithstanding the emergence of talk about the ‘Autisms’, as the US Mind Institute’s Amaral has described the phenomenon (Amaral, et al., 2008) and given the failure (Yang & Gill, 2007) of the great hope of genetics and DNA analysis to prove any clear universal indicators of autism as Bailey and Rutter’s early research had suggested (Bailey, et al., 1995), the failure to establish strong evidence of, or to fully interpret the implications of, the Central Coherence Theory in the Findings chapter only adds weight to this.

5.4.3.2 Indeed, if one considers from the standpoint of Critical Disability Studies, the social means by which the production of knowledge is controlled and channelled into deep silos, this is more than enough indication of mentality to indicate a state of confusion; an ‘infantile disorder’, to paraphrase Lenin’s remark (Lenin, 1964) with some appositeness, considering that this is exactly what autism used to be considered as.

5.4.3.3 Essentially, autism has become a ‘chimera’ as eluded to in the section on diagnosis and even within the timescale of the present study, has become a moving target, as

⁴⁴ The replacement of a Triad of Impairments with a Dyad and the collapsing of the separate categories of ‘pervasive developmental disorder’ into one autism heading.

⁴⁵ Volkmar (who was one of the authors of this paper) was instrumental in supplanting an earlier paradigm with the introduction of ‘Asperger’s disorder’ in the third revision.

it has been ever since it was first tentatively defined. Arnold (Arnold, 2012) has suggested that the concept of autism and its recognition could only have come about as the confluence of historical processes, a concept re-iterated by (Nadesan, 2005)⁴⁶. The continuing debate surrounding how autism should be designated and the processes around how this is resolved⁴⁷ is evidence that the external influences are not entirely due to science but borne of political decision-making and manoeuvring⁴⁸.

5.4.3.4 As has been stated several times in this study, the ‘underdetermination’ of a phenomenon from the evidence is no new thing. Any new researcher coming to a field as complex as the study of autism has (as this researcher did with central coherence theory) to accept the validity of research that has gone before, just as a chemist researching a new formulation of a gas has to take on board Boyle’s work in the 18th century. It is impossible for any one researcher or even a team of researchers to validate everything from first principles, as Hilbert, Russell and others attempted with Mathematics between the end of the 19th century and the early decades of the 20th (Russell & Whitehead, 1910 - 1913). This leads almost inevitably to conflicting theories that seem to be equally well based but come to

⁴⁶ Although Nadesan’s book predates the publication of Arnold’s article, Nadesan was aware of Arnold and other autistic activists’ positioning, which she incorporated into her work.

⁴⁷ As instanced by Cathy Lords presentation at the British Launch of DSM 5 at the Maudsley Hospital in 2015

⁴⁸ The researcher was drawn aside by Prof. Volkmar after Volkmar’s conference presentation where a discussion ensued over what interests might determine how research is interpreted into administrative categorisation. Volkmar readily admitted this was essentially a political process of lobbying and committees.

different conclusions, as with for example the extreme male hypothesis of autism and central coherence cited several times throughout this study.

5.4.3.5 One can only speculate as to why the science is not clear on the subject and why so much contradictory literature has been allowed through the peer review process. One can only surmise about the 'silo mentality' (Cilliers & Greyvenstein, 2012) or the complexity and sheer amount of research that it is impossible to keep abreast of all the papers. This is particularly the case of studies outside one's own narrow field, so deep within the metaphorical research bunker, a specific research team in an individual discipline is likely to be totally unaware of research in an allied field which may cast doubt upon their particular hypothesis, with that unknown rival explanation having equally valid 'anovas' and statistical evidence. The present investigator suspects, according to the organisational theory cited in Cilliers and Gryvenstein (op cit), that many researchers, having chosen their path of destiny, actually disdain the work of others in fields they disparage. Forasmuch as this might appear to be anecdotal, common knowledge amongst academics as well as 'team workers' in industry and commerce, there does appear to be evidence for a destructive competitive spirit.

5.4.3.6 It is unfortunately also the case that many published studies have been of small sample size, which is also a limitation of this research. However, scholars have not always taken the present researcher's sceptical approach to using statistics for a number of reasons that become apparent when one considers the differing cultural practices and expectations of journal editors towards any study that does not show

the expected normative statistical analysis. If one does not follow the accepted form for the field, one will not get through peer review because, for example, a lack of any Maths per se in a 'genre' where mathematical gymnastics are expected of the author, might not signify to the audience that the paper is in the empirical tradition or in a more literary based medium, failure to conform to an accepted style might signify cultural illiteracy. These are indeed issues that the new 'Autonomy' (Arnold, 2012) journal is attempting to address.

5.4.3.7 It is difficult for a new researcher not only to gain funding for an independent line of research due to the propensity of funding bodies to fund institutions rather than individuals, and therefore of almost insurmountable ability for the first time researcher to of research and even more so to influence the main stream of research into autism by doing so. Although it is a fundamental criterion for new doctoral research that one should be able to make an original and significant contribution to the field⁴⁹ and as much as the researcher believes that the errors of silo mentality need to be addressed(op cit), it has to be admitted that being a first project, this is unlikely to have either the conventional authority or the 'impact' to make a significant difference to the state of affairs, unless there is an attempt at some point to either replicate the study or build upon its uncovered mistakes in designing another to investigate the same field.

5.4.3.8 Irrespective of the current trends with regard to funding research, there would appear to be more than sufficient examples of less than salient research. As has

⁴⁹ As instanced in Birmingham Universities own guidance to students writing a research proposal

been previously stated (P*) when considering the number of papers published every month, one has to be very circumspect in what one reads, particularly in terms of what one can read given the amount of time one would have to set aside to read a substantive portion of what is produced.

5.4.3.9 Nevertheless, difficult though it may be to critically evaluate a paper written in a language one poorly understands, based upon principles one has to accept at face value (e.g. Medicine) because one has not had the time or facility to study their underpinnings,⁵⁰ an informed and competent scholar can still apply the rules of logic and the laws of probability to determine whether the conclusions drawn are warranted from the methods described and data produced. In looking at a large number of studies for meta- analysis, the researcher was struck by the dearth of replication; small study sizes; the statistical methods used to force the results into some homogeneity, concluding all too readily that instead of approaching greater certainty, research into autism is continuing to fragment, even within the current schools of thought.

5.4.3.10 The difficulty in keeping abreast of all the literature on autism from the various disciplines producing it, can be seen in itself as evidence of the need for critical interdisciplinary engagement across the fields that make up the study of autism. Such engagement would be where the different cultures and practices of research engage each other with mutual respect and try to understand each other. Without

⁵⁰ As any diligent researcher must, I have nonetheless taken it upon myself to study the textbooks of neurology to add to my former brief acquaintance with psychology at pre university level in order to understand the fundamentals with which the research deals.

this, none of the pragmatic realms of ‘intervention’, be it in terms of ‘psychotherapy’ or ‘education’, can ever be considered as having the certainty of a claim to be formed out of ‘evidence based’ practice. Scientific models taken uncritically cannot be considered as support for this.

5.4.4 **Models are not a good enough fit. Neurological substrates of autism (the weakness of autism models)**

5.4.4.1 In terms of what was revealed, if somewhat obliquely, about the supposed scientific speculation concerning the substrates of autism, Frith and Happé’s conception of weak central coherence as the most salient feature of autism may have seemed an unfortunate choice on which to base theoretical considerations as it did not turn out to be the most robust of theories in its wider application when subjected to critical analysis. However, it is not likely that the outcome would have been much different had another theoretical base, dealing more with the vaunted problems of empathy or extreme male theory for instance, been touched upon. At the point in the study where the weaknesses⁵¹ of the Frith/ Happé hypothesis’ central coherence were becoming apparent, it would not in any case have been possible to go back and start again. However, in drawing conclusions, given that there was some intended flexibility in the methodology as it developed, the study was open to drawing conclusions which were supplementary to what was initially envisaged as a

⁵¹ It was apparent in the literature review when the topic was under consideration that it was largely a ‘laboratory’ theory which could not convincingly be applied to film theory. Later on in the analysis this was verified, as despite the construction of the questions to elicit cognitive paradigms there was equivocality in terms of the possible interpretations

testable hypothesis concerning the efficacy of video for an autistic audience. That is, whether video could be seen as a tool in the armoury of 'intervention' in its most clinical sense as taken by the behaviourist approach examined in analysis of the various techniques outlined in the literature review, or whether video has a role to play in the wider educational context of adding value to the experience of living with autism. Alluding again to Charmaz's (Charmaz, 1995) constructivist grounded theory, and the circumstances in which the researcher could not help but have a position through being within the community under study, one is effectively obliged to use the emancipatory research paradigm with respect to solving the ethical dilemma.

5.4.4.2 In part, the study was not just concerned with the education of the participants but the education of the researcher and his development through the process and it is therefore right, not only to attempt to discern what level of certainty can be ascertained by the method but not to abandon criticism of the process, being aware of the dangers of wanting to make things fit.

5.4.4.3 It follows logically that autism is an inexact science and that not all of the models of autism are going to be an exact fit. However, all the problems of the foregoing section of this chapter apart, there is some danger of proverbially '*throwing the baby out with the bathwater*'.

5.4.4.4 In any event, a model is but that - a model - a representation and simplification of something complex for the purpose of gaining some insight into how the idea is constructed and the system operates. As such, even conflicting models may contain

a grain of truth that is of some utility in considering the problematic nature of autism vis a vis society.

5.4.4.5 As stated in the section on the difficulties of diagnosis, one has to assume to begin with that there is even such a thing as autism and one has to make some starting assumptions regarding its appearance, how it is identified and what the impact of that is.

5.4.4.6 Thus, in spite of the further equivocation around the effectiveness of the Cambridge Battery (op cit) as a predictive instrument, the researcher concluded that there are definite and observable traits that could distinguish one group of research participants from another, even though most support for this was drawn from the qualitative rather than quantitative results.

5.4.4.7 Indeed it is a key strength of participatory and emancipatory research, particularly where it takes a disability rights perspective that the voice of the individual is not lost in an amassing of quantitative data, however important the conclusions drawn from such data are. The emphasis of the medical model, and the research based upon that is de-individualising and objectifying in a way that does not benefit the individual participant in that research. There must be a balance and a sound ethical justification for positivist methodologies.

5.4.4.8 Whilst there are research instruments designed to analyse qualitative results in a quantitative fashion, observing patterns in words and phrases used, the researcher concluded that the replies themselves were sufficient to construct the views of the participants given that they spoke in a 'language' familiar to the researcher and,

after the fashion of Charmaz (op cit), to co-construct the research from that shared positioning and shared interpretations. The commonalities that arose from this part of the research, which did not need to be forced through statistical instruments in order to make a curve fit from disparate points, may be considered to give a sufficient understanding of autism, given the amount of data and not out of line with other phenomenological studies.

5.4.4.9 Ian Hacking (2009) has written of a circularity whereby the interaction of a defined category of person and the definition itself goes on to modify that original descriptor. However, the researcher thinks that Hacking fails to understand the necessity of the research participants having an essential human right to define what the world thinks and does with them as a category of person. There was an autism of some kind even before the world had need of a definition and, as stated previously, the existence of that underlying neurotype and the changes in society over time act like a tide uncovering some archaeological sediment, bringing it into new relief as a social problem (as much for the emerging category of difference) to be addressed. One is reminded again of the triangle of involvement in both Bogdashina (2006) and Arnold (Whichever Way you look at it it's still Autism, 2005).

Figure 8: The triad of perspectives



Using autism as a strength

5.4.4.10 One very clear indicator of an under-appreciated autistic trait which came out of the study was the effect of ‘perseveration’, an ability as opposed to a disability, using autism as a strength. What are seen classically as negative traits, the imperative drive for sameness (or whatever underlies the social expression of autistic traits) leading to obsessive traits (useless repetition), rote memorisation and disturbance when change occurs are actually, when seen from a more objective light, devoid of medicalisation, some of the traits that have led to the advancement of knowledge.

5.4.4.11 Education in its most classical sense is considered to be the leading out⁵² of what is already within ‘pedagogy’ and there is no reason to suppose that is not the same in autism. Education is always about curbing some tendencies and reinforcing others’ encouragement to use reasoning faculties rather than to judge by surface appearance.

5.4.4.12 In terms of this study’s focus on video as an educational tool, what seems purposeless in childhood (eg the endless viewing of a favourite scene from a video) becomes purposeful if the end in sight is one that would otherwise be mitigated by boredom in an adult. Thus perseveration becomes the virtue of perseverance. From an evolutionary perspective, one might even say that this trait could be described in pathological terms as the propensity towards repetitive behaviours and mannerisms that usually accompany a deep detachment from the social world surrounding the individual. Volkmar and Pauls (2003) have unified the traits from the two main clinical descriptions of autism⁵³ thus:

- “ Restricted pattern of behaviour, interests*
a. Abnormal preoccupations, interests and activities
b. Difficulties with change
c. Stereotyped mannerisms “

5.4.4.13 The current researcher does not challenge these as valid observations of autistic people. However, he would not be the first to observe that what are classically seen as negative traits, for example, the imperative drive for sameness which leads to

⁵² Literally ex duco from the Latin, to lead out.

⁵³ DSM IV and ICD 10

obsessive traits, useless repetition, rote memorisation, disturbance when change occurs, can actually be reinterpreted if one leaves aside the pathologising language of the manuals, as traits which have led to the advancement of scientific knowledge.

5.4.4.14 For example, in a study of three participants aged 10 – 14 years, (Koegel, et al., 2012) observed improvements in the participants' social development when their lack of engagement in the learning process was addressed by instituting an after-hours social club based around their 'perseverative' interests. The Koegel study took place over a long enough time period to produce a sufficient quantity of data to warrant statistical analysis. However the researchers focused on deficits of social interaction as perceived by a non-autistic observer and yet still managed to note some improvement when the autistic participants' interest was piqued by attending the out of hours 'social' setting dominated by their 'perseverative' interests.

5.4.4.15 Nonetheless, the focus of this study was still, as with most examples, predicated upon the 'neurotypical' gaze as an autistic person might put it. That is to say, turning the tables on the observation to prioritise those stereotypical, non- autistic 'obsessions' with the importance of eye contact and joint attention, prioritising 'social development' over what seems to the author to be evidence of learning in the specialist knowledge that the participants had. It seems almost perverse, writing from the autistic perspective, to consider using a functional ability (the specialised interest to entice them into greater social involvement with their peers).

However, this thesis adds strength to the argument that autistic special interests can be utilised to educate the individuals in more general concerns. For instance Michelle Dawson (Dawson, et al., 2007) amongst other autistic researchers has presented so called autistic deficits in a positive light as strengths.

5.4.4.16 The negative impact of such behaviours can also be found in Kanner's original paper, one of the two foundation documents of autism. He gives the example of a subject who

"immediately spotted a train in the toy cabinet, took it out, and connected and disconnected the cars in a slow, monotonous manner. He kept saying many times, "More train-more train-more train." He repeatedly "counted" the car windows"

and of another:

"He got hold of an encyclopedia and learned about fifteen words in the index and kept repeating them over and over again" and so on.

To Kanner, this is evidence of an obsessive preservation of sameness which is second only to the intense self-absorption from which autism was named, in the hierarchy of what constitutes the 'disorder'.

5.4.4.17 Even in these avowedly pathologising descriptions, one can draw positive sustenance. This is one of the two occasions in the paper where he uses the word "perseverance" and in each case it is used in connection with the word "good". In that context, he is using it to show the preservation of functional characteristics in his patients.

“Objects absorbed him easily and he showed good attention⁵⁴ and perseverance in playing with them”.

5.4.4.18 That very persistence in the boy of counting the windows in the train cars is exactly the kind of attentiveness that a scientist requires in recording his observations, whilst the learning of words from an encyclopedia ought to speak for itself - not every child would even look at an encyclopedia, let alone read it.

5.4.4.19 The researcher is reminded of his own brother’s comments on the nature of autistic interest: *“I have counted the ants in my garden and I know their names”*. This is surely what the keen entomologist does and without such activity there might never have been a theory of evolution based as it was on the meticulous observations of Darwin throughout his career.

5.4.4.20 The medical gaze of cognitive psychology has also considered the role of perseveration and obsessiveness in autism and speculated as to its neurological origins and substrates. Happé (Happé, et al., 2006) in one paper considered an executive function deficit, that is to say part of the cognitive processes that are responsible for initiating and terminating activity, more often seen in terms of inertia in autism. However, Frith, in her classic book *“Explaining the enigma”* (1992, p. 173 – 5), prefers the weak central coherence theory, considering perseverative routines along with stereotypes and citing repetitive action as one of the key characteristic diagnostic criteria of autism, albeit considering the neurological underpinnings to be a dopamine disorder, in common perhaps with Schizophrenia,

⁵⁴ Current author’s emphasis, not Kanner’s.

Tourette's and ADHD (although curiously she omits to mention Obsessive Compulsive Disorder, which is often diagnosed alongside ASD). She goes on to link these behaviours and actions with weak central coherence theory, as exemplifying more attention to the details of things whilst not seeing the greater connection.

5.4.4.21 That would appear on the surface logical, when considering anecdotal reports of autistic children watching the same favourite segment of video over and over again until it was worn out. The researcher has seen many reports of this behaviour on mailing lists and Usenet), notwithstanding that in many of these reports the children seem to show a preternatural understanding of the way things work when it is of advantage to them (eg understanding the mechanisms of the video recorder), a characteristic that overlaps with Baron Cohen's conception of a high systematising quotient (Baron-Cohen, 2003).

5.4.5 Relationship to detail

5.4.5.1 Time and again in the classical reports of autistic children and in parents' anecdotes, a phenomenal attention to detail is instanced. Amongst other criteria, the study of the participants' reactions to the video stimulus material sought to discover a variety of details the participants may or may not have been able to discern, depending upon whether they were in the background or unclear because of other distractions. From the results it appeared to be the case that this ability was enhanced by repetitive viewing.

5.4.5.2 What one can also say in the instance of the adults who were part of the study is that contrary to a strict interpretation of weak central coherence, a failure to understand gestalt, they also had the larger picture in mind, that is to say, the 'end game', which was to learn enough from the video in order to be able to answer the questions accurately. It shows that at least in the case of the participants, they were capable of being educated to a sufficient degree to understand and participate in a complex online study and not to merely engage in futile 'self stimming' from the repetition of the images, as one might suppose from the description of these same traits in children.

5.4.5.3 With all the caveats of a small study in mind, it did not seem to occur to the non-autistic participants to repeat the videos. Although a repeat of this study may demonstrate otherwise in a sufficiently large number of participants, the current researcher doubts that this would happen as the law of diminishing returns would likely apply before one found a large number of participants who did.

5.4.5.4 The difficulties of applying weak central coherence to the findings of the study has already been discussed with the conclusion that it is generally difficult to apply this theory to something as complex as the understanding of the moving image. Likewise, it is possible to suppose, Frith notwithstanding, that mechanisms other than weak central coherence can equally lie behind repetitive behaviour. If one regards this and other traits not from the clinician's gaze of seeing an anomaly and pathologising it, to ask, "*Why does an autistic person do this?*" but from within the autistic perspective as a privileged insider sufficiently aware of sociological theories

of labelling and paradoxical conformity in a supposed deviant outgroup (Becker, 1963), taking from disability studies and activism notions of stigmatisation, social construction, and the Foucaultian relationship of authority, it can well be considered that what is occurring within the medical gaze (without the practitioners in this 'silo' necessarily being aware of it, for it to become a reality), is an objectification of autistic people much in the way that the 'oriental' has been in literature (Said, 1977). It is very much a conclusion of this research that the outgroup of 'people with autism' has been constructed (Arnold, 2012) as a dysfunctional other. The insider perspective has allowed the possibility of turning these questions around to ask (in the case of watching the segments more than once) why do non-autistic people not share this 'perseveration' (Happé, 1995). Where is the basic understanding of how audiences should be addressed in media, which was touched upon in the literature review with respect to film theory? What is accepted as the established way of doing things is anything but inclusive and universal so far as it fails to address at least one sector of the population, in this instance autistic. It also highlights that the impact of Disability Studies with regard to the more general aspect of universal accessibility, remains insufficient. The suppositions as to what a good educational video should contain are largely based on the unstated assumptions that nowhere is an audience going to be other than 'neurotypical' and normatively 'abled'.

5.4.5.5 Notwithstanding the potential failings of the industry to research their material.

(addressed in the recommendations), there are other autistic differences that have not conventionally been considered. The researcher can suppose that the trait of a

very literal level of linguistic understanding (Happé, 1995) may well have predisposed the participants in their stylistic choices to prefer straightforward language and people talking direct to camera over confusing actions and voiceovers with narratives that did not directly relate to the image. It can be further supposed that autistic participants would consider these far more important indicators of success than the use of 'mise en scene', 'hidden persuaders' and signifiers after the mode of Marshal McLuhan's famous statement that the medium is the message (McLuhan and Fiore, 1967). It should be strongly noted that the style of presentation was of more importance than any vaunted difficulty in discerning background from foreground or salient from obscure. Again it could be supposed that far more than a complex background being a central coherence issue, the confusion caused by such may be more related to autistic sensitivity to stimuli and the need to avoid sensory overload.

5.4.6 Respect for autistic people's cognitive styles and insight

5.4.6.1 It is not possible to have any notion of educating autistic people unless we know for certain who the audience is. As a piece of "emancipatory" research it is important to reflect the views of those being researched and it was quite clear from the responses that the political and social climate surrounding the academic debate impacted upon clinical practice, that is to say the actual production of diagnoses. Those responses concerning the difficulty of getting a definitive diagnosis, of different opinions of different professionals show that autism is not just an

equivocal status in the research world but an equivocal one in the world that impacts every autistic person and their families. The inclusion of a category for self-diagnosed people proved an interesting check and balance on the theory and reminds of a conversation with Lorna Wing concerning diagnosis and intervention (National Autistic Society, 2005). She argued that whether or not one can get an accurate childhood history for an adult (as required by the protocol of the Cambridge CLASS service), if the person presenting appears to exhibit the traits of autism, there is good reason to consider they will respond in an autistic way to any treatment or intervention. In other words this is better than assuming a negative in the absence of confirmation of early childhood differences due to a lack of information.

5.4.6.2 As was apparent from both the comments on the first questionnaire regarding the importance of including autistic people themselves and from the very cogent perspectives of the participants, particularly when relating to the perceived injustice of being referred to in negative terms according to the deficit model, and given that some of these ascribed deficits turned out to be strengths, when compared to non-autistic people's reactions to the video material, it can be concluded that there should be respect for autistic people's cognitive styles and insight. Autism should be seen in a more positive light to bring together the worlds of the 'neuro-typical' and autistic on a more even basis without the continual reference to autistic deficit as something in need of curbing or extinction. Not so much a case of the need to adapt autistic behaviours to the demands of a non-

autistic world, but how to be aware of their relative strengths, as well as how they give rise to difficult situations. *Being Me* provides a good example of the latter approach.

5.4.6.3 Finally, whereas it has already been concluded in the context of the study that autism is a sufficiently useful category or distinction regardless of lack of consensus as to its psychological origins, there remains a much greater question, beyond the effectiveness of video as a medium particularly suited to this audience, as to whether the study of video really ought to be broadened out by others to take account of the circumstance that autism is only one among a great many cognitive and learning styles amongst the population of 'neurodiverse' individuals.

5.5 Recommendations

The recommendations can be broken down as follows.

- Recommendations for further study, both the substantive topic and issues arising within it.
- Recommendations for the conduct of research, ethical considerations and critical autism studies
- Recommendations for the education industry and the production of video material

5.5.1 Further study

5.5.1.1 The general direction of research has often been altogether defined not only by funding processes but external politics. Being active in one particular autism charity,

the current researcher has seen at first hand the impact of others competing for research funds from a different perspective entirely and using emotive advertising to influence the lobby. These assertions are backed by the researcher's own involvement in the discussions that led to Research Autism being established, and the researcher has also had some exchanges with the leading medical model charity for funding research.

5.5.1.2 Nonetheless, within this research and the literature there have been some discernible models of good practice and although there is as yet no convincing cognitive model for how the moving image is interpreted and how this differs from the perception of the real world, there remains much scope for improving the practice.

5.5.1.3 This study is of sufficient interest with respect to its findings that it warrants revisiting with the backing of greater and better resources, allowing a larger number of participants to be recruited with the possibility of investigating the degree to which a much larger study could be done. This would benefit from the lessons learned from this study and might allow valid quantitative analysis to enrich the conclusions. For example, one could analyse common themes in the qualitative material, and explore whether there are any statistical patterns of variance in the responses of a larger number of autistic participants versus non-autistic participants, drawn from populations with a lesser connection to the autistic community than the current study.

5.5.1.4 Furthermore a sufficiently large study may even be able to throw further light on the likelihood of any one pervasive explanation of autism being able to claim precedence over the others. For example: What number of non autistic participants might be needed to show a strong bias towards weak central coherence when compared with an equal number of non- autistic participants. It would certainly help to clarify the manifest problems with central coherence theory and answer questions that Happé and Frith have not adequately explained. In the absence of sufficient numbers of non-autistic participants, the current study, whilst casting epistemological doubt on the coherence of central coherence theory, was not able to establish that according to the accepted methodology of the medical research communities positivist paradigm. For example: What number of non- autistic would ever likely to prove that autistic people have a bias towards or preference for multiple viewing.

5.5.1.5 Whereas the current study started out with some respect for scientific models, it is concluded that although they have some contribution to make, they are very far from giving a complete picture of autism and how autistic and non- autistic people alike comprehend the medium of the moving image. There is therefore much scope for carefully constructed research into this area using all the resources and techniques currently available such as FMRI and eye tracking.

5.5.1.6 As to the question of whether it would also be possible to conclude from the data using things that are subjectively preferable to the audience, which can be

theoretically explained by the different underlying neurological substrates which give rise to that particular audience's cognitive style, there are doubts and it would be very hard to design a study to test this. There is no one theory of autism, which from examining the studies– from 'Theory of Mind' to 'Executive Function' 'Central Coherence' and so on which cannot be made subject to criticism and alternative explanations (Bowler, 2007). Furthermore given the diversity of the autistic population itself, it can readily be supposed that given that not all people with autism have difficulties in all the areas where deficit is posited and in some cases the 'deficits' are mitigated by age, as shown in Pellicano's (Pellicano, 2011) study, the sceptic defers to the question of how much can actually be known about autism at all, and how much remains to be discovered.

5.5.1.7 In order to ground such a further study within the locus of scientific research into autism, the basic premise has to be the existence of a body of evidence indicating a neurological explanation. In essence that a different way of processing and perceiving information leads to the observable manifestations by which conditions on the autistic spectrum are identified as DSM 3 first instanced (APA, 1987) :

To what extent does the understanding of autistic cognition and perception and its relationship to video help to create more effective video for autistic children and adults? This, in essence, is the practical application of this research.

What is special about autism that would make video a more appropriate teaching medium? If it is a different cognitive style, how does that affect the interpretation and comprehension of visually mediated didactic? Is it necessary to establish

whether any substantial differences between autistic and non-autistic people are due to cognitive differences, socially mediated differences, both, or neither?

If one were to suppose, as Frith and Happé (op cit) suggest, that weak central coherence was the basis for the autistic phenomenon and if the literature was consistent, one might also be able to make the following conclusion in terms of this study. One would find evidence because those individuals appearing to have strong local coherence and advanced visual recognition skills would necessarily emerge and that would correlate with the predetermined autistic cohort sufficiently strongly to eliminate doubt. However, a classically grounded approach would suggest caution, for if as Pellicano (Pellicano, 2011)) has suggested, the current theories are not consistent, then it would be necessary to re-engage with the data, to look at the new emergent categories and to theorize afresh from there. For example, relating to the critique of Central Coherence theory in the literature review and its failings to apply adequately outside of the 'laboratory', if a sufficiently convincing theoretical base were ever determined for autism how could it be consistently applied to real world examples?

5.5.1.8 Given again the failings of Central coherence theory, and the second hand nature of the neurological research cited by the cognitivist school of film criticism (given that neither Currie and Carroll (op cit) are of themselves neurological researchers, would it still be worth attempting to establish a sound research base for how the brain interprets the moving image, from which to compare whether this is different for autistic people or not.

5.5.1.9 Some of these questions are central to the hypothesis of the research, whilst others may be considered peripheral. However, they were all considerations that the researcher had in mind at some point during the process and need to be iterated even if the answers to a number of them remain speculative. It is to be hoped that by including them, others will be interested in taking up the challenge in future. Some of these questions impinge on the effect of the supposed social impairments in autism, others on basic cognition and some on perceptual abilities.

5.5.2 The Education 'Industry' can be defined as the commercial sector who create a market for educational materials, either consumed by schools, colleges and universities, or at home. In the current environment this includes streaming media and on line delivered education incorporating video elements. With the findings of this study, there is a recommendation that the 'industry' should take seriously the notion that the natural audience of an educational video concerning autism, is the autistic individual, not the parent, or friend who may buy or recommend the video for them. There is a definite call from this research to take account of the findings that autistic people do have preferences for a more direct style of video, without the surface 'decoration' of the narrative with media conventions of background music, and artistic ; mis en scene.

5.5.2.1 This raises further questions as to whether the market is currently responsive to autism-friendly video. What impact might the findings of this research have upon the 'ecology' of market forces and consumer demand that currently select the most appropriate penetration of educational video? Do current video makers have a

sufficient pragmatic and theoretical basis for making video based on experience and current film theory or will there be recommendations for improvements in the way the target audience of autistic people should be addressed? Indeed, is there even a significant enough market for the video makers to be concerned about researching the needs of small groups within a much larger educational market?

5.5.2.2 Beyond the need to repeat this research with those questions in mind, it is also important to disseminate the findings of this initial study, and the next part of this chapter deals with how far this has been a study in progress throughout the long gestation period of this thesis.

5.6 Dissemination

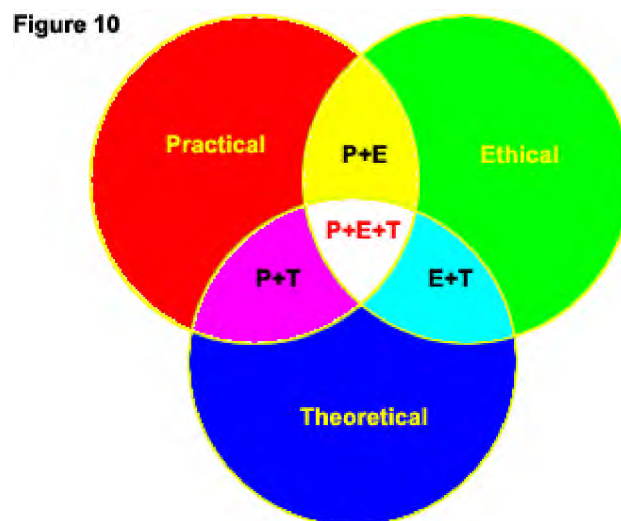
5.6.1 As was emphasised in the introductory paragraph to this chapter, it is hoped that this thesis is not destined for the dusty shelf. The findings are of sufficient importance to bear recommendations for their wider dissemination to, amongst others; the 'industry' as already mentioned, educationalists, both practical and theoretical, bodies responsible for teacher training and educational standards, clinicians including psychiatrists and general practitioners, social care staff, and lastly but not least, engaging both the popular media and academic literature.

5.6.1.1 This final concluding section of the thesis has therefore been introduced to indicate the ways in which this research has fulfilled the criteria of 'emancipatory research' outlined in the Methodology and Ethics section, and to link in with the further

recommendations that have arisen from the conclusions drawn from both the research process itself and the findings based upon the data collected. During the course of the study the researcher has been involved in the wider academic community both at the University of Birmingham and beyond, as well as talking about his research to autistic groups and being involved in some teaching around themes which relate to the research.

5.6.1.2 Whilst it would be possible to produce a chronological catalogue of these various events and circumstances, it would not be as explanatory of the process as if it were considered in terms of general 'themes', some of which necessarily overlap and others which are separate (see *Figure 9*).

5.6.1.3 **Figure 9:** Venn diagram showing overlaps between the three classical constraints upon research



5.6.1.4 In sum, my activities can be divided amongst these main headings or 'themes'.

These relate to the three basic necessities of any research, summarised by the

acronym PET. That is to say Practicality, Ethics and Theory, with a fourth heading relating to the audience.

1. *Practice*: the pragmatics of engaging with autistic adults (Autscope in particular) and the use of video whilst delivering lectures both to, and about autistic people.
2. *Ethics* my involvement with an interdisciplinary discourse on the ethics of autism research and 'treatment' which grew out of the emancipatory stance of the research as outlined in the ethics section of the Methodology in Chapter 3. Essentially, a dialogue as to how important the outcome of research should be, taking it beyond the mere extension of knowledge in a particular 'silo'.
3. *Theory*: the phenomenological and ontological status of autism. My involvement in the continuing debates as to what the core status of autism as a difference or disability is and how this problematized category is resolved in a wider society (as covered in the literature review and with respect to the methodology).
4. Engaging with the scientific, professional and autism interest communities – a matter of 'audience' as to whom this research and its wider implications should address, appreciating the position from which the researcher came to the research – not as a naïve neophyte but with an existing background in both 'self advocacy' movements and more parent-led and professional-focused charitable organisations; a position which has been expanded into engagement with the academic sector through the process of research.

5.6.2 Practice

5.6.2.1 During the course of the study, the researcher has been engaged by two separate universities to lecture three times to distance education courses and twice on a campus taught course on autism, where he has addressed the oft neglected

subjects of autistic culture, 'self advocacy' and its relationship to the social model of disability. He has also been involved in the post graduate research community participating in and speaking at seminars and conferences.

5.6.2.2 This process is qualified by the researcher's longstanding involvement in both the disability and 'neurodiversity' movements during such times as the discourse around the social model was becoming central to both movements. Although this didactic has not been aimed at a majority autistic audience (the make-up of courses being largely care professionals and parents), there has also been a significant presence of autistic people wishing to pursue these same studies; the researcher having played a part himself in creating better access for autistic students.

5.6.2.3 An academic background immediately prior to this research in the field of media and the moving image has played a considerable part in this practice, incorporating video into presentations as stimulus material around which questions have been formulated to the audience and discussion encouraged. This has been very useful, as reflective teaching practice around the usage has provided additional experiential material for this research.

5.6.2.4 The themes I have dealt with in my lectures have also been of equal relevance to non-autistic and autistic audiences, and provide some examples of the relationship to a wider society and its mores that are important to autistic people and can potentially be taught through the medium of an interactive video course.

5.6.2.5 In addition, the researcher has been involved in 'Autescape' (Autescape, n.d.), an organisation that has drawn on the ideas of Jim Sinclair (Sinclair, 2005) and Autism

Network International, (Sinclair, n.d.) to provide what can best be described as an educational retreat for autistic people. In the main, Autscope has been themed each year on some aspect of the lived experience of being autistic that can be explored and advice disseminated to those attending the event. To that end, the researcher has presented from his expertise of video in deconstructing the representations of autism, as well as lecturing on the ethical concepts that have come out of this research, and given a presentation based around *Artistic Autistics*, (Artistic Autistics, 2009), one of the videos that was selected for this study. As has been referred to previously in the methodology section, this has involved informing the audience of the research and allowing them the opportunity to comment on it anonymously or otherwise.

5.6.2.6 More recently, there has been involvement at both a strategic and an individual level in contributing to a new programme of Internet delivered distance education modules by the National Autistic Society (NAS, 2009), which has taken on board a number of the ethical issues regarding production and ownership of knowledge as well as addressing some of the early recommendations that could be made from considering the methodological approaches of this research.

5.6.3 Ethics

5.6.3.1 As has been dealt with earlier in this chapter, a number of ethical issues beyond the normal considerations were raised within this research. The researcher has, in the

course of this research, become involved in a variety of ways with an interdisciplinary discourse in ethics. It becomes more apparent in the conclusions drawn from the study that the particular question asked is not an empty one, even if the research can, in the larger picture, only be seen as a first foray into a grossly under-researched topic. Given the social research, as well as the lived and shared experience of autism and its interrelationship to society, there is no lack of evidence of the undervalued and unfulfilled lives lived by many autistic adults. This is notwithstanding the disadvantages that have been endured during the educational process from either lack of opportunity or misdirected and often belated intervention, leaving much for post transitional adult and lifelong learning to complete (Barnard, et al., 2001).

5.6.3.2 An early endeavour at presenting them came in the form of a poster, "*Video as an Educational Tool in Autistic Education, An Ethical Methodology*" presented initially within the University of Birmingham's doctoral research programme, but also more widely at two international conferences, where the researcher was simultaneously presenting papers on that and related issues. These were presented variously at the National Autistic Society (Arnold, 2008) conference to a large audience of professionals and in a necessarily differently nuanced form to the Disability Studies Association Conference (Arnold, 2008), the epistemological relationship of these two being given in the next section.

5.6.3.3 Following on from that there was a second poster (see *Appendix 8*) addressing the vexed question of a segmented 'siloes' research community where it is important

for academic communities coming from the two very different traditions of the humanities and the sciences to be aware of the work and alternative perspectives and epistemologies of each other. This was presented to the Centre for Disability Studies, Lancaster University, and also to the Autism Neuroscience conference in Cambridge, something of a first in respect of a poster being presented from a non-scientific perspective.

5.6.3.4 At the same time, the researcher was involved in presenting directly on these issues at the '*Autism, Ethics and Society*' conference organised by University College, London (Arnold, 2010) and also presenting on the same theme within the disability studies community at the Critical Disability Studies Conference: Theorizing Normalcy and the Mundane (Arnold, 2010).

5.6.3.5 Following on from the conference (op cit) at UCL, an interdisciplinary ethics group was convened by the Centre of Medical Law and Ethics at Kings College London, where a continuing discourse was held involving prominent members of the autism research community, philosophers and medical ethicists. I provided the online means for members of this group to communicate with each other.

5.6.3.6 It is perhaps relevant to note that although the researcher joined the International Society for Autism Research as a precondition to submitting an abstract to the International Conference held in London (International Society for Autism Research, 2008), that being the original methodology, it did not meet the accepted format for 'scientific' research, thus confirming the continuing existence of the two worlds

conjecture (see *Appendix 8*).

5.6.4 Theoretical

5.6.4.1 To some extent this is interleaved with the two foregoing sections but again relates to the Literature Review and Methodology chapters in that it involves an examination of position vis a vis the research and the disabled community as has been explained throughout by my engagement with the emancipatory research paradigm and interrogating that positionality.

5.6.4.2 Autism research is generally conceived as the medical model of scientific discourse over causation, effect and diagnosis and is generally concerned with cognitive, pharmaceutical and behavioural 'interventions'

5.6.4.3 The lived experience of autism (as evinced in the qualitative findings) is somewhat at odds with the medical model and the further I have pursued the theoretical models of autism, the more this has convinced me that they are lacking, as has been argued several times in the body of this thesis, by reference to Duhem and Quine (op cit).

5.6.4.4 These issues were addressed in the same papers presented to the NAS and CeDR as already referred to, but also dealt with in the critical autism study day organised at the University of Birmingham's School of Education where the researcher presented some of the findings of this study with respect to the failure of central coherence theory (Happé, 1999), in particular, to provide an adequate explanation outside of the purely theoretical two dimensional laboratory situation, again

covered in Chapter 4.

5.6.4.5 It is interesting to note that during this whole period, the DSM descriptors of autism have been revised and that the researcher, far from being a passive recipient of the process, responded to the consultation process by sending in a paper based upon the video that perhaps sparked off this whole research endeavour. Significantly, the researcher was also invited to present at the launch of DSM 5 in the UK.

5.6.5 Engaging with the scientific, professional and autism interest communities

5.6.5.1 The researcher once replied to the construct of a 'triad of impairments' with the concept of a triad of interested parties (Whichever Way you look at it it's still Autism, 2005) in the form of a triangle with parents along one side, professionals along the other and autistic people at the base, suggesting that the other two would have no interest in the phenomenology of autism were it not for the existence (construction) of the base. Bogdashina in "*Theory of Mind and the Triad of Perspectives on Autism and Asperger Syndrome*" (Bogdashina, 2006) posits a similar idea. The book cites the current researcher twice. Whilst it might be presumed that the parents of autistic children have a natural interest in the phenomenology of autism (as indeed demonstrated by the involvement of parents in my research), it can be suggested that professionals, however one defines them, have only a commercial interest, or worse, an interest stemming from the pursuit of prestige.

5.6.5.2 Although this may seem a very Hobbesian (Honderich, 2005) or Utilitarian⁵⁵ (Mill, 1863) analysis devoid of the qualities of altruism one expects in some of those professions, it nonetheless rings true in the researcher's experience that that portion of the triad has had the greatest influence over the shaping of the concepts of autism and the interventions that arise from them.

5.6.5.3 Therefore it has been very important for this research to engage with those particular actors as it is a factor that determines the researcher's own life course and legitimacy. 'Professionals' is, however, too broad a term and needs to be broken down.

5.6.5.4 As a piece of educational research, the prime group of professionals to be engaged is of course the educationalists, that is to say teachers, educational theorists and in particular with reference to the subject matter, the creators and publishers of video-mediated educational material. That has to be seen as a very important focus for the future dissemination of this research.

5.6.5.5 However, professionals can also be seen in a different way, encompassing at one level the academics in the medical/psychological siloes who continue to have a major influence on how the rest of us/others think of autism and the clinicians and practitioners who are involved in diagnostic assessment and what is broadly termed therapeutic practice who consider intervention as something separate to education; a set of individual behaviours to be modified so that the recipient is a

⁵⁵ The philosophy summed up by the phrase "the greatest good of the greatest" number, often used pragmatically to dismiss the needs of minorities

suitable recipient of a generic education. This latter group has certainly been engaged in the discourse. Firstly as shown through presentations I made to those communities instanced already, and in the ethical discourse which has included 'leaders' in the academic field.

5.6.5.6 In terms of reaching the second quota of clinicians, it has been more difficult as the researcher is not naturally immersed in that community with its epistemological target being traditionally seen as the patient not the therapist or educator. Possibly the researchers presentation at the DSM conference (op cit) and his involvement with the 'Ask Autism'" project have already gone some way to redressing the balance. It is hoped too that by engaging and persuading fellow researchers, especially those whose work has defined the concepts of autism that there will be a trickle-down effect due to the natural authority given to them by the clinicians and practitioners who ultimately derive the legitimacy of their diagnostic practice from the input of that research into the clinical manuals.

5.6.5.7 An anecdote about institutional ignorance and the time it takes for ideas to filter down however, can be given by reference to a Higher Education mental health event the researcher attended. A practising psychiatrist, presenting to an audience including University Disability Advisers, undergraduate and postgraduate students, ran through a list of DSM derived and described disorders which might affect students. I asked him why he had not included autism in that list and he replied to my shock and horror, that it was a childhood disorder only!

5.6.5.8 There is yet a long way to go, for whilst such attitudes still prevail even to this day, how can one address questions of adult education, when we either do not exist or are given up as hopelessly lost at this stage because the medicalisation of our needs has set them apart from the needs of the general population and has put an economic premium on those needs which is then considered as an unaffordable extra in the utilitarian world of austerity politics (Arnold, 2013).

5.6.5.9 Finally, more importantly and perhaps more important than anything else in this thesis so far has been the establishment of a new academic journal (Arnold, 2012).

As stated in the rubric, the journal will:

“ appeal to the widest range of the current autism research community and foster cross disciplinary discourse between the fields of medical research, education and sociology amongst others

The emphasis will be on encouraging contributions from autistic scholars who have hitherto had limited exposure to academic publishing. We will feature papers reviewed by respected academics in the appropriate fields, reviews and also feature an opinions section which it is hoped will stimulate a lively interdisciplinary debate.”

Articles so far include for example:

- An investigation into making mainstream sex and relationship education ‘autism-friendly’
- The normalisation agenda and the psycho-emotional disablement of autistic people.
- The mis-measure of autism: a challenge to orthodox autism theory
- Autism Research and Bayesian Modelling
- Theorising Autism Project - Engaging Autistic People in the Research Process
Review of a seminar day at the Institute of Education

5.6.6 Posters and presentations:

Table 9: List of posters and presentations given by the researcher

<p>Posters produced</p> <p>Video as an educational tool in autism, an ethical methodology?’ Worlds apart – beyond conventional ethics. Video as an educational tool in autism, some early results What’s the fuss about, some reactions to an Autistic Spectrum Diagnosis. Can the study of autism truly be called a science? An examination of the impact of theory on video as an educational methodology for autistic adults Autonomy</p> <p>Presentations at:</p> <p>John Moores University (Liverpool) Autscape Birmingham University Cambridge University Lancaster University University College London Manchester Metropolitan University (Keynote speech) National Autistic Society Leeds University Autfest, London Sheffield University Institute of Psychiatry (London)</p> <p>Title of presentations:</p> <p>‘Video as an educational tool in autism, an under researched topic’ ‘Discovering the Autistic tribes, new territories for the Internet Anthropologist’ Perspectives of Autonomy and Autochthoneity in the 21st century.’ Key note speech – Theorising Normalcy and the Mundane Fully human, fully here. The impact of medical research paradigms on the conceptualisation of autism and intellectual impairment’- Education Researchers research for Change – University of Birmingham ‘If you are not normal you don’t exist, the denial of disability in the coalition government’ Vive la difference, does how others describe us matter’ ‘You are what you think people tell you, you are’, School of Education</p>
--

References¹

- Acheson, E. D., Cowdell, R. H. and Hadfield, E. (1968) 'Nasal cancer in woodworkers in the furniture industry', *British Medical Journal*, 2 (5605): 587–596.
- Allen, G. and Courchesne, E. (2001) 'Attention function and dysfunction in autism', *Frontiers in Bioscience*, 6: 105 - 119.
- Alveson, M. (2003) 'Methodology for close up studies – struggling with closeness and closure', *Higher Education*, 46(2): 167-193.
- Amaral, D., Schumann, C. and Nordahl, C. (2008) 'Neuroanatomy of autism', *Trends in Neurosciences*, 31(3): 137–145.
- Anon. (n.d.) Box Turtle Bulletin: *What Are Little Boys Made Of?* Online: available at: Explorations in discrimination against autistics (accessed 28 April 2014). <http://www.boxturtlebulletin.com/what-are-little-boys-made-of-main>
- (accessed 10 March 2015).
- APA (1987) *Diagnostic and statistical manual of mental disorders: revised third edition*, Washington: American Psychiatric Association.
- APA (1994) *Diagnostic and statistical manual of mental disorders: fourth edition*, Washington: American Psychiatric Association.
- APA (2014) *Diagnostic and statistical manual of mental disorders: fifth edition*, Washington: American Psychiatric Association.
- Aristotle (1996) *Poetics* (Penguin Classics), London: Penguin.
- Arnold, L. (2005) Presentation of Whichever Way you look at it, it's still autism, Liverpool John Moores University: Society for Popular Fictions.
- Arnold, L. (2006) Disability and Impairment: What is the essential difference? Deconstructing the Language of the Social Model. Online: available at: <http://www.lancaster.ac.uk/fass/events/disabilityconference.../arnold2006.pdf>
- (accessed 10 March 2015).
- Arnold L. (2006) Normalisation Whose Paradigm? Our voices, the newsletter of Autism Network International.
- Arnold, L. (2006) The relativity of autistic definition and appearance. Online: available at: http://laurentius-rex.blogspot.co.uk/2006/05/relativity-of-autistic-definition-and_06.html
- (accessed 10 May 2010).

¹ Abbreviations in text; nd = not dated s.n. = sine nomine s.l = sine loco

Arnold, L. (2008a) Does medical research in autism proceed "arse backwards"? Lancaster: Centre for Disability Research, Lancaster University.

Arnold, L. (2008b) Video as an Educational Tool in Autism. London: National Autistic Society International Conference.

Arnold, L. (2010) *Respecting the participant's rights*. Online:

available at: <http://autismspeakseurope.blogspot.com/2010/03/respecting-participants-rights.html> (accessed 10 April 2010).

Arnold, L. (2010) *The Medium is the Message*. Online: available at: <http://www.ucl.ac.uk/cpjh/Arnold> (accessed 1st March 2014).

Arnold, L. (2010) *What is normal? The perils of doing it society's way*. Online: available at: <http://www.rihsc.mmu.ac.uk/docs/Normalcy%20Conf%20Abstracts.doc> (accessed 16 Jun 2010).

Arnold, L. (2012) 'Autism, its relationship to science and to people with the condition', *Autonomy, The Critical Journal of Interdisciplinary Autism Studies*, 1(1):

Arnold, L. (2012) Editorial, *Autonomy, The Critical Journal of Interdisciplinary Autism Studies*, 1(1).

Arnold, L. (2013) Need. In: C. Cameron (ed.) *Disability Studies*, London: Sage: 104 - 106.

Arnold, L. (n.d.) *Video as an educational tool in autism*. Online: available at: <http://autvideo.blogspot.com/> (accessed 10 April 2010).

Artistic Autistics (2009) [Film] Directed by Nikola Woodbridge.

Asperger, H. (1944) Autistic Psychopathy in Childhood. In Frith, U (1991) *Autism and Asperger Syndrome*. Cambridge: Cambridge University Press

Aspinall, A. and Nicholls, E. (2008) 'TATE case study'. *Disability and Rehabilitation: Assistive Technology*, 3(4): 236–239.

Attwood, T. (2008) Chapter 1 . In *The Complete Guide to Asperger's Syndrome*, London: Jessica Kingsley.

Attwood, T., Grandin, T. and Bolick, T. (2006) *Asperger's and Girls*. Arlington TX: *Future Horizons Inc*:

Autscape, (n.d.) *Autscape*. Online: available at: <http://www.autscape.org/>

(accessed 1 March 2014).

Back, E., Ropar, D. and Mitchell, P. (2007) 'Do the Eyes Have It? Inferring Mental States From Animated Faces in Autism', *Child Development*, 78 (2): 397 - 411.

Baudrillard, J. (1994) *Simulacra and Simulation*, Michigan: University of Michigan Press.

- Baggs, A. M. (2003) *How to distinguish between Autism and Asperger's Syndrome, once and for all*. Online: available at: <http://archive.autistics.org/library/aspieautie.html> (accessed 21st April 2014).
- Bailey, A. and Parr, J. (2003) Implications of the broader phenotype for concepts of autism in discussion. In *Autism: Neural Basis and Treatment Possibilities*, London: Wiley: 42 - 43.
- Bailey, A. et al. (1995) 'Autism as a strongly genetic disorder: evidence from a British twin study'. *Psychological Medicine*, 25: 63-77.
- Bailey, A., Phillips, W. and Rutter, M. (2006) 'Autism: Towards an Integration of Clinical, Genetic, Neuropsychological, and Neurobiological Perspectives'. *Journal of Child Psychology and Psychiatry*, 37(1): 89 - 126.
- Bains, A. (1991) *Left out in the Cold. Difficulties and Problems faced by Disabled People in the Foleshill Ward*, Coventry: Coventry Council of Disabled People/Coventry Resource and Information Service.
- Baldwin, G., Daniel, M. and Greenough, S. (2004) *All the mighty world : the photographs of Roger Fenton, 1852-1860*, New Haven: Yale University Press.
- Bandura, A. (1969) *Principles of behavior modification*, New York: Holt.
- Barnard, J., Harvey, V., Potter, D. D. and Prior, A. (2001) *Ignored or Ineligible? The reality for adults with autism spectrum disorders*, London: NAS.
- Barnbaum, D. R. (2008) *The Ethics of Autism: Among Them, But Not of Them*, Bloomington: Indiana University Press.
- Baron-Cohen, S. (2000) 'Is Asperger's syndrome/High-Functioning Autism necessarily a disability?' *Development and Psychopathology*, 12: 489–500.
- Baron-Cohen, S. (2002) 'The extreme male brain theory of autism'. *Trends in Cognitive Sciences*, 6: 248-254.
- Baron-Cohen, S. et al. (2003) 'The Systemising Quotient (SQ): An investigation of adults with Asperger Syndrome or High Functioning Autism and normal sex differences'. *Philosophical Transactions of the Royal Society, Series B, Special issue on Autism: Mind and Brain*.
- Baron-Cohen, S., Tooby, J. and Cosmides, L. (1997) *Mindblindness: An Essay on Autism and Theory of Mind*, Cambridge, Mass.: MIT Press.
- Baron-Cohen, S. et al., 2006. PredictingAutismSpectrumQuotient (AQ) fromthe Systemizing. Issue 1079, pp. 47 - 56.
- Barton, M. and Volkmar, F. (1998) 'How Commonly Are Known Medical Conditions Associated with Autism?' *Journal of Autism and Developmental Disorders*, 28 (4): 273-278.
- Bazin, A. (1951 – present) *Cahiers du Cinema*.
- Becker, H. (1963) *Outsiders*, New York: Free Press.

Begeer, S. et al. (2009) 'Underdiagnosis and Referral Bias of Autism in Ethnic Minorities'. *Journal of Autism and Developmental Disorders*, 39 (1): 142–148.

Being Me (2008) [Film] s.l.: National Autistic Society.

Bellini, S. and Akulian, J. (2007) 'A meta-analysis of video modeling and video self-modeling interventions for children and adults with autistic spectrum disorder'. *Exceptional Children*, 73: 264-287.

Bellini, S., Akullian, J. and Hopf, A. (2007) 'Increasing social engagement in young children with autism spectrum disorders using video self-modeling'. *School Psychology Review*, 36: 80 - 90.

Bentall, R. (2003) *Madness Explained: Psychosis and Human Nature in Medicine*, London: Allen Lane.

Beresford, P., Nettle, M. & Perring, R., 2010. Towards a social model of Madness and Distress? Exploring what the service users say, York: Joseph Rowntree Foundation.

Berkeley, G. (1710) *A Treatise Concerning the Principles of Human Knowledge*. Online:

available at: <http://philosophy.eserver.org/berkeley.html>

(accessed 20th November 2011).

Bettelheim, B. (1967) *The Empty Fortress*. New York: The Free Press.

Bleuler, E. (1911) Dementia praecox or the Group of Schizophrenias. In *Handbuch der Psychiatrie. Spezieller 4 (1)* Leipzig & Wien: Franz Deuticke.

Blow Up. 1966. [Film] Directed by Michelangelo Antonioni. s.l.: MGM.

Bogdashina, O. (2006) *Theory of Mind and the Triad of Perspectives on Autism and Asperger Syndrome*, London: Jessica Kingsley.

Bourdieu, P. (1980) *The Logic of Practice*, Stanford: Stanford University Press.

Bowler, D. (2007) *Autistic Spectrum Disorders, Psychological Theory and Research*, London: Wiley.

Branick, T. and Coughlan, D. (2007) 'In defense of being 'native': the case for insider academic research'. *Organizational Research Methods*, 10(1): 59-74.

Breckenridge, J. P., Jones, D., Elliot, I. and Nicol, M. (2012) 'Choosing a Methodological Path: Reflections on the Constructivist Turn'. *Grounded Theory Review*, 11(1) .

Brown, R., Hobson, P., Lee, A. and Stevenson, J. (1997) 'Are there 'autistic-like' features in congenitally blind children'? *Journal of Child Psychology and Psychiatry*, 38: 693-704.

Carney, S. (2005) *Brecht and critical theory: Dialectics and contemporary aesthetics*, London: Routledge.

Carroll, N. (1996) *Theorizing The Moving Image*, New York: Cambridge University Press.

Castonguay, S. (2006) *50 Years of the Video Cassette Recorder*, WIPO magazine, December, Issue 6: 8- 11.

Chandler, D. (n.d.) *Semiotics for beginners*. Online: available at:
<http://www.aber.ac.uk/media/Documents/S4B/semiotic.htm>

(accessed 10 October 2010).

Charmaz, C. (1995) 'Between positivism and postmodernism: implications for methods'. *Studies in Symbolic Interaction*, 17: 43-72.

Charmaz, K. (2006) *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*, 2nd edn. London: Sage.

Chomsky, N. (1956) 'Three models for the description of language'. *IRE Transactions on Information Theory*, 2 (3): 113 - 124.

Chomsky, N. (1967) A Review of B. F. Skinner's Verbal Behavior, by Noam Chomsky, In Jakobowitz, L. A. and Miron, M. S. (eds.) *Readings in the Psychology of Language*, New Jersey: Prentice-Hall: 142-143.

Christopher, K. and Makoul, J. (2006) *Patient Narrative Videos: Learning from the Illness Experience*, Oxford: s.n.

Cilliers, F. and Greyvenstein, H. (2012) 'The impact of silo mentality on team identity: An organisational case study'. *SA Journal of Industrial Psychology*, 38 (2):

Comenius, J. A. (1877) *Orbis Pictus* 1999 reprint ed. s.l.:Kessinger Publishing Co.

Cooper, R. (2004) 'What is Wrong with the DSM'? *History of Psychiatry*, 15(1): 5-25.

Cooper, R. (2007) *Psychiatry and Philosophy of Science*, Durham: Acumen.

Coventry University (2009) *Film project to explore art and autism*. Online:

available at: <http://cutoday.wordpress.com/2009/03/27/film-project-to-explore-art-and-autism/>

[accessed 1 June 2012).

Cummins, K. and Hulme, S. (1997) 'Video- a reflective tool', *Speech and Language Therapy in Practice*, Autumn: 4 - 7.

Currie, G. (1995) *Image and Mind: Film, Philosophy and Cognitive Science*, Cambridge: Cambridge University Press.

Dale, R. (1968) *Louis Wain: The Man Who Drew Cats*, London: William Kimber.

Darke, P. (1998) Understanding Cinematic Representations of Disability. In Shakespeare, T *The Disability Reader*, London: Continuum: 181 - 198.

Davies, M. and Stone, T. (1995) *Folk Psychology: The Theory of Mind Debate*, Oxford: Wiley.

Dawson, M. (2004) *The Misbehaviour of Behaviourists*. Online: available at:
http://www.sentex.net/~nexus23/naa_aba.html

(accessed 29 March 2014).

Dawson, M. (2005) *An Autistic Victory The True Meaning of the Auton Decision*. Online:
available at: http://www.sentex.net/~nexus23/naa_vic.html

(accessed 29th March 2014).

Dawson, M. and Mottron, L. (2007) *How many hours is forty hours?* Online:
available at: <http://www.sentex.net/~nexus23/IMFAR07.html> (accessed 29 March 2014).

Dawson, M., Soulieres, I., Gernsbacher, M. and Mottron, L. (2007) 'The Level and Nature of Autistic Intelligence'. *Psychological Science*, 18: 657 - 662.

Dekker, M. (1999) *On our own terms: Emerging Autistic Culture*. Online: available at:
<http://www.awares.org/>

(accessed 15th March 2007).

Deleuze, G. (1986) *Cinema 1: The Movement-Image*, Minneapolis: University of Minnesota Press.

Deleuze, G. (1989) *Cinema 2: The Time-Image*, Minnesota: University of Minnesota Press.

Denham, J. (2008) *Widening Participation in Higher Education*. Online:

available at: http://www.johndenham.org.uk/widening_participation_in_higher_education

(accessed 22 January 2010).

Dennet, D. C. (1993) *Consciousness Explained*, London: Penguin.

Der Blaue Engel. 1930. [Film] Directed by Josef von Sternberg. s.l.: UFA/Paramount.

Derrida, J. (1974) *Of Grammatology*, Baltimore: Johns Hopkins University Press.

Derrida, J. (1978) *Writing and difference*, London: Routledge and Kegan Paul.

Durbridge, N. (1984) The use of videocassettes in the OU. In Zuber-Skerrit, O. *Video in Higher Education*, London: Kogan Page 226 - 246.

Durkheim, E. (1897) *Le Suicide: étude de sociologie*, Paris: Alcan.

Edelson M. G. (2006) *Are the majority of children with autism mentally retarded?: A systematic evaluation of the data* Focus on Autism and Other Developmental Disabilities, Summer, 21 (2) : 66–83.

Eisenstein, S. (1949) *Film Form: Essays in Film Theory*, New York: Hartcourt.

Eldridge, J. (1993) *Getting the Message*, London, Routledge.

- Empire. 1964. [Film] Directed by Andy Warhol. s.l.: Andy Warhol.
- Engels, F. (1934) *Dialectics of Nature*, Moscow: Progress Publishers.
- F is for Fake. 1974. [Film] Directed by Orson Welles. s.l.: s.n.
- Feinstein, A. (2010) *A History of Autism: Conversations with the Pioneers*, London: John Wiley and Sons.
- Finkelstein, V. (n.d.) *Developing Disability Awareness in Strathclyde. The Evolution of Disability Awareness*. Disability Awareness Resource Group. Online:
available at: <http://www.leeds.ac.uk/disabilitystudies/archiveuk/finkelstein/strathclyde.pdf>
(accessed 15th March 2007).
- Fitzgerald, M. (2002) 'Louis Wain and Asperger's Syndrome', *Irish Journal of Psychological Medicine*, 19(3): 101.
- Foggo, D. (2003) Piers is not a criminal and he's not insane: so why is he in Broadmoor? *The Daily Telegraph*, 2 November.
- Foucault, M. (1978) *The Archaeology of Knowledge*, London: Tavistock.
- Fournis, G. and Abou, N. N. (2014) 'Violence, Crime, and Violent Video Games: Is There a Correlation?' *Psychiatric Times*, 18 September.
- Frankenstein. 1931. [Film] Directed by James Whale. s.l.: Universal Pictures.
- Frith, U. (1991) *Autism and Asperger Syndrome*, Cambridge: Cambridge University Press.
- Frith, U. (1992) *Autism, Explaining the Enigma*, Oxford: Blackwell.
- Gayeski, D. and Williams, D. (1984) Interactive Video in Higher Education. In Zuber-Skerrit, O. *Video in Higher Education*, London: Kogan Page, 64 - 74.
- Ghaziuddin, M. (2005) *Mental health aspects of autism and Asperger Syndrome*, London: Jessica Kingsley.
- Glaser, B. (1998) *Doing Grounded Theory: Issues and Discussion*, Mill Valley, CA: Sociology Press.
- Glaser, B. G. (1978) *Theoretical Sensitivity: Advances in the Methodology of Grounded Theory*, Mill Valley CA: Sociology Press.
- Glaser, B. and Strauss, A. (1967) *Discovery of Grounded Theory. Strategies for Qualitative Research*, Mill Valley CA: Sociology Press.
- Golan, O., Baron Cohen, S. and Hill, J. (n.d.) 'The Cambridge Mindreading (CAM) Face-Voice Battery: Testing complex emotion recognition in adults with and without Asperger syndrome', *Journal of Autism and Developmental Disorders*, 36 (2): 169–83.

- Golan, O., Baron-Cohen, S., Wheelwright, S. and Hill, J. J. (2006) 'Systemizing empathy: Teaching adults with Asperger Syndrome and High Functioning Autism to recognize complex emotions using interactive multimedia', *Development and Psychopathology*, 18: 591- 617.
- Goldstein, S., Naglieri, J. and Ozonoff, S. (2009) *Assessment of Autism Spectrum Disorders*, New York: Guildford Press.
- Gonthier, F. (2004) 'Weber et la notion de « compréhension »', *Cahiers internationaux de sociologie*, 116: 34 - 35.
- Gray, T. (1919) *Elegy written in a Country Churchyard*. In Quiller-Couch, A. (ed.) *The Oxford Book of English Verse: 1250–1900*, Oxford: Oxford University Press, 453.
- Grierson, J. (1990) *The Eyes of Democracy*, Stirling: University of Stirling.
- Grinker, R. (2007) *Unstrange minds, remapping the world of autism*, Philadelphia: Basic Books.
- Grohol, J. M. (2014) *FDA Panel Recommends Banning Rotenberg Child Shock Devices*. Online: available at: <http://psychcentral.com/blog/archives/2014/04/25/fda-panel-recommends-banning-rotenberg-child-shock-devices/> (accessed 1st May 2015).
- Gross, R. (2005) *Psychology the science of mind and behaviour*, London: Hodder Arnold.
- Guldberg, K. and Pilkington, R. (n.d.) *Towards a Networked Community of Practitioners and Carers: The Web Autism Project*. Lausanne, s.n.
- Hacking, I. (2009) 'Autistic autobiography. Philosophical Transactions of the Royal Society', *Biological Sciences* 364 (1522): 1467-1473.
- Happé, F. (1991) The Autobiographical writings of three Asperger Syndrome adults: problems of interpretation and implications for theory. In Frith, U. (ed.) *Autism and Asperger Syndrome*. Cambridge: Cambridge University Press, 235.
- Happé, F. (1995) 'Understanding Minds and Metaphors: Insights from the Study of Figurative Language in Autism', *Metaphor and Symbolic Activity*, 10 (4): 275 - 295.
- Happé, F. (1999) 'Understanding assets and deficits in autism - Why success is more interesting than failure', *The Psychologist (Journal of the British Psychological Society)*, 12(11) .
- Happé, F., Booth, R., Charlton, R. and Hughes, C. (2006) 'Executive function deficits in autism spectrum disorders'. *Brain and Cognition*, 61: 25 -39.
- Happé, F. and Ronald, A. (2008) 'The 'Fractionable Autism Triad': A Review of Evidence from Behavioural, Genetic, Cognitive and Neural Research', *Neuropsychology Review*, 18(4): 287 - 304.
- Harding, S., ed. (1976) *Can theories be refuted? Essays on the Dunham-Quine thesis*, Hingham, Mass: D Reidel Publishing Company.
- Hare, D. J., Wing, L., Gould, J. and Mills, R. (1999) *A preliminary study of individuals with autistic spectrum disorders in three special hospitals in England*, London: s.n.

- Hargreaves, D. (1996) *Teaching as a Research-Based Profession*. s.l., s.n.
- Hargreaves, D. H. (1982) *The Challenge for the Comprehensive School. Culture, Curriculum and Community*, London: Routledge.
- Hayward, A. (n.d.) *The alt.support.autism FAQ*. Online: available at: http://www.mugsy.org/asa_faq/ (accessed 29 May 2010).
- Heath, C., Hindmarsh, J. and Luff, P. (2010) *Video in Qualitative Research: Analysing Social Interaction in Everyday Life*, London: Sage.
- Hevey, D. (1992) *The creatures time forgot: photography and disability imagery*, London: Routledge.
- Hewson, C., Yule, P., Laurent, D. and Vogel, C. (2003) *Internet research methods : a practical guide for the social and behavioural sciences*, London: Sage.
- Hippler, K. and Klicpera, C. (2003) 'A retrospective analysis of the clinical case records of 'autistic psychopaths' diagnosed by Hans Asperger and his team at the University Children's Hospital, Vienna. *Philos Trans R Soc Lond B Biol Sci.*, 358 (1430): 291–301.
- Hobson, P. (2002) *The Cradle of Thought*, London: Panmacmillan.
- Honderich, T. (2005) *The Oxford Companion to Philosophy*, Oxford: Oxford University Press.
- Humphries, L. (1975) *Tearoom Trade*, s.l.:Aldine.
- Hutton, D. (1984) State of the Art. In Zuber-Skerrit, O. *Video in Higher Education*, London: Kogan Page, 11 - 24.
- IBM (n.d.) *SPSS software. Predictive analytics software and solutions*, Online: available at: <http://www-01.ibm.com/software/uk/analytics/spss/> (accessed 13 October 2014).
- Idring, S. et al. (2014) 'Parental age and the risk of autism spectrum disorders: findings from a Swedish population-based cohort'. *International Journal of Epidemiology*, 43(1): 107 -115.
- International Society for Autism Research (2008) *International Meeting for Autism Research 2008*, London, s.n.
- Ioannidis, J. P. A. (2005) 'Why Most Published Research Findings are False', *PLOS Medicine*, 2 (8):
- Jordan, R. (1999) *Autistic Spectrum Disorders an introductory Handbook for Practitioners*, London: David Fulton.
- Joseph, R. et al. (2009) 'Why is visual search superior in autism spectrum disorder?' *Developmental Science*, 12 (6):1083 – 1096.
- Kanner, L. (1943) 'Autistic Disturbances of Affective Contact', *Nervous Child*, 2: 217-250.

- Kant, I. (1997) *Critique of Practical Reason*, New York: Cambridge University Press.
- Kaplan, D. (1980) *Video in the Classroom*, White Plains, New York: Knowledge Industry Publications.
- Keele University (2010) *Research ethics review in Europe: How is it done and how could it be done better*. Online: available at: <http://www.keele.ac.uk/ethics/newsevents/2010/> (accessed 29 October 2010).
- Kemmis, S. and McTaggart, R. (1988) *The Action Research Planner*, 3rd edn. Waurin Ponds: Deakin University.
- Kennedy, H. (2011) *Video Interaction Guidance: A Relationship-Based Intervention to Promote Attunement, Empathy and Wellbeing*, London: Jessica Kingsley.
- Klin, A., Jones, W., Cohen, D. and Volkmar, F. (2002) 'Visual Fixation Patterns During Viewing of Naturalistic Social Situations as Predictors of Social Competence in Individuals With Autism'. *Arch Gen Psychiatry*, 59: 809-816.
- Koegel, R. L. et al. (2012) 'Using Perseverative Interests to Improve Interactions Between Adolescents With Autism and Their Typical Peers in School Settings', *Journal of Positive Behaviour Interventions*, 14 (3): 133-41.
- Koschmann, T., Stahl, G. and Zemel, A. (2004) The Video Analyst's Manifesto (or The Implications of Garfinkel's Policies for Studying Practice within Design-Based Research). In Proceedings of the sixth international conference of the learning sciences. Mahwah(NJ): Lawrence Erlbaum Associates, 278–285.
- Krantz, P. (2005) *Teaching conversation to children with autism: Establishing relevant stimulus control for social interaction*, Ulster: Ulster University.
- Laing, R. D. and Esterson, A. (1964) *Sanity, Madness and the Family*, London: Penguin Books.
- Lambert, C. (2013) 'Is it right to try to 'normalise' autism?' *The Guardian*, 29th October,
- Lawson, W. (2000) *Sex, Sexuality and the Autism Spectrum*, London: Jessica Kingsley.
- Lenin, V. I. (1964) Left-Wing Communism: an Infantile Disorder. In Lenin, V. I. *Collected Works*, Moscow: Progress Publishers, 17 - 118.
- Levy, N. (2007) Reading Minds/Controlling Minds. In Levy, N. *Neuroethics: Challenges for the 21st Century*, Cambridge: Cambridge University Press, 133 -154.
- Lewin, C. and Somekh, B. (2005) *Research Methods in the Social Sciences*, London: Sage.
- Lewis-Williams, D. (2002) *The Mind In The Cave*, London: Thames and Hudson.
- Lord, C. et al. (2011) 'A Multisite Study of the Clinical Diagnosis of Different Autism Spectrum Disorders', *Archives of General Psychiatry*, 148:

- Lord, C., Rutter, M., DiLavore, P. and Risi, P. (1999) Autism Diagnostic Observation Schedule, *Journal of Child Psychology and Psychiatry*, 43: 307–325.
- Lyotard, J. (1979) *La condition postmoderne: rapport sur le savoir*, Paris: Minuit.
- Malkin, R. L. (1990) *The Hidden Minority. Difficulties encountered by Disabled People in Earlsdon*, Coventry: Coventry Council of Disabled People/Coventry Resource and Information Service.
- Marco, E. J., Hinkley, L. B. N., Hill, S. S. and Nagarajan, S. S. (2011) ‘Sensory Processing in Autism: A Review of Neurophysiological findings’, *Pediatric Research*, 65 (5): 2.
- Marshall, P. I. M. (2008) Personal correspondence.. s.l.:s.n.
- Mc Partland, J., Reichow, B. and Volkmar, F. (2012) ‘Sensitivity and Specificity of Proposed DSM-5 Diagnostic Criteria for Autism Spectrum Disorder’, *Journal of the American Academy of Child & Adolescent Psychiatry*, 51 (4): 368-383.
- McCoy, K. and Hermansen, E. (2007) ‘Video modeling for individuals with autism: A review of model types and effects’, *Education and Treatment of Children*, 30: 183-213.
- McGennis, A. (1999) ‘Louis Wain: his life, his art and his mental illness’, *Irish Journal of Psychological Medicine*, 16 (1): 27.
- McLeod, D. (2006) *Geico Cavemen in TV Advertising*. Online: available at: <http://theinspirationroom.com/daily/2006/geico-cavemen/> (accessed 3rd June 2014).
- McLuhan, M. (1962) *The Gutenberg Galaxy: The making of typographic man*, Toronto: University of Toronto Press.
- McLuhan, M. (1964) *Understanding media the extensions of man*, New York: McGraw-Hill.
- McLuhan, M. and Fiore, Q. (1967) *The medium is the message*. London: Penguin.
- McQuail, D. (2010) *McQuail's Mass Communication Theory*, London: Sage.
- Mesibov, G. B., Shea, V. and Schopler, E. (2004) *The Teacch Approach to Autism Spectrum Disorders*, New York: Springer.
- Metz, C. (1974) *Film language: A semiotics of the cinema*, Chicago: University of Chicago Press.
- Mill, J. S. (1863) *Utilitarianism*, London: Parker, Son and Bourne.
- Milton, D. E. (2012) ‘On the Ontological Status of Autism: the ‘Double Empathy Problem’’, *Disability and Society* : 883-887.
- Mindreading DVD: Teaching emotion-recognition to people with autism spectrum conditions. n.d. [Film] Directed by O Golan, S Wheelwright, S Baron Cohen. s.l.: Red Green & Blue.
- Minschew, N., Goldstein, G. and Siegal, D. (1997) Neuropsychological functioning in autism: profile of a complex information processing disorder. *Journal of the International Neuropsychological Society* 3(4): 303-316.

Morrow, V. (n.d.) *The Ethics of Social Research with Children and Young People - an overview* in Young lives an international study of childhood poverty
<http://www.younglives.org.uk/publications/WP/ethics-research-children-families/wp53-the-ethics-of-social-research-with-children-and-families-in-young-lives-practical-experiences>

(accessed 29 March 2014).

Mumford, L. (1934) *Technics and Civilisation*, Oakland: Harbinger.

Murray, D. and Lesser, M. (n.d.) *A Model of the Interest System*. Online:

available at: <http://www.autismusundcomputer.de/english/model.en.html>

(accessed 21st March 2015).

Murray, S. (2008) *Representing Autism*, Liverpool: Liverpool University Press.

Nadesan, M. (2005) *Constructing Autism, Unravelling the "truth" and understanding the social*, Oxford: Routledge.

NAS (2009) The National Autistic Society. Online:

(accessed 9 June 2010).

National Autistic Society (2005) *Facing the Challenge, meeting the challenge*, London: s.n.

National Autistic Society (2008) *Publications Catalogue*, London: National Autistic Society.

National Initiative for Autism: Screening and Assessment (2003) *National Autism Plan for Children*, London: National Autistic Society.

Nikopoulos, C. (2003) *Video modelling and behaviour analysis : promoting social skills in children with autism*, Coleraine: University of Ulster.

Nikopoulos, C. and Keenan, M. (2006) *Video modelling and behaviour analysis: A guide for teaching social skills to children with autism modelling and behaviour analysis: A guide for teaching social skills to children with autism*, London: Jessica Kingsley.

Oliver, M. (1990) *The Individual and Social Models of Disability Paper presented at Joint Workshop of the Living Options Group and the Research Unit of the Royal College of Physicians. On People with established locomotor disabilities in hospitals July 1990*. Online:

available at: <http://www.leeds.ac.uk/disability-studies/archiveuk/Oliver/in%20soc%20dis.pdf>

(accessed 10 May 2010).

Osteen, M. (2007) *Autism and Representation*, London: Routledge.

Out and About (2001) [Film] Directed by Ann Aspinall s.l.: Home Farm Trust.

Outside In, Living with Asperger's Syndrome (2002) [Film] Directed by Paul Smith UK: s.n.

- Parsons, S. et al. (2009) *International Review of the Literature of Evidence of Best Practice of Provision in the Education of Persons with Autistic Spectrum Disorders*, Dublin, Birmingham: s.n.
- Peirce, C. S. (1931-58) *Collected Writings (8 Vols.)*, Cambridge, MA: Harvard University Press.
- Pellicano, E. (2011) 'The Development of Core Cognitive Skills in Autism: A 3-Year Prospective Study', *Child Development*, 81 (5): 1400–1416.
- Philo, G. (1990) *Seeing and believing: the influence of television*, London: Routledge.
- Pinker, S. (2002) *The Blank Slate: The Modern Denial of Human Nature*, London: Penguin Books.
- Pointon, A. and Davis, C. (1997) *Framed: Interrogating disability in the media*, London: BFI.
- Pollak, R. (1998) *The Creation of Dr. B : A Biography of Bruno Bettelheim*, s.l.:Touchstone Books.
- Popper, K. R. (1974). Replies to my critics. In Schilpp, P. A. (ed.) *The Philosophy of Karl Popper*, Fort Washington: Harvest Book Company.
- Popple, S. and Kember, J. (2004) *Early Cinema, from Factory Gate to Dream Factory*, London: Wallflower.
- Prince-Hughes, D. (2002) *Aquamarine Blue 5: Personal Stories of College Students with Autism*, Ohio: Ohio University Press.
- Pudovkin, V. (1958) *Film Technique and Film Acting*, New York: Grove Press.
- Rabin, P. (2002) Personal correspondence. s.l.:s.n.
- Rapley, M. (2004) *The social construction of intellectual disability*, Cambridge: Cambridge University Press.
- Ratey, J. and Johnson. C. (1997) *Shadow Syndromes: The Mild Forms of Major Mental Disorders That Sabotage Us*, New York: Pantheon Books.
- Reichenberg, A. et al. (2006) 'Advancing paternal age and autism', *Archives of General Psychiatry*, 63(9): 1026 - 1032.
- Rekers, G., Lovaas, O. and Low, B. (1974) 'Behavioral treatment of deviant sex role behaviors in a male child', *Journal of Applied Behavioral Analysis*, 7: 134-51.
- Rimland, B. (1964) *Infantile Autism: The syndrome and its implications for a neural theory of behaviour*, s.l.:Appleton-Century-Crofts.
- Rimland, B. (1964) *Infantile Autism: The syndrome and its implications for a neural theory of behaviour*, New York: Appleton-Century-Crofts.
- Robson, C. (2003) *Real World Research*, Oxford: Blackwell.
- Rodowick, D. N. (1997) *Gilles Deleuze' Time Machine*, Durham NC: Duke University Press.

Ronald, A. et al. (2006) 'Genetic Heterogeneity Between the Three Components of the Autism Spectrum: A Twin Study', *Journal of the American Academy of Child & Adolescent Psychiatry*, 45 (6): 635 -674.

Russell, B. and Whitehead, A. N. (1910 – 1913) *Principia Mathematica*, Cambridge: Cambridge University Press.

Russell, P. A. et al. (1998) 'The Development of Theory of Mind in Deaf Children', *The Journal of Child Psychology and Psychiatry and Allied Disciplines*. Sep; 39(6):903-10.

Rutter, M. (1994) 'Autism and known medical conditions: myth and substance', *Journal of Child Psychology and Psychiatry*, 35 (2): 311-322.

Saettler, P. (1968) *History of Instructional Technology*, New York: McGraw-Hill Inc.

Said, E. (1977) *Orientalism*, London: Penguin.

Samuels, R. (2009) Delusions as a natural kind. In Broome, M. and Bortolotti, L. (eds.) *Psychiatry as Cognitive Neuroscience: Philosophical Perspectives*, Oxford: Oxford University Press,

Santini, M. (2007) *The impact of video self-modelling vs video- modelling on conversational skills with adult students with severe disabilities*, Provo(Utah): Brigham Young University.

Saussure, F. D. (1974) *Course in General Linguistics*, London: Fontana/Collins.

Schultz, R. T., Romanski, L. M. and Tsatsanis, K. (2001) Neurofunctional Models of Autistic Disorder and Asperger Syndrome: Clues from Neuroimaging. In A. Klin, F.R Volkmar & S.S Sparrow *Asperger Syndrome*. New York: Guilford Press, 172-209.

Schwartz, P. (2005) Film as a vehicle for raising consciousness among autistic peers. Online:

available at:

http://www.cwru.edu/affil/sce/Texts_2005/Autism%20and%20Representation%20Schwarz.htm

(accessed 9 June 2010).

Science Media Centre (2008) Experts comment on research into rainfall and autism, as published in the Archives of *Pediatrics & Adolescent Medicine*. Online:

available at: <http://www.sciencemediacentre.org/experts-comment-on-research-into-rainfall-and-autism-as-published-in-the-archives-of-pediatrics-adolescent-medicine-2-2/>

(accessed 21st March 2015).

Shattock, P. (1995) *Back to The Future: An assessment of some of the unorthodox forms of biomedical intervention currently being applied to autism*, s.l., s.n.

Sinclair, J. (2005) *Autism Network International: The Development of a community and its culture*.

Online: available at: http://www.autreat.com/History_of_ANI.html

(accessed 16 June 2010).

Sinclair, J. (n.d.) *Autism Network International*. Online: available at: <http://www.autreat.com/> (accessed 1st March 2014).

Singer, J. (1999) Why Can't You Be Normal For Once in Your Life? In Corker, M. and French, S. (eds.) *Disability Discourse*, s.l.:Open University Press.

Skinner, B. F. (1953). *Science and Human Behavior*, New York: The Free Press.

Smith, M. (1961) *Using television in the classroom Midwest program on airborne television instruction*, New York: MCGraw Hill.

Smith, P. (2003) s.l.: s.n.

Social Care Institute for Excellence (n.d.) *Social Care Online*. Online: available at: Social Care Online (accessed 13 May 2013).

Solomon, A. (2013) *Far From The Tree Parents, Children and the Search for Identity*, London: Chatto and Windus.

Spence, S. L. C. (2006) In Moldin, S. O and Rubenstein J. L. R *Understanding Autism: From Basic Neuroscience to Treatment*. Boca Raton, Florida: Taylor & Francis, 11.

Sperber, D. and Wilson, D. (1986) *Relevance communication and cognition*, Oxford : Blackwell.

Szasz, T. (1960) 'The Myth of Mental Illness', *American Psychologist*,15: 113-118..

Szatmari, P. et al. (2003) 'Predictors of outcome among high functioning children with autism and Asperger syndrome', *Journal of Child Psychology and Psychiatry*, 44 (4): 520–528.

Tantam, D. (1999) *A Mind of One's Own*, London: National Autistic Society.

The Boys from Brazil (1978) [Film] Directed by Franklin J Schaffner s.l.: ITC Entertainment.

The Origins of Scientific Cinematography (1990, 1992, 1993) [Film] Directed by Tosi s.l.: coproduction: I.W.F., Germany, CNRS-AV, France, Istituto Luce, Italy.

The UK Copyright Service (n.d.) *UK Copyright law factsheet*. Online: available at: http://www.copyrightservice.co.uk/copyright/p01_uk_copyright_law (accessed 10 March 2010).

Thomas, G. (2009) *How to do your research project*, London: Sage.

Thomson-Jones, K. (2007) 'The literary origins of the cinematic narrator', *British Journal of Aesthetic*, 47 (1).

Timimi, S., Gardner, N. and McCabe, B. (2010) *The Myth of Autism: Medicalising Men's and Boys' Social and Emotional Competence*, Basingstoke: Palgrave Macmillan.

Tregaskis, C. (2004) 'Identity, Positionality and Power: Issues for Disabled Researchers. A Response Paper to Broun and Heshusius', *Disability Studies Quarterly*, 24 (2):

- Tucker, R. (ed.) (1986) *The integration of media into the curriculum*, London: Kogan Page.
- UC Sandiego (n.d.) Eric Courchesne PhD. Online: available at:
<http://neurosciences.ucsd.edu/faculty/Pages/eric-courchesne.aspx>
 (accessed 21st March 2014).
- Uhde, J. (1995) '100 years of Cinema', *Kinema, a journal of film and audiovisual media*, Spring: University of Birmingham (n.d.) *Form EC2 for postgraduate research students*, Birmingham: University of Birmingham.
- University of Bristol (n.d.) *About Bristol Online Surveys*. Online: available at:
<http://www.survey.bris.ac.uk/support/about> (accessed 12th January 2014).
- University of Wales, Newport (n.d.) *Dspace at University of Wales Newport*. Online: available at:
<http://repository.newport.ac.uk/dspace/handle/10774/539?mode=simple>
 (accessed 13 May 2013).
- Vertov, D. (1984) *Kino Eye*, Berkeley: University of California Press.
- Vigen, T. (2015) *Spurious Correlations*, New York: Hachette books.
- Volkmar, F. R. and Pauls, D. (2003) 'Autism', *The Lancet*, 362 (9390): 1133-41.
- Waldman, M., Nicholson, S. and Nodir, A. (2006) *NBER Working Paper No. 12632, Does Television Cause Autism?* Cambridge MA: s.n.
- Waldman, M., Nicholson, S., Nodir, A. and Williams, J. (2008) 'Autism Prevalence and Precipitation Rates in California, Oregon, and Washington Counties', *JAMA Pediatrics*, 162 (11): 1026-1034.
- Waller, J. (2002) *Fabulous Science: Fact and Fiction in the History of Scientific Discovery*, Oxford: Oxford University Press.
- Walter, G. (1984) Effects of Videotape Feedback and Modelling on the Behaviours of Task Group Members. In Zuber-Skerrit, O. *Video in Higher Education*. London: Kogan Page, pp. 142 - 155.
- Waltz, M. (2006) *Participatory and emancipatory autism research: What's the problem?* Online: available at:
http://www.awares.org/conferences/show_paper.asp?section=000100010001&conferenceCode=000200020009&id=82
 (accessed 10 April 2010).
- Waltz, M. (2008) 'Autism = Death: The social and medical impact of a catastrophic medical model of autistic spectrum disorders', *The Journal of Popular Narrative Media*, 1 (1): 13 - 24.
- Waltz, M. (2013) *Autism- a Social and Medical History*, Basingstoke: Palgrave Macmillan.

- Westover, K. D., Westover, B. M. and Bianchi, M. T. (2011) 'Significance testing as perverse probabilistic reasoning', *BMC Medicine*, 9 (20):
- Whichever Way you look at it it's still Autism (2005) [Film] Directed by Laurence Arnold. UK: Shining City Visions.
- Whyte, W. F. (1943) *Street Corner Society*, s.l.:s.n.
- Willingham, E., 2013. Why Autism Speaks Doesn't Speak For Me. Forbes/ Pharma and Healthcare, 14th November.
- Willis, P. (1977) *Learning to Labour: How working class kids get working class jobs*, Farnborough: Saxon House.
- Wilson, F. (2014) 'Miner's Canary', *Autonomy, the Critical Journal of Interdisciplinary Autism Studies*, 1 (4):
- Wing, L. and Gould, J. (1979) 'Severe impairments of social interaction and associated abnormalities in children: Epidemiology and classification', *Journal of Autism and Developmental Disorders*, 9 (1):
- Wing, L. et al. (2002) 'The Diagnostic Interview for Social and Communication: Background, inter-rater reliability and clinical use.' *Journal of Child Psychology and Psychiatry*, 43: 307 - 325.
- Wing, W. (1993) 'The Definition and Prevalence of Autism: A Review'. *European Child and Adolescent Psychiatry*, 2 (2): 61 - 74.
- Winston, B. (1995) *Claiming the real: the Griersonian documentary and its legitimations*, London: British Film Institute.
- Wyver, J. (1989) *The moving Image, an international history of film, television and video*, Oxford: Blackwell.
- Yang, M. S. and Gill, M. (2007) 'A review of gene linkage, association and expression studies in autism and an assessment of convergent evidence', *International Journal of Developmental Neuroscience: the official journal of the International Society for Developmental Neuroscience*, 25 (2): 69 - 85.
- Zuber-Skerrit, O. (1984) *Video in Higher Education*, London: Kogan Paul.