CHAPTER FIVE

CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS

5.1 INTRODUCTION

Throughout the previous chapters of this thesis, the focus of the present study has been delineated, namely, the relevant guidelines for teachers of learners with Asperger's Syndrome in inclusive education settings. The relevant literature has been reviewed (in both chapters two and three). Chapter four elicited first-hand accounts of parents of Asperger's Syndrome, which enabled the researcher to glean valuable information from their practical experience in living with a learner with Asperger's Syndrome. The literature study and the parent interviews were further enhanced by the behaviour that was observed.   These observations were reported together with the interviews in chapter four.

The last chapter systematically organises the central objectives of this study and discusses the practical guidelines for practise in the field of inclusive education regarding learners with Asperger's Syndrome. In this chapter the outcomes of the research will be interpreted with particular focus on its implications and limitations. A principal section of this chapter is concerned with summarising the major findings of the interviews and observations as outlined in chapter four in relation to the theoretical propositions outlined in chapters two and three (the literature review). This will enable the researcher to outline specific guidelines for the teachers of the learners with Asperger's Syndrome. This will allow a holistic perspective and simplify the complexity of the results delineated in the previous three chapters (namely the literature studies and empirical study). This summary is followed by an analysis of areas in which future research is required. Finally, the study's limitations will be deliberated.

To begin this chapter a summary of all the findings together with the guidelines for teachers will be outlined.

5.2 SUMMARY AND GUIDELINES FOR TEACHERS

The researcher's findings from the literature research as well as the empirical study together with the guidelines will be outlined in the following table.

TABLE 5.1 Summary of findings

LITERATURE FINDINGS	FINDINGS FROM EMPIRICAL STUDY	GUIDELINES FOR TEACHERS
Social impairments	**Social impairments**	**Social impairments**
The social impairments of Asperger's Syndrome have been well researched as these are predominant for all learners with Asperger's Syndrome. All the relevant literature consulted stressed the centrality of these social impairments. These impairments may be the cause of the development of secondary impairments (like depression, withdrawal from groups and so forth).	All eight parents interviewed noted that their children need support with socialisation and need to be taught specifically how to socialise. All the learners observed by the researcher encountered some degree of social impairments.	Teachers should be aware of these social impairments. By gaining understanding and knowledge they will become sensitive to their needs. Without this knowledge, teachers may support these learners poorly, continually blaming them for their disobedience and disruptiveness.
Play with other learners Making and maintaining friendships is a devastating experience for learners with Asperger's Syndrome. Great effort is required in this regard. As mentioned in chapter two, learners with Asperger' Syndrome often wish that they could have friends, but do not possess the necessary skills for initiating and	*Play with other learners* Five learners observed displayed extreme difficulties in interaction with their peers. With regard to the other learners observed, their skills in playing with friends had improved considerably and through learned behaviour they had learned to be more accommodating towards their peers.	*Play with other learners* A 'buddy system' can be utilised. The teachers can educate sensitive classmates about the situation of learners with Asperger's Syndrome and seat them next to each other. The classmates can befriend and watch out for these learners. The 'buddies' should attempt to include them in school activities. Teachers should try and

maintaining any kind of friendship.

There is a tendency for learners with Asperger's Syndrome to always insist on dominating and controlling the situation. This results in their seclusion from the other learners and the development of friendships is almost impossible.

A father mentioned that his son cannot predict another person's frame of mind and misses even the least subtle cues and gestures. He is only comfortable playing with other learners who have disabilities because they do not interfere with his requirements and let him get on with what he is comfortable playing. A mother remarked that when friends are encouraged to come and play, the whole visit is very strained and the children do not have an enjoyable time.

From the researcher's observation of these learners the reality of the impairments regarding the forming of friendships became obvious. In cases where friendships were made, it was very clear that the learners with Asperger's Syndrome always tended to dictate the rules of play.

In many cases the learners observed were real loners and tended to keep to

persuade learners with Asperger's Syndrome to involve the other learners in their games. They must monitor the times when these learners are playing with the others and observe any strange behaviour. The teachers could then explain to the learners that this is undesirable behaviour and they should allow the others also to have their say. In this way they will become more adaptable in their games and recognise that everyone has an equal right to their own views when playing games.

The other learners in the inclusive classroom may also intentionally ignore learners with Asperger's Syndrome and they will probably not want to make the effort to include them in their activities. If teachers are aware that this is happening, they could try and enlighten and encourage the others to be more accepting and tolerant and begin to see that learners with Asperger's Syndrome are unique, exceptional individuals who can make a valuable contribution towards the school environment.

	themselves at break and shy away from the other learners. They were often observed sitting alone eating their school lunches.	The teachers should enforce strict, but fair rules in the classroom. These will ensure that learners with Asperger's Syndrome are taught about chances and fairness. Coping strategies can be taught (such as after five minutes it is time to stop and say to the other learners, "It is now your turn, do you want a chance?").
Unaware of peer pressure Learners with Asperger's Syndrome are often unaware of peer pressure and are not concerned whether they have the latest clothes or toys. The difficulty in forming of friendships is exacerbated by this unawareness of peer pressure.	***Unaware of peer pressure*** With regard to awareness of peer pressure, there was no consensus regarding the answers of the parents interviewed. Their responses differed: half the learners with Asperger's Syndrome are extremely oblivious of peer pressure; other learners were very conscious of their peers and always wanted to wear the same clothes as their peers. Two learners observed, were influenced by modern trends in certain aspects only.	***Unaware of peer pressure*** The other learners in the school should be shown that it is unnecessary to wear the latest fashion clothing and possess the newest games. These are unfair methods to judge group acceptance. This should be incorporated in the normal school day routine and role play utilised to show how hurtful it can be when certain learners are ostracised because they are not following the most recent crazes. Teachers could, in one of their lessons (for example guidance), explain that everyone is different and unique and it is unjust for certain standards to be set for approval.

Codes of Conduct	*Codes of Conduct*	*Codes of Conduct*
Learners with Asperger Syndrome are unaware of the unwritten rules of social conduct. They will unconsciously say or do things that may insult and upset other people. However, they are not being deliberately rude but rather honest and truthful, which they feel they are obliged to be at all times. Once these codes of conduct have been deliberately taught to learners with Asperger's Syndrome they will insist on rigidity and continually enforce these even in inappropriate situations.	With the exception of one parent, all the parents interviewed agreed that their children were unaware of social conventions and did indeed make inappropriate actions and comments at inopportune moments. This impairment became evident to the researcher, when on two occasions, one particular learner verbalised direct, unseemly comments to both the researcher and a peer in his class.	Teachers should model appropriate social behaviour. They should also educate the other learners about the importance of replicating appropriate social behaviour for learners with Asperger Syndrome. Teachers should not be offended when learners with Asperger's Syndrome express insulting comments. The teachers should realise that these learners are unaware of their hurtful comments and need to be deliberately taught that it is discourteous to always say what they feel. Teachers can also expect that once these codes of conduct have been internalised the learners will stringently obey them and insist on never deviating. They will be disgusted when someone else breaks the rules. This can, however, be productively utilised in the classroom as the teacher can be assured that no deviations to accepted rules will be encountered.

Personal Space	*Personal Space*	*Personal Space*
Learners with Asperger's Syndrome create an uncomfortable atmosphere by standing far too near (almost on top of) or much too far away from the other person during a conversation.	With the exception of one learner all learners observed displayed incorrect standing distance between the listener and themselves. The learner who was an exception would only talk to his family and familiar persons. Six parents interviewed were adamant that their children's standing distance was incorrect as the majority would stand too close or even on top of the person they were talking too. One mother commented that only when she talks to her son will the distance between them be acceptable. The researcher's observation revealed the unpleasantness of this impairment, especially when the learners stood so close that physical contact was almost evident.	Teachers should make learners with Asperger's Syndrome aware of those times when they are standing too close or too far from the conversing partner. The teacher should teach the learners correct distance by using a ruler or other measuring device which can be used as a guide. Teachers could incorporate in one of their physical education lessons a game in which all the learners are consciously taught the appropriate distance which should be maintained when conversing with another person.
Eye Contact	*Eye Contact*	*Eye Contact*
When speaking, learners	All the parents interviewed	Teachers should continually

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with Asperger's Syndrome will avoid eye contact. This is very annoying for the conversing partner.	agreed that there were problems with maintaining eye contact. Most of the learners were more comfortable with people they knew and would at times make correct eye contact with their family members. This skill can be easily taught and reinforced. A learner's eye contact had improved, because his mother continually requested him to look at her and reinforced the idea that it is good manners. With the exception of one learner, none of the learners with Asperger's Syndrome made eye contact when the researcher attempted simple conversations.	caution learners with Asperger's Syndrome to look at them when either party is conversing. Teachers should indicate to learners with Asperger's Syndrome the times when incorrect face contact is noticeable, so that they can stop themselves and consciously look at the other party.
Face Perception Learners with Asperger's Syndrome misunderstand facial expressions. As a result they cannot ascertain what the other person is trying to explain to them. Much learning in the social	*Face Perception* Two learners observed battled with this concept. This was opposed to others observed who had no problems at all with body language and, when tested, managed to instinctively	*Face Perception* When explaining work teachers should never rely on their facial expressions only. They must always ensure that all instructions and class work is unambiguously explicated.

classroom takes place in this way and as a result the learners may fail to notice important details which are not explicitly stated. A great deal of social interaction is lost in this way.	understand the meaning of a smile or a frown. Five parents interviewed remarked that body language was not instinctive for their children as they had to be directly taught the meaning of a smile or frown or a cross face.	Teachers should cease from mocking the learners when they misinterpret the meaning of a particular facial expression. Teachers should carefully and patiently explain what was actually meant.
Hidden Curriculum Learners with Asperger's Syndrome misconstrue any rules that are not explicitly laid out – in other words, the hidden curriculum. Further socialisation problems are encountered because the hidden curriculum manifests in any regular school day.	*Hidden Curriculum* Half of the learners observed completely misunderstood the hidden curriculum. These learners did not understand their teacher's expectations unless they were continually reinforced and then only after many times of repetition, they would begin to internalise their expectations. This was opposed to only one of the learners who comprehended this concept. This particular learner refused to alter his attitude or demeanour to please people. The rest of the learners observed had to be specifically taught	*Hidden Curriculum* Similar to the guidelines of "face perception" teachers should always make sure that everything is clearly and explicitly outlined. The teacher's expectations must be blatantly delineated. Teachers should also realise that the learners are not being deliberately defiant when they fail to obey their commands and instructions. Rather it is as a result of the teachers' expectations being misinterpreted.

	correct methods of behaviour.	
Emotional impairments	**Emotional impairments**	**Emotional impairments**
Learners with Asperger's Syndrome often encounter complications in deducing the emotional indications and hints revealed in the expressions, of those with whom they interact.	The emotional stability of these learners was not easy to determine, as these may also change from time to time and depend on the specific situation. The researcher deduced from the observation that even though these learners may not overtly express emotions and often seem lonely, in actual fact the learners are happy just to be left alone to their own devices.	Teachers should model particular levels of happiness in their body language, tone of voice, face, etc and ask the learners, "How do I feel?" and "Do I feel a little bit happy or very happy?" This activity explores the different levels of expression (Attwood 1998:58). This should be incorporated during the course of the normal school day. The teachers should use normal daily occurrences to draw the learners' awareness to the different types of emotions.
Besides difficulties in deducing the expressions of others, the learner's own expressions of emotions are peculiar, and lack detail and accuracy. Self-disclosure, that is, talking about one's inner feelings often is the cause of stress. The learners may clearly be upset but do not have the ability or words to explain their feelings.	Five parents agreed that their children displayed signs of emotional instability. The one mother remarked that her son was just not a happy child and did not display emotions like other learners. She often wished that she knew how to make him really feel happy. Another parent alleged that her son displayed emotional "ups" and "downs." He would be extremely content and jolly	It will help if self-disclosure is regularly modelled, that is, if teachers share their emotional reactions and thoughts during the day, and then use leading questions such as 'Did you feel angry at school today?', or 'Did you feel disappointed?' This will provide an appropriate context and vocabulary to prompt self-disclosure (Attwood 1998:63).

Although there can be a problem with talking about one's |

	for a few days and then all of a sudden this would change and he would become sad and disillusioned.	feelings, there is often an eloquence that is quite remarkable in written or typed form, such as a diary, letter, poetry or autobiography. Teachers should try to encourage a diary not solely of events, but also personal impressions, thoughts and feelings. A pictorial dictionary of feelings can be used (Attwood 1998:63-64).
Depression Learners with Asperger's Syndrome are frequently tense because of their inflexibility. Self-esteem could be low, and they are often very self-critical and unable to tolerate making mistakes. All this may lead to depression.	*Depression* With the exception of one parent, all the parents interviewed found this a very difficult aspect to comment on. It was noted that in many cases the learners were still too young to experience depression and the parents were often ignorant as to what childhood depression actually entailed. The learners' moods could also depend on the type of day they experienced, in other words a form of anxiety which is a natural outcome of an unpleasant day. The learners observed displayed absolutely no	*Depression* Teachers should be alert for any signs of depression. Gently talking to the learners about depression will also help them realise why they may be feeling unhappy or miserable.

Teachers should try and boost the learners' self esteem – praise them continually for any little effort. This will prevent depression. |

	emotions at all and presented expressionless faces. It was a virtual impossibility to determine how these particular learners were feeling and if there were signs of any depression.	
Realises his or her differences	*Realises his or her differences*	*Realises his or her differences*
Many learners with Asperger's Syndrome are aware that they are different from their peers, thus self-esteem problems, self- fault finding and self-deprecation are common (Myles & Southwick 1999:15).	Five learners observed realised that they were different; others lived in a solipsist universe and were uninterested in what was going on around them.	Teachers should respect each individual's differences. By modelling such behaviour the learners with Asperger's Syndrome will realise that everyone is different and their particular differences are not something to be ashamed of.
Temper Tantrums	*Temper Tantrums*	*Temper Tantrums*
Rage reactions/temper outbursts are common in response to stress and frustration. These learners rarely seem relaxed and are easily overwhelmed when things are not as their rigid views dictate they should be.	With the exception of one learner, all the learners displayed some form of aggression or frustration in the form of temper tantrums. Discipline was best achieved by 'time outs'. Physical violence served only to scare and frustrate everyone. In addition, these learners often boasted an	Teachers should understand that there will be temper tantrums – these can only be handled with extreme sensitivity and patience. Stress reduction techniques (like deep breathing, counting the number of fingers) can be taught to help relieve the tension which instigates the temper tantrums. Teachers should try and determine if there is a pattern to

	astounding pain threshold, although two of the parents admitted that a hiding seemed to help to arrest the tantrum.	the occurrence of temper tantrums (for example each day immediately after physical education or assembly) – this situation could then be reviewed.
	One parent commented that their psychologist felt that the temper tantrums may also be needed to release frustration due to feeling constrained at school and having to behave properly. Another parent sensed that the temper tantrums can be exacerbated by tiredness, hunger and thirst.	
	The temper tantrums were observed by the researcher, and in many cases these were caused by the need for attention or language misunderstandings.	
Cognitive impairments	**Cognitive impairments**	**Cognitive impairments**
Visually orientated	*Visually orientated*	*Visually orientated*
Special consideration should be given to the cognitive strengths and weaknesses of learners with Asperger's Syndrome. If the learners' relative strength is in visual reasoning, then flow	All of the parents interviewed agreed that their children are more visually oriented, however, only one had vaguely heard of social stories. The researcher's observations revealed	By being extremely vigilant teachers should determine whether learners with Asperger's Syndrome are perhaps more visually oriented. If this is the case, the teachers should attempt to explain everything using visual aids.

diagrams, mind maps and demonstrations will enhance their understanding. If their strength is in verbal skills then written instructions and discussion using metaphors (especially metaphors associated with their special interest) will help. Social stories can be fruitfully utilised. These are written according to specific guidelines to describe a situation in terms of relevant cues and common responses. The success of social stories is due to the fact they are visual.	considerable improvements in the learners' understanding of the situation when visual aids were utilised.	Teachers should make use of a lot of visual aids in their lessons. Colourful pictures and diagrams can be used to great advantage. Teachers should become familiar with the strategy of 'social stories'. These can be fruitfully utilised in the inclusive classroom.
Inflexibility in thinking / one track mind Learners with Asperger's Syndrome are unable to deal with more than one subject or activity at time – in other words their thinking is inflexible.	*Inlexibility in thinking / one track mind* All the parents interviewed agreed that their children were narrow minded and found double-barrelled instructions almost impossible to accomplish. This impairment was revealed to the researcher on two occasions in the inclusive classroom – the	*Inflexibility in thinking / one track mind* Teachers should only focus on imparting one task or one set of instructions at a time. Double-barrelled directives must be avoided. In cases where it is impossible to avoid double-barrelled instructions, teachers should constantly repeat the second instruction.

	learners failed to accomplished the second task of the teacher's two-part instruction.	
Unable to learn from previous mistakes The learners with Asperger's Syndrome cannot generalise their learning to other situations and fail to learn from previous mistakes.	***Unable to learn from previous mistakes*** Parents interviewed agreed that their children were unable to learn from previous mistakes. They claimed that their children would continually repeat the same errors even though they had previously been told that their actions were wrong and should not be repeated in the future. This was opposed to only one parent who felt that her son would learn from previous mistakes, and another parent who mentioned that her son may not understand why he was wrong but would remember the incident and not repeat the same incident again. This impairment was revealed to the researcher on two occasions in the inclusive classroom. The	***Unable to learn from previous mistakes*** Teachers should realise that these learners will not learn from previous experience. They have to teach each lesson as a complete whole and not expect the learners to be able to derive links from previous knowledge. Teachers should prepare their lessons in such a manner that they always begin with a reinforcement of previous lessons. This will help the learners to master the work.

	learners continually repeated the same errors.	
Inability to accept failure Learners with Asperger's Syndrome are unable to adapt to change or failure.	***Inability to accept failure*** All the parents interviewed agreed that their children could not accept the occasions when they were told that they were wrong. The researcher's observation disclosed the fact that learners with Asperger's Syndrome find it extremely difficult to accept failure and such occasions often led to temper tantrums and withdrawal from the whole situation.	***Inability to accept failure*** Teachers should stress to the whole class that 'failure' is part of life and that everyone at some time experiences this. The important issue is to learn from the failures and ensure that they are not repeated. The teachers could also relate occasions in their own personal experiences in which disappointment was encountered. Teachers have to be very sensitive when alerting learners with Asperger's Syndrome that their particular action or work is wrong. Teachers should devise certain empathetic methods of conveying this information, because there will be occasions when they need to be told that they are mistaken. For example they could always start and end with a positive statement.
Difficulty in comprehending theory of mind Theory of mind refers to	***Difficulty in comprehending theory of mind*** Although this was not	***Difficulty in comprehending theory of mind*** Teachers should familiarise

the ability to think about thoughts and to attribute mental states to others.	always easy for the parents to comment on and for the researcher to observe, theory of mind was evident in the learners with Asperger's Syndrome.	themselves with the impairments caused by the inability to develop a theory of mind. This can be accomplished through numerous means such as attending lecturers and reading relevant literature.
Enjoys only non-fiction books	*Enjoys only non-fiction books*	*Enjoys only non-fiction books*
The theory of mind explains the reason for preference of non-fiction books and misapprehension of the concept of 'fiction'. Fiction emphasises social and emotional experiences, in contrast to non-fiction, which does not require an understanding of people and their thoughts, feelings and experiences to the same degree.	Six parents interviewed mentioned that their children read books primarily for information and could not understand the concept of story books. This was opposed to only one learner who comprehended the concept of 'fiction'. The school media lessons were an ideal opportunity for the researcher to observe the types of books that these learners borrowed. In the majority of cases the books were chosen from the non-fiction sections.	Teachers should try and encourage the concept of 'fiction' and 'make believe'. Teachers should be conscious that learners with Asperger's Syndrome may need extensive explanations when dealing with fictional topics. When teaching topics which require the learners to exploit their imaginations, this work should be adapted and simplified in order to avoid misunderstandings.
Inability to explain his or her emotions	*Inability to explain his or her emotions*	*Inability to explain his or her emotions*
Not only do learners with	Five parents interviewed	Teachers should develop their

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Asperger's Syndrome have difficulty recognising the emotions of others, they often have problems understanding their own feelings. They have difficulty understanding their own state of mind.

maintained that their children experienced difficulties with emotions, particularly expressing and explaining their own feelings. The other parents interviewed maintained that on a basic level their children could explain their emotions, but sometimes these explanations are quite eccentric.

The researcher observed one learner with Asperger's Syndrome crying because he was being teased by his peers. A response was given to his teacher when she asked him why he seemed so sad and his eyes so red. However, he failed to tell the teacher that he was feeling miserable because the other learners were teasing him.

lessons (particularly their life orientation lessons) with a view to explaining the different emotions which people experience.

Colourful picture charts could be placed in the classroom depicting faces with different emotions. A weather chart could be developed but instead of the usual measurements, emotional measurements could be depicted.

Lack of empathy
The difficulties which learners with Asperger's Syndrome experience in understanding emotions, their own and those of

Lack of empathy
Parents interviewed were adamant that their children displayed signs of lack of empathy and could not understand that others have

Lack of empathy
Teachers should not be offended when learners with Asperger's Syndrome fail to show compassion. They must realise that these learners find it

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others, lead to a lack of empathy.	feelings. These learners often apologised because they had learnt that such actions prompted positive responses.	difficult to identify with others experiencing disturbing situations.
	The observations undertaken exposed this impairment in which the learners seemed self-centred and only concerned with their own interests.	Natural occurrences in the school day can be utilised to model feelings of empathy. Teachers should then explain why they are displaying such feelings.
Expects others to know their thoughts Difficulties with the 'theory of mind' may lead to complications taking into account what other people know or can be expected to know, leading to pedantic or incomprehensible language. Either no background information is given, so that the listener has no idea of what the subject of the conversation is, or every detail is given to the point of boring the listener completely.	*Expects others to know their thoughts* All the parents interviewed agreed that their children expected others to know their thoughts, and often had to be enticed to tell the day's events. The observations undertaken proved that these learners would often omit important details from their conversations, thus making accurate comprehension unattainable.	*Expects others to know their thoughts* When these learners are relating a story, the teachers should continually question them regarding any background information that may be omitted. In this way the learners will begin to realise that the other party was not present at the occurrence and could not possibly know the full details.
Inability to deceive Inability to deceive or to understand deception is	*Inability to deceive* Two learners with Asperger's Syndrome	*Inability to deceive* Teachers should explain clearly to the learners that in certain

encountered because of the theory of mind. Learners with Asperger's Syndrome may become a tattletale insisting on always informing the teacher regarding those learners who disobey the classroom rules.	observed were able to lie and could convincingly deceive others in order to evade trouble or having to perform a task that they did not want to. The other learners observed could not comprehend that there were times when it was bad-mannered to tell the truth. A noteworthy perception of a mother was that this impairment could prove a problem in class especially if her son always told the teacher when other learners had been naughty. This made him unpopular amongst the others.	circumstances it is inappropriate to always verbalise their exact feelings. These can be hurtful to the other party. This inability to lie may cause learners with Asperger's Syndrome to become tattletales. Teachers could perhaps use this to great advantage as once they realise that the learners understand a specific positive rule, they can be assured that they will implement this rule strictly.
Difficulties with pretend play Learners with Asperger's Syndrome cannot hold two conflicting ideas simultaneously, and cannot pretend that an object is to be used for something else.	***Difficulties with pretend play*** Two parents mentioned that their children managed to engage in pretend games. This was as opposed the other parents who agreed that their children had problems with pretend games. On observation of the	***Difficulties with pretend play*** Teachers should perceive that they need to explain everything concretely and should not relate a particular concept to another concept, however, relevant it may seem.

	learners at play the researcher never witnessed any engagement in pretend games. One learner enjoyed playing on his own in the sandpit throwing sand in the bucket and pouring it out. The learners observed at break were frequently sitting alone and eating their lunch minding their own business.	
Language impairments	**Language impairments**	**Language impairments**
The language impairment relating to the pragmatics of conversation were outlined in chapter two. The following main aspects were discussed:	All the parents interviewed agreed that their children displayed some form of language impairments. The numerous observations of the researcher confirmed the views of the parents.	Teachers should be made aware of the numerous language impairments encountered by learners with Asperger's Syndrome.
Pragmatics or the Art of Conversation *Difficulties repairing a conversation* Learners with Asperger's Syndrome are unable to repair a dysfunctional conversation.	*Pragmatics or the Art of Conversation* *Difficulties repairing a conversation* Only one of the learners experienced no difficulties in regard to repairing a conversation. In certain instances the learners would demand an explanation until they were	*Pragmatics or the Art of Conversation* *Difficulties repairing a conversation* These learners must be taught 'safety phrases'. In other words, phrases that can be used when they are confused and not sure how to respond. For example, "Could you please repeat that? I am not sure what you mean."

	satisfied that they had received the answers they wanted, even if it was not the correct answer.	
Verbal fluency / ***one side conversation*** The genuine enthusiasm of learners with Asperger's Syndrome for their area of interest leads to garrulous speech. The learners will talk consistently about their obsessive interests and are not interested in the conversations of other parties.	***Verbal fluency /*** ***one sided conversation*** All the parents agreed that their children were uninterested in the other parties' side of the conversation. They would only talk about their own interests or at least be interested in the other parties' conversations while it was to their advantage. The researcher took particular note of the conversations of these learners and deduced that they were often narrowly focused on one particular topic of interest.	***Verbal Fluency /*** ***one sided conversations*** Teachers should encourage the learners to always listen to the other parties' conversation and consciously stop themselves after a few minutes of dominating any conversation. Teachers should give these learners a set time limit in which they are allowed to talk about their obsessive interests. Once this time is over, they have to stop talking and give the other party a chance to respond.
Literal Interpretation The learners experience literal interpretation of other peoples' comments. This means that they will be bewildered by idioms, metaphors and harmless	***Literal interpretation*** All the parents interviewed mentioned that their children found the concept of 'literal interpretation' exceptionally challenging. Every comment was	***Literal Interpretation*** Teachers should always clarify any instructions and tasks given and must always check to see if their directions have been understood and are being adhered to correctly.

jokes.	understood only in its literal sense and no comprehension of any implied meaning was taken. These learners also had to be directly taught the meaning of idioms and metaphors. It seemed though once the particular idiom or metaphor had been explained the learners generally tended to remember them. Jokes were also misunderstood. The learners could not see the point of such things. The researcher's observation revealed a learner with Asperger's Syndrome misunderstanding his teacher's comment that she was "over the moon" because his work had improved so much.	Teachers should make sure that they always explain metaphors and idioms extremely clearly. This will ensure that the learners will not interpret these phrases literally. Teachers should avoid the use of jokes. This often makes the learners with Asperger's Syndrome confused and uncomfortable. When abstract concepts are used, the teachers should use visual cues, such as drawings or written words, to augment the abstract idea. Teachers should avoid asking vague questions such as, "Why did you do that?" Instead, they should say, "I did not like it when you slammed your book down when I said it was time to go. Next time put the book down gently and tell me you are angry. Were you showing me that you did not want to go, or that you did not want to stop reading?"
Prosody or the melody of speech	*Prosody or the melody of speech*	*Prosody or the melody of speech*
Learners with Asperger's	From listening to these	Teachers should warn the other

Syndrome display a lack of variation in pitch, stress, and rhythm. In other words the tone of voice is monotonous or there is an over precise diction with stress on every syllable.

The relevance of the change in tone, or emphasis on certain words when listening to the speech of the other person is frequently misunderstood.

learners, the researcher felt that there were definite tendencies of monotony. However, not all the parents interviewed agreed that there were signs of monotony in their children's voices, and only half of the interviewees indicated monotony in their children's speech.

learners to refrain from teasing learners with Asperger's Syndrome especially considering that their tone of voice is distinctive and may at times be difficult to comprehend.

Teachers will have to make a deliberate effort to ensure that these learners begin to understand the change in tone of voice. By consciously explaining what the tone of their voices means, the learners will begin to internalise these discreet connotations.

If learners with Asperger's Syndrome are talking too loudly, the teachers need to purposely tell them that this is incorrect social behaviour and that they should tone their voices down.

Pedantic Speech
Learners with Asperger's Syndrome often use large and complex words. This gives the impression that their vocabulary is extremely impressive. However, it is very seldom the case that they actually understand all of the words.

Pedantic speech
Half of the parents interviewed admitted that their children's speech displayed evidence of pedantry, with stereotyped grammar usage.

The researcher's observations confirmed

Pedantic Speech
Teachers should not be misled into thinking that the language skills of learners with Asperger's Syndrome are far above the rest of the class. They must consciously question the learners to ensure that they actually understand the meaning of the words that they have

Often they merely replicate what they had heard or read.

definite signs of pedantry in four of these learners' speech.

uttered. The teachers could then reinforce and explain the correct meanings and in this way misunderstandings could be clarified.

A scrap book should be kept in which the learners write down all the difficult words which they use and their meanings. This can be an excellent reference guide when uncertainty arises.

Idiosyncratic use of words
The learners appear to have the ability to invent unique words (or neologisms), or are idiosyncratic or original in their use of language. This is part of semantic-pragmatic difficulties.

Idiosyncratic use of words
Several parents interviewed agreed that there were definite signs of idiosyncrasy in their children's vocabulary. The other parents generally felt that their children's vocabulary was slightly idiosyncratic but improvements had been made as a result of general maturity or being exposed to proper language usage.

This was not an easy impairment to observe and in many cases these learners were very quiet and did not want to engage

Idiosyncratic use of words
The teachers could use this idiosyncratic ability to the advantage of the learners with Asperger's Syndrome. They could stress to the class how unique these learners really are and that no one else in the class has such an ability. In this way the self-esteem of the learners may be improved. However, the teacher possibly needs to stress that this is not an actual word used in formal language and that it should not be used when writing essays and assignments.

	in any conversation. However, on two occasions with two different learners the observer noticed that these learners displayed difficulties making themselves clear to their teachers because of their strange usage of English vocabulary and tendency to make up eccentric meaningless words.	
Long-term memory Learners with Asperger's Syndrome usually excel at rote recall and will remember the minutest of details of events which occurred many years ago. However, a lot of this information is remembered without any discernment, but it can still be utilised to great advantage.	***Long-term memory*** Three parents interviewed stated that their children had exceptional long term memories. In many circumstances these learners only remembered things that interested them. In certain cases the learners' exceptional long term memory had declined with age. The researcher's observation correlated with the parents' views, especially those who stated that their children's memories were exceptional.	***Long-term memory*** Teachers should be conscious of the fact that learners with Asperger's Syndrome can regurgitate amazing facts because of their long-term memory capabilities. However, these facts are often meaningless because there is no actual comprehension. They should not be misled into thinking that these learners always comprehend what they have accumulated in their memories and need to check constantly to see whether the learners can indeed exploit these facts. Consciously questioning these learners and ensuring that there is accurate comprehension, can assist the teachers in this regard.

		Teachers can utilise the learners' long-term memories to their benefit. By praising this skill in front of the whole class, the other learners can come to value the fact that everyone in the classroom has certain powerful abilities. In this way, the learners' self-esteem can be boosted and they can develop a sense of worth.
Narrow interests Learners with Asperger's Syndrome display abnormally passionate and atypical areas of curiosities. The learners are preoccupied with unusual topics. The content of the preoccupation may change, but the infatuation with which it is pursued is sustained.	**Narrow interests** All the learners observed presented with obsessive interests, though their parents noted that they seemed to change from time to time. Controlled access and closed contracts have been beneficially utilised by these parents. The narrow interests of these learners were often evident to the researcher, just by looking at the posters on their room walls.	**Narrow interests** Teachers should productively utilise the narrow interests of learners with Asperger's Syndrome to capture and sustain their attention. Teachers should adapt their lessons to the interests of the learners (for example a learner who is obsessed by trains could be given an English assignment on trains and maths problem sums which enquire about train speed and so forth). Teachers should allow a limited time for the learners to indulge themselves in their obsessions. Strict control must be exerted and when this time limited has expired they must stop talking or reading about the obsessive

| | | interest and move onto the required tasks. They could develop a signal which the teachers could give to the learners when the time limit is up and then they have to finish their conversations and give the other learners a chance to talk about their interests. In this way the learners with Asperger's Syndrome will become familiar with the idea that there is a limit to their obsessive interests and after a period of time the learners may begin to internalise this social skill.

A reward system can be instituted, for example, after the completion of three tasks, the learners with Asperger's Syndrome can have freedom to pursue their obsessive interests for a certain time limit. |
|---|---|---|
| **Repetitive routines** | **Repetitive routines** | **Repetitive routines** |
| Learners with Asperger's Syndrome often impose rigid routines on themselves. This makes life predictable and ordered, as novelty, disorder or ambiguity are unendurable. | Six parents interviewed all mentioned that their children enjoyed a set routine. If these routines are not performed, the learners' whole day is disturbed.

Parents interviewed agreed | Teachers should attempt to derive benefit from the learners' adherence to rigid routine. Expected classroom rules can be enforced at the beginning of the year and if correctly presented the teachers can be confident that they will always be adhered to. However, teachers should |

If the learners' obsessive routines are not disruptive then the most helpful attitude is one of acceptance. The learners should be encouraged to modify other more distracting routines- this is far more effective than prohibiting them altogether. Unexpected change can result in the learner displaying unpleasant or intolerable behaviours, such as tantrums or aggressiveness.	that sudden change caused their children instability. The researcher's observation revealed how unsettled the one particular learner became when a simple change in the time of break was made: his whole demeanour suddenly changed.	be careful that the learner does not become a tattletale always exposing those learners who are disobeying the classroom rules. This can lead to unpopularity. The teachers should incorporate the learners' obsessive rituals within the daily school routine. If the rituals are too elaborate, the teachers should limit the time allowed for these rituals and persuade the learners to change these rituals for other less disturbing ones. The other learners need to be sensitive and accommodate this impairment as best they can since the learners with Asperger's Syndrome are not accountable for their actions. Teachers should appreciate that simply talking about this impairment will make the other learners more patient and compassionate. Lessons must always be presented in the same order each day. For example, the day always begins with mathematics and ends with guidance. Teachers should try and make

		the school day as predictable as possible and limit changes to the minimum. Where change is unavoidable, teachers should give the learners as much advance warning as possible.
Motor impairments	**Motor impairments**	**Motor impairments**
Poor motor coordination	*Poor motor coordination*	*Poor motor coordination*
Motor clumsiness was one of the early features that Asperger himself highlighted. 'Clumsy and ill-coordinated movements and odd posture' form one of the major clinical features of this disorder.	Five parents found that their children displayed poor motor coordination. The physical education lessons and extra mural activities of these learners were ideal opportunities for the researcher to observe the motor skills of these learners. In the majority of the cases there were definite signs of mediocre motor coordination.	Teachers should empower themselves with the knowledge and understanding that poor motor coordination may make these learners unsociable and cause their withdrawal from the group. Teachers should constantly encourage these learners and praise their efforts even if the motor coordination is inferior to the other learners.
Dislikes competitive sports	*Dislikes competitive sports*	*Dislikes competitive sports*
The motor impairments influence how the learners throw and catch a ball. Often difficulties are experienced with these skills, which cause the learners to dislike and withdraw from all sporting activities.	None of the learners observed really enjoyed competitive sport. Three of the learners tolerated sport. One learner admitted to his mother that he had attempted to join the school cricket team because if he played cricket, the teachers and	Teachers should not force the learners to participate in sport. If the learners are reluctant to play sport, they should rather be encouraged to partake in other activities that they enjoy (like computer club or photography). Teachers should strengthen the skills of the learners. By beginning with simple throwing

	other learners may begin to respect him.

The findings of four of the interviews revealed that the necessity for always controlling and dominating the situation and dictating the rules of the game compelled these learners to abstain from participating in such activities. | and catching exercises, even perhaps just rolling a ball to each other, improvements may become evident. |
| *Odd gait*
When learners with Asperger's Syndrome walk or run, their movements appear awkward and ungraceful. Some learners walk without the associated arm swing. | *Odd gait*
Two learners observed displayed signs of an extreme odd gait and appeared skew and off balance most of the time. The other learners observed displayed no signs of an awkward walk or gaits that were slightly peculiar.

From the researcher's observation of these learners at their break time and movement from class to class, it became clear that the parents' descriptions of their children's gait were accurate. | *Odd gait*
Teachers should inform the other learners in the classroom and ensure that there is no ridicule regarding any strange walk, or poor rhythmic abilities. |

Balance	***Balance***	***Balance***
Learners with Asperger's Syndrome experience challenges with balance. This may impede their use of some of the school's playground equipment, and activities in the gymnasium.	Only two of the learners observed, displayed poor balance abilities. They were very cautious when trying anything remotely daring, and would not attempt anything that they were afraid of. This was opposed to the other learners who presented with absolutely no balance impairments or whose abilities had improved considerably through sensory integration. The physical education lessons of these learners provided the researcher an ideal opportunity to take note of these learners' balance skills. It was heartbreaking to witness how some of these learners struggled with those activities requiring balance skills.	Teachers should gently try and encourage learners with Asperger's Syndrome to play on some of the less daunting playground equipment. With time the learner will become more confident and courageous. Teachers should never force the learners to attempt any task that they are not comfortable attempting. They should rather find some other challenging activities.
Strange rhythm	***Strange rhythm***	***Strange rhythm***
Learners with Asperger's Syndrome often encounter	Half of the learners observed presented no	Teachers should never criticise or admonish these learners

rhythmic difficulties. When Asperger (in Frith 1991:37) originally defined the features of this syndrome, he described a learner who had significant problems copying various rhythms.	problems in this regard, and could all keep an exceptionally good beat. The other learners displayed peculiarities in this regard.	because of their poor rhythmic abilities. When rhythmic abilities are required, the emphasis in the inclusive classroom should be on enjoyment and fun and not on the possession of excellent rhythmic skills.
Handwriting The handwriting of learners with Asperger's Syndrome is often untidy and illegible. Some teachers deem the smartness of handwriting a measure of intelligence and personality. The learners then become humiliated because of their failure to continually write efficiently.	*Handwriting* Only one the learners observed revealed a perfectly, neat and acceptable handwriting, as opposed to two of the learners who displayed extremely illegible handwriting. The exercise books of these learners exposed their writing abilities to the researcher.	*Handwriting* Teachers should not punish or criticise learners because of untidy work. They must realise that learners with Asperger's Syndrome cannot always write neatly. Word processing facilities should be beneficially exploited. At times tests could be performed orally, thereby removing the stress of having to write a test.
Sensory sensitivity Intense hyper-sensitivity to some form of sensory stimuli is regularly found amongst learners with Asperger's Syndrome.	**Sensory sensitivity** Both the researcher's observations and interviews revealed that learners with Asperger's Syndrome displayed various forms of hyper-sensitivity.	**Sensory sensitivity** Teachers should be made aware that learners with Asperger's Syndrome present various forms of hyper-sensitivity.
Taste sensitivity In taste, Asperger (in Frith 1991:80) found that the	*Taste sensitivity* With the exception of one learner, all the other	*Taste sensitivity* Teachers should develop a lesson on the different food

learners he analysed had very specific likes and dislikes, preferring very sour or strongly spiced foods.

learners showed evidence of impairments regarding taste sensitivity. All of these learners were very particular with what they consumed. The learners' school lunches revealed to the researcher how specific the learners were with regard to the types of food they ate.

groups (which is part of the curriculum) stressing the healthy food groups. In this way all the learners may be encouraged to eat healthier food.

Teachers should not admonish the learners with Asperger's Syndrome when they insist on eating the same food everyday, rather gently encourage different food types.

Touch sensitive

Relative to touch, many of the learners analysed by Asperger (in Frith 1991:80) had a strong dislike for certain fabrics, could not tolerate the roughness of new shirts or of mended socks and experienced an aversion to having their fingernails cut.

Touch sensitive

With regard to the sensitivity to the feel of clothing, only one learner displayed absolutely no sensitivity to touch.

Four of these learners were averse to physical contact and would recoil whenever such contact was forced upon them.

The researcher's observation revealed that a pat on the back by the teacher and accidental touching was extremely uncomfortable for these learners.

Touch sensitive

Teachers should avoid physical contact. As a sign of encouragement teachers often tap the learners on the head or back. The learners with Asperger's Syndrome may withdraw so such an activity should be avoided and other commendation utilised (for example, stars on a star chart or merit awards).

Sound sensitive	*Sound sensitive*	*Sound sensitive*
Learners with Asperger's Syndrome display extreme levels of noise sensitivity.	All the parents interviewed agreed that their children displayed impairments with regard to sound sensitivity. However, in many cases, major improvements had been accomplished, often just as a result of maturity. The observation of the researcher showed that the noises of the intercom buzzer and siren for fire drills were intolerable for these learners.	Teachers should try and limit the noise level in their classroom. By playing soft music in the background, the teachers can assist the learners to concentrate as in this way loud background noises are avoided. The teachers should keep their tone of voice to a regular pitch. Often teachers have a tendency to raise their voices when the class is noisy. Other tactics should be used, for example taking a piece of chalk and dropping it on the floor and detecting the first to hear it. Whenever possible, teachers should avoid speaking to learners with Asperger's Syndrome in a loud voice. Speaking in a loud voice or even yelling at them only results in the learners feeling anxious or fearful. Quite often this is misinterpreted as a sign of anger. Teachers should offer access to a small room, such as, the teacher's backroom where the

		learners can retreat when the sounds of the classroom become an obstacle.
Inclusive education	**Inclusive education**	**Inclusive education**
The policy of inclusive education stipulates that all learners have the right to access a learning environment that values, respects and accommodates diversity and that provides education appropriate to the learners' needs within an integrated system of education.

Inclusion also means providing any support and assistance the learners and their teachers may need to prosper in the regular school. | With the exception of one parent, all the other parents interviewed agreed that inclusion should be practised for learners with Asperger's Syndrome. They generally felt that an inclusive environment was essential because this is where their children were going to have to conduct their future lifes. However, they agreed that this was not an easy task and the whole environment had to be carefully and correctly structured to ensure that these learners do in actual fact prosper – for example smaller classes, with properly trained teachers. | Teachers should familiarise themselves with the new policies relating to inclusion.

Teachers should realise that they will encounter a range of learners with diverse needs in the classrooms.

Teachers should understand that they now have to attempt to solve the problems of learners in their inclusive classrooms.

Teachers of learners with Asperger's Syndrome should not consider that they are alone in their endeavours. They must have the constructive support of experts in the field of Asperger's Syndrome. These experts should guide and encourage the teachers. Teachers also need access to relevant resource material and teaching aids. These are invaluable because in this way the teacher's knowledge of the syndrome can be extended and useful teaching strategies can be gleaned from |

		these resources. In this way the whole inclusive system can be promoted.
Society	**Society**	**Society**
The social model is based on the belief that the circumstances of learners with disabilities and the discrimination they face are socially created phenomena and have little to do with the impairments of disabled people. Society, its value systems and practices, and not personal attributes is the cause of exclusion being practised. Society, and not individuals, has to change so as to accommodate or include all human beings effectively into one system.	None of the parents interviewed agreed that society would adapt to the learners needs. In fact three parents argued that society would never even attempt to make allowances for these learners' idiosyncrasies. The other parents mentioned that there will always be some people who are kind and accepting and others who are self-centred and unsympathetic to learners with disabilities. In theory, society's adaptation, sounded ideal to the parents but they felt that the practicalities needed to be taken into account.	Teacher's must be willing to adapt their teaching methods to accommodate the needs of learners with Asperger's Syndrome - teachers can change but learners with Asperger's Syndrome find this an almost impossibility. Teachers should realise that Asperger's Syndrome means a different way of seeing things – it is not necessarily a disability. These differences can be rewardingly exploited. With a little creativity and willingness to adapt, the teacher can build on these different outlooks. The teacher needs to adopt a holistic perspective and understanding of the social model. This can only be accomplished with suitable training and support. Without this understanding, it is unlikely that such a practice can be accomplished. Teachers should be empowered to examine the school system

		and determine if this is possibly the reason for the learners not prospering in the school. The teachers could possibly then attempt to change the system to meet the learners' needs. For example the system may require that every week for a certain time all the learners have to attend an assembly. Learners with Asperger's Syndrome may find that this activity requiring them to keep quiet very problematical. If the system was adjusted to allow these learners to sit in the library or do some other task (for example helping in the office) then they will feel more contented and more willing to cooperate when it is obligatory.
Attitudes	**Attitudes**	**Attitudes**
Teachers' values and attitudes are fundamental in guaranteeing the accomplishment of inclusive practices since the teachers' favourable reception of the policy of inclusion will determine their dedication towards achieving such a system. The teachers' positive attitude towards learners	All the parents agreed that it was critical for the teachers to project a positive attitude towards these learners. This became evident in the observations undertaken. When a teacher displayed a positive attitude towards the learners with Asperger's Syndrome, these learners excelled and were content in the inclusive classroom.	Teachers should evaluate and be responsive to their own attitudes towards learners with Asperger's Syndrome. This could be a major factor in the enhancement of a more relaxed environment in which everyone respects each other. If the teachers find that they are displaying negative attitudes, they should ask themselves

with impairments is the solution towards the integration of the learners in the regular class.

The shifting of attitudes and human behaviour concerning the manner in which diversity is perceived is an important step towards the creation of inclusive systems and societies. There should be a paradigm shift in attitudes of the teachers of learners with Asperger's Syndrome.

This was opposed to the times when the same learners were placed with teachers with negative attitudes – the whole process began to collapse. If learners with Asperger's Syndrome are to be placed in an inclusive classroom, it is essential that the teacher is positive and willing to try to accommodate these learners to the best of her ability. However, attitude changing is not a simple matter and needs careful consideration.

The principal of any school is undoubtedly the key to effective attitude change. If the principal is positive and supports inclusion, then the teachers he or she employs will also develop such a positive attitude. This became apparent from two of the interviews, where the parents decided to remove their son from the school because the principal was unaccommodating.

"Why and what can I do to change these?"

Teachers may now need to examine their own feelings regarding 'diversity' and accept that in society there are countless different learners each with their own special capabilities. Although learners with Asperger's Syndrome are different, they should be accepted and welcomed in the class. In other words, the impairments of these learners (which were discussed in chapter two) may be overcome if these learners are seen for what they can indeed accomplish and not for their differences and peculiarities.

If teachers and other learners adopt this value free approach towards learners with Asperger's Syndrome and focused on their strengths and abilities, by accepting that everyone is different and special in their own unique ways, they will make the learners feel more secure and self-confident in the classroom.

		By networking with others, talking about the hard work and realising that they are not alone in their endeavours, the teachers' attitude can become more accepting. Opportunities for such interaction should be created.
Support networks	**Support networks**	**Support networks**
The key to reducing barriers to learning within all education and training lies in a strengthened education support service. A support network provides teachers not only with the opportunities to build on learners' strengths but the access to resources to increase the teachers' perception that they can have an impact on the education outcomes of the learners with special needs.	The researcher's observation revealed that no outside support was offered to teachers of learners with Asperger's Syndrome. No collaborative or team teaching was practised at any of the schools which the researcher visited.	Teachers of learners with Asperger's Syndrome should value collaboration as an important step in inclusive education. Teachers may find that by collaborating with the different support networks, they gain different ideas of how to include the learners and adapt the classroom situation. By talking to other teachers they will begin to realise that they are not alone in their teaching of learners with Asperger's Syndrome and there are other people and organisations that are willing to try help them and listen to their fears and anxieties. Teachers who are familiar with learners with Asperger's Syndrome may have valuable ideas which they could impart to the regular teachers. It is also possible that the regular teachers could impart valuable

		information to these teachers about the learners' daily progress and routine in the classroom. In this way it is hoped that together they may devise solutions to any problems that may be encountered in the classroom and, specifically any difficulties regarding the learner's social development. Teachers of learners with Asperger's Syndrome now have to adapt to this new system of collaboration. It may take time and teachers may at first feel hesitant to attempt this type of collaboration with others (after all change is not always easy) but it is expected that teachers could soon realise the benefits of collaborative teaching which will facilitate the inclusion of learners with Asperger's Syndrome in the regular classroom. Once teachers begin to use and become familiar with this form of support, it could become an innate ability and an accepted part of their teaching endeavours.
Parent empowerment An indispensable and fundamental part of	**Parent empowerment** Six parents interviewed agreed that the	**Parent empowerment** Teachers need to encourage open channels of

inclusion is the parents of learners with Asperger's Syndrome. The parents know their children the best, possess comprehensive and exclusive information because of their practical experience and are in the most favourable position to propose suggestions to the teachers.

Parents must be embraced as equal and essential partners in the education of their children. | involvement in their children's education was essential and critical to any form of success. This was as opposed to only one of the parents who felt that, from previous experience, she had been excessively involved in her son's schooling and this caused further problems.

Many parents were volunteer helpers in their children's school and the parents helped around the school wherever possible. | communication between the parents. They must incessantly persuade parents to express their views.

Teachers should appreciate that by living with a child with Asperger's Syndrome, parents have gained valuable expertise. The teachers should be receptive to any strategies that the parents may recommend and vice versa. Suggestions to parents regarding helping their children at home should also be embraced.

Parents of learners with Asperger's Syndrome may possibly not realise that they are an integral part of the inclusion of the learners. Teachers need to make the parents feel welcome in the school and encourage open channels of communication so that valuable information (which is not otherwise available to teachers) can be exchanged.

If parents are made aware of what is happening at school (and vice a versa – teachers made aware of happenings at home), then together they can |

		accomplish what is best and the most suitable education programme for these learners.
		If there is close cooperation between the parents and teachers of learners with Asperger's Syndrome, then teachers could perhaps explain the parts of the work that the learners are not coping with. Together they could devise a plan for helping the learners and the parents could reinforce this in the afternoons. It is important that the parents and teachers do not conflict with each other and they should use the same teaching methods. Parents may also explain techniques which they have found useful and used successfully in contending with learners with Asperger's Syndrome at home - if these beneficial suggestions are given to the teachers they may also find that this can be exploited constructively in their classrooms.
		Parents could explain the learners' social impairments (as outlined in chapter two) to the teachers and together they may

		work on improving or accommodating these in the classrooms.
		An afternoon informal meeting where all the teachers and parents come together is useful. The parents could address the teachers and talk openly about their lifes, living with learners with Asperger's Syndrome. This may make the teachers more understanding and tolerant. Again, it must be admitted that this may not be easy for the parents but it is possible that such a meeting could be very beneficial to the inclusion of the learners in the regular school.
		Parents and teachers may not be used to such cooperation and it may not come effortlessly. But it is expected that with time and commitment from all concerned, this can become a natural phenomenon. It is important that neither parties should feel threatened and realise that together they may achieve what each alone could never accomplish – the inclusion and acceptance of the learners in the school community and

		ultimately, society at large.
Classroom assistants	**Classroom assistants**	**Classroom assistants**
The effective utilisation of classroom assistants is a crucial facet in facilitating the inclusion of learners with special education needs in classrooms. However, this is an issue which requires careful consideration by schools and individual class teachers.	Two parents interviewed felt strongly that there were no personal aides that could help these learners in the regular classrooms. This was opposed to five of the parents who were in favour of personal aides. However, these parents agreed that funding was a problem and they did not foresee the government sponsoring individual aides for their children. In those cases where classroom assistants were utilised, the families had to pay their salaries personally. None of the learners observed were fortunate enough to be exposed to the services of their own personal aide. However, it is believed that these personal assistants could make an immense difference in the inclusive classroom.	Teachers should have access to personal aides in the classroom. A full time aide for these learners could ensure that the learners are given more individual attention and that they do not continually sidetrack the class teacher. Teachers should welcome such assistance and not feel threatened by an outsider coming into their classroom. Teachers should remember that the aide is there to watch the learners and not the teacher's teaching skills. The aide could distract the learners at those particular times when they are becoming uncooperative and unbearable in the classroom. In this way the rest of the class is not disrupted by the learner's unruly behaviour. The learners and aide could together find a quiet and calm setting where they can retreat at such times. This may also help the teachers maintain the discipline of the class; after

| | | all it only takes a small incident to make the whole class noisy and disrupt the lesson.

The aide could check if the learners understand the work that has to be covered. By watching the learners constantly, the aide may notice any misunderstanding and difficulties which the learners experience. The aide can then reinforce and re-explain this work. This could ensure that the learners do not fall behind and feel that they are not coping in the classroom.

In both chapter one and two the centrality of the social impairments of learners with Asperger's Syndrome were highlighted. By constantly reinforcing correct social skills, the aides may help the learners internalise these skills, thereby assisting in their social development. The aides are constantly with the learners and it is possible for the aides to make the learners aware of the times when they are displaying incorrect and inappropriate social behaviour. A secret |
|---|---|---|

		signal may even help, whereby the aides give this signal each time the learners are doing something socially unfitting. The learners then have to stop and think about what they are doing wrong and in this way become use to the idea of constantly monitoring their actions.
Community support Different government departments and other sectors would need to work together to provide comprehensive support to learners. Partnerships between relevant stakeholders should therefore be promoted. All resources in the community should be utilised to develop and support education provision through a structured community participation approach.	**Community support** Generally the parents were oblivious to any community involvement in the education of their children. Only one parent was aware of some form of community involvement but mentioned that this was in order to obtain additional funds for the school and not for the exclusive benefit of her son. There were absolutely no signs of any efforts to involve the wider community in the schools that the researcher visited.	**Community support** Close collaboration must be established between the different support networks. Everyone concerned with the inclusive education of learners with Asperger's Syndrome must pool their resources and work as a team with each other. For example, if some of these learners are interested in astronomy, the teachers could invite some well-known astronomers to address the class. Teachers could also allow these learners to become involved in such an organisation by allowing them to visit and help out in their work. In this way people who share similar interests may surround the learners and they need not feel self-conscious when they ramble on about their obsessive interest. This could

		also prepare the learners for working full time in such an environment in future.
In-service / pre-service training Classroom educators will be the primary resource for achieving the goal of an inclusive education and training system. This means that educators will need to improve their skills and knowledge, and develop new ones. Staff development at the school and district level will be critical to putting in place successful integrated practices.	**In-service / pre-service training** None of the teachers of the learners observed had received either in-service or pre-service training on Asperger's Syndrome. The teachers mentioned that such training would be extremely beneficial but the problem of time scheduling was mentioned. Many conveyed reluctance about having to attend courses on weekends or free afternoons.	**In-service / pre-service training** In-service or pre-service training will equip the teachers with knowledge of the impairments of learners with Asperger's Syndrome and they will thus be in a better situation to support them in the inclusive classroom. Pertinent information which the teacher gains from the in-service training can be passed on to the other teachers and learners and in this way they may become more sensitive towards the needs of learners with Asperger's Syndrome.
Curriculum Crucial to the adjustment to diversity in schools, is a flexible curriculum and assessment policy that is available to all learners, regardless of the nature of their learning needs. The teachers need to think about how to modify the curriculum for each learner; they need to	**Curriculum** The use of teaching methods and a flexible curriculum was generally very difficult for the parents to comment on as in many circumstances the parents were unaware of any specific technique that the teachers had attempted in the classrooms. All but one of the parents interviewed maintained	**Curriculum** Learners with Asperger's Syndrome are unpredictable - often they will be uncooperative and unwilling to attempt the school tasks at hand. The teachers need to be able to adjust to these challenging times. They must productively utilise those occasions when the learners are willing participants. During these times new and more complex work can be covered.

gather materials for hands-on activities. All of these things take time – time that must be allocated to the teacher during the school day.	that there were indeed irrelevant subjects (or parts of subjects) taught at the schools. They insisted that these subjects only met the needs of a few learners who are interested in that particular subject.	This can be accomplished by maintaining a flexible curriculum.
Besides the traditional education curriculum learners with Asperger's Syndrome have an supplementary curriculum to master, namely the social curriculum. The learners need to be instructed concerning appropriate techniques of conducting themselves.	With the exception of one, all the parents interviewed agreed that social training would be exceptionally advantageous and a requisite for the inclusive education of learners with Asperger's Syndrome.	Teachers need to examine the content of the curriculum and determine if there are areas which are inconsequential and of no benefit to their learners. Many parts of the current curriculum could easily be learnt after school by those who are really interested. In this manner the time-table could, to some extent, be cleared to allocate time for the introduction of other more relevant subjects (for example life orientation, social skills and so forth).
	No social lessons were, as yet, offered at the schools in which the researcher visited, even though a few of the teachers mentioned to the researcher that this could be a worthwhile undertaking. The closest to a social skills lesson that the researcher observed was a life orientation lesson.	Teachers need to introduce social skills lessons in the curriculum. During these lessons the learners can be taught correct behavioural responses. This will benefit all the learners. If it is not possible to have separate social skills lessons, teachers could then perhaps incorporate these in their regular lessons. This may take some adjustment but with commitment and practice, teachers can accomplish this

		indispensable task.
		Learners with Asperger's Syndrome have many strengths which the teachers can capitalise on and they can be utilised constructively. Teachers could adapt their curriculum so that it is, to certain extent, focused on the learners' obsessive interest. In this way the learners' attention is captured and they will be more motivated to learn and cooperate. They will also feel that their needs and interests are being addressed and not discarded because they are different to the rest of the class.
Outcomes - Based Education	**Outcomes - Based Education**	**Outcomes-Based Education**
OBE is a strategy for education which is learner centred and orientated towards results or outcomes. It is based on the premise that all learners can learn.	Much controversy exists over whether OBE is indeed promoting the inclusion of learners with special needs. Three of the parents interviewed had never even heard of the term OBE and the others admitted that their knowledge was very limited. None of the parents interviewed felt that this was an efficient education system and three were frustrated because of	Teachers should obtain relevant and high-quality training. This will ensure that they are competent and recognise the value of OBE. With effective implementation of such a system, teachers will find that inclusion is promoted.
In OBE the curriculum is designed to enhance attitudes, values and skills which are needed by the learners and society. In this way the learners are equipped with what they		Teachers could perhaps develop the outcomes of each lesson so that they correspond with the competencies of learners with Asperger's Syndrome. As mentioned previously these

should know to be able to participate dynamically in society. It also includes the awareness that learners differ and that assistance may be needed to enable learners to reach their full potential.

Group work may enhance the social acceptance of the learners. Providing the learners with a specific role in group activities and avoiding situations where they may be the last to be chosen will help to alleviate isolation. Group work may provide the opportunity for the learners to excel in a particular area and therefore be seen as an asset by the other learners.

their lack of knowledge of and understanding about how their children were progressing.

Group work is also an issue for learners with Asperger's Syndrome. These learners battle with social interaction and as a result find it very difficult to participate and contribute towards a group effort. Two of the parents interviewed, however, felt that their child would manage to work in a group. The other parents disagreed with this concept.

In the schools visited by the researcher, it was easily noted that the teachers had adopted certain aspects of the OBE system (like the terminology) but incorporated this with the traditional teaching methods. In other words the system that they were generally following was a mixture of the old and the new.

learners have much expertise which the teachers should capitalise upon. As an example, learners with Asperger's Syndrome may be proficient and very fond of using the computer – the teachers could then develop the outcomes for their particular lessons bearing this in mind and ensuring that the outcomes can be achieved through the use of a computer.

Teachers should monitor the group work extremely carefully as group work leads to segregation and teasing of learners with Asperger's Syndrome. The other learners may deliberately exclude these learners from the group because of their lack of ability to cooperate within a group context. This will ensure that group work does not lead to further obstacles.

Teachers should ensure that all learners are making a concerted effort towards the group effort. No one learner must be allowed to dominate and complete all the work on his or her own.

Assessment	Assessment	Assessment
The aim of assessment is to make it possible for teachers and schools to provide responses to a wide diversity of learners. The new approach to assessment replaces the old, traditional examination system where scores were the decisive factor in passing or failing. The new approach which is descriptive of the quality of learners' development encompasses wide-ranging styles of flexible assessments with intimate links to the curriculum.	Half of the parents interviewed strongly disagreed that the different forms of assessment were promoting inclusion. In fact, in many cases they felt that these methods were causing negativity. The one mother believed that peer assessment was not objective. The other parents admitted to being ignorant of these different forms of assessment and found the whole report system very complex and difficult to understand. During the researcher's observation, there were no occasions when these different forms of assessment were utilised in the classrooms. On enquiry from the various teachers, it was mentioned that they did not apply the different forms of assessments nor did they have an intention of using them in the near future.	Teachers should become familiar with the new forms of assessment. The different forms of assessment (namely peer, self and teacher assessment) will ensure that learners with Asperger's Syndrome cope in the classroom because they do not have to rely on passing one single examination at the end of the year in order to progress to the next grade. Teachers should be cautious when using peer assessment. Other learners may deliberately target learners with Asperger's Syndrome and evaluate them discriminatorily. Teachers need to educate the parents regarding the assessments in OBE. Many parents are ignorant and confused by the report system.

Visual Aids	Visual Aids	Visual Aids
Learners with Asperger's Syndrome process information more easily if it is presented visually. Teachers should consider incorporating many visuals (i.e. schedules, charts, lists, pictures) into their lessons. Visual information is more concrete than auditory information and allows for greater processing time. Additional visual strategies include the use of a computer and keyboard. Computers can be so appealing to learners with Asperger's Syndrome. Computers are logical and consistent and can be an ideal learning tool for the learners.	The general feeling amongst the parents interviewed was that they were not present during the class lessons and were, thus, unsure as the exact utilisation of visual aids. However, all the parents felt that such aids could be very beneficial for their children and an increase in their use should be adopted by the teachers. Most of the lessons observed by the researcher utilised the overhead projector, but, they merely provided notes for the learners to copy. No other visual aids were employed. With regard to computers in education half of the parents interviewed felt that computers were desirable as a tool for learning in the inclusive classroom but could not replace the physical presence of the teachers. Computers should not be used the whole day and	Teachers should use lots of visual aids and colour in their lessons – they should habitually use pictures and charts to explain and reinforce their lessons. Teachers should consider adapting the work so that a considerable proportion of the work is conducted using a computer. Word processing programmes, especially the grammar and spell check facilities are invaluable in improving the legibility and quality of the finished product (Attwood 2000b:6). Teachers should work closely with the computer teachers to ensure that the positive effects of computer education are exploited for all learners. Different forms of education software programmes should be utilised to complement the teachers' regular lessons.

	should only be one method of teaching. Besides the actual formal computer lessons, no additional computer education was utilised in the schools visited by the researcher and no education software was exploited in the inclusive classrooms.	

5.3.RECOMMENDATIONS FOR FURTHER RESEARCH

The following section outlines certain recommendations for further research.

1. The validity of Asperger's Syndrome has not been well established in the literature, nor by the recent publication of the DSM-IV (Campbell, Cuevar & Hallin in Wiener 1996:156). The DSM-IV's definition of Asperger's Syndrome has not been embraced by most experts in the field and controversy still exists as to whether Asperger's Syndrome can accurately and meaningfully be differentiated from autism or if autism is a single spectrum disorder with Asperger's Syndrome at the mild end of the continuum. This area demands further research and is essential in order to clarify the controversy relating to the correct diagnosis and to ensure that correct support is given.

2. Currently it is not possible to obtain information regarding the outcome of learners with Asperger's Syndrome in inclusive education settings. This is because inclusion has only recently been introduced in the South African school system, and there is, as yet in South Africa, no learners with Asperger's Syndrome who have completed their schooling following the recommendations of the inclusive education policies. Time is needed to allow the learners to progress through the whole school system and determine whether they are indeed being successfully educated in inclusive education settings. This is an area in which more research could be conducted.

3. Shechtman and Or (quoted by Oswald et al 2000:316) argue that teachers with a dominant democratic value system accept inclusive education far more quickly and easily than those with an autocratic approach. This, together with the effect of the attitudes of teachers towards inclusion, is an aspect in which further research in South Africa is needed.

4. The social impairments of learners with Asperger's Syndrome are well recognized and both chapter one and two have attempted to outline the centrality of such impairments. There have, however, been very few reports about social skills training for learners with Asperger's Syndrome (Nakamura, Iwahashi, Fukunishi & Suwaki 2000:697). Social skills training and the introduction of a social skills subject in the regular school curriculum are a noteworthy area for further research.

5. Considering the fact that many learners with Asperger's Syndrome respond positively to the use of computers, the exploitation of computers in supporting the inclusion of these learners is an area in which further research is recommended.

5.3 LIMITATIONS

1. Asperger's Syndrome is a fairly new field of research and not much has been researched on this topic especially in the South African context. As already noted (in chapter one), Asperger Syndrome has been less intensively studied and its validity is more controversial (Klin, Volkmar, Sparrow, Cicchetti & Rourke 1995:1127-1128). As a result South African related literature research was not copious and the researcher mainly relied on the use of international research.

2. Inclusion is a new policy in South Africa. No research on learners with Asperger's Syndrome in inclusive education settings in South Africa has been completed. This made this particular study more complex and demanding to complete.

3. Each learner with Asperger's Syndrome is unique and may not necessarily display all the characteristic traits of the syndrome (as mentioned in chapter two) and some learners may reveal them more severely than others. This made generalisations very difficult. What may be useful for one learner with Asperger's Syndrome will not necessarily be successful for other learners with the same syndrome.

4. The relatively small sample used in this study may also be seen as a limitation. This was because of two reasons: firstly, Asperger's Syndrome has only recently become recognised as a syndrome in its own right; and secondly it is often misdiagnosed and therefore obscured by other disorders, like attention deficit disorder, hyperactivity and motor coordination to name just three. It was challenging to find many parents who were willing to cooperate and where willing participants were found, some of these learners were still attending special schools or being home-schooled.

5. It has to be recognised that the nature of this research is exceptionally sensitive. It is possible that not all the parents were completely forthcoming and relevant information could have been withheld.

5.4 CONCLUSION

This chapter has brought the research to its culmination in which the problems formulated in chapter one has been investigated and the aims met. By summarising the main findings from the literature review and the empirical investigation, the researcher was in a position to outline certain practical guidelines for teachers of learners with Asperger's Syndrome who are educated in inclusive education settings. It is envisaged that these guidelines will make the teacher's challenging task much more attainable. The recommendations for further research were gleaned from both the literature and empirical investigation. Areas that require supplementary research are stipulated. Finally, the limitations of the research were discussed.

Gluyas (2000:1) explicitly captures the essence of the premise of this research when he argues that knowledge is an Asperger's Syndrome learner's best friend, and lack of it is the worst enemy. Without this knowledge it is easy to upset the learner. Knowing about Asperger's Syndrome makes a huge difference.

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