EVALUATION OF THE KĀ MĀHURI PROGRAMME

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ABSTRACT

This study evaluates the effects of the Kā Māhuri programme, which is a multicomponent 10-week intervention for 5-8 year-old children displaying antisocial and off task behaviours in their mainstream classrooms. The intervention was evaluated by evaluating the progress of five children across two intakes on nine measures. Although substantial difficulties were experienced in collecting the planned data on the children's progress, it was apparent from the results that the programme effectively managed the children's negative classroom behaviour during the intervention. Little evidence of academic gains was apparent and the intended parental involvement only occurred in one case. Further follow up data for each child will be required to determine whether the changes made through the intervention were maintained in the long term.

CHAPTER ONE

INTRODUCTION

General Overview of the Problem

Media is almost constantly confronting the public with accounts of "out of-control boys" (Gorman, 2008), "gangsta-style behaviour" in children (Nicolas, 2008) and students "causing merry hell" (Hartevelt, 2008). Children displaying disruptive, non compliant and antisocial behaviours are recognised as the most serious difficulty for New Zealand schools (Galloway, 2008). These children disrupt their and their classmates learning opportunities, and often result in the difficult child being excluded from school. Gorman (2008) reported a 37 per cent rise in primary school children being suspended and stood down in 2007, with 945 suspensions and 5650 stand-downs. Behaviour problems do not occur in isolation however. There is evidence to suggest that noncompliant and/or oppositional behaviours are precursors to antisocial behaviours in children's developmental trajectories (Campbell, 1995, Reid, 1993). For example, a long established pattern of antisocial behaviour in early schooling is recognised as the single best predictor of adolescent criminal behaviour (Patterson & Bank, 1986). These antisocial behaviours at school not only disrupt classes but are often recognised as a central cause of teacher burnout. A review of teacher burnout by Pines (2002) described a number of studies showing that in large classes teachers spent a lot of time dealing with behavioural problems and not curriculum. Another study found disciplining students was almost constantly at the top of teacher stress surveys, 'Nothing gets teachers so worked up and ready to leave the profession as this issue' (Farber, 1991, p. 53).

For the individual who displays high rates of antisocial and disruptive behaviours the risk of a range of negative outcome is greatly increased. These negative outcomes include: early departure from school, poor school success, unemployment, substance abuse, spousal

abuse, and higher rates of arrest (Bear, 1999; Capaldi, De Garmo, Patterson & Forgatch, 2002). In places where criminalising antisocial behaviours and suspension/expulsion are the main response of schools, researchers have found increased levels of school dropout, arrest and juvenile detention (Skiba, Raush & Ritter, 2004). Furthermore stand-downs and exclusions continue to be used by schools in spite of a plethora of research showing various alternatives that are very effective in managing behaviour. These alternatives include: professional development for teachers and schools, parent training, and structured reinforcement programmes (e.g. Bierman, Coie, Dodge, Foster, Greenberg, Lochman, et al., 2004; Church 2003; Moore, Anderson & Sharma, 2006; Sanders, 2007).

The prevalence of children in New Zealand schools with severe antisocial difficulties has been identified in three major studies, the Canterbury Prevalence Survey (Church, 1996), the Otago Prevalence Survey (Bretherton, 1997), and a second Otago Prevalence Survey (Bretherton, 2000), as between 4.5 to 5 per cent. The prevalence level was quite stable between ages 8 to 11 years (Church, 1996; Bretherton 2000). All three studies found that low decile schools reported a 3-6 times greater prevalence rate for this cohort than higher decile schools.

Fergusson and Horwood (2002) conducted a longitudinal study which identified a group of chronic offenders at age 20 who had engaged in high rates of antisocial behaviour from a young age throughout childhood. This group self-reported committing, on average, 141 offences between the ages of 14 and 20 years. Of the total sample, 9.4 per cent of the males and 2.1 per cent of the females followed this trajectory. Moffitt (1993) found that 7 per cent of males in her Dunedin sample met the criteria for what she referred to as an *early onset life course persistent group*.

Kazdin (2005) and Church (2003) both argue that early onset antisocial development has far reaching consequences for and financial costs to society. These range from the

victimisation of others and damage to property and possessions to the economic drain of incarceration and habilitation. Church (2003) estimated the cost of an effective intervention which habilitated an antisocial child at 5 years to a normal developmental path to be approximately $5000. This cost increased exponentially to some $60,000 for a 15 year old. While Church estimates that costs grow rapidly, successful rates fall on a declining curve from 80 per cent success at 5 years to 20 per cent at 15 years of age.

The prognosis for children who show antisocial behaviours in childhood varies. Patterson, DeBaryshe & Ramsey (1989) found evidence to support their notion that children arrested prior to 15 years of age are at a greater risk to becoming chronic offenders than those arrested after the age of 15. However, research has found the opposite: many youth offenders do not become adult offenders (Robins & Ratcliff, 1979; Schaeffer, Petras, Ialongo, Poduska & Kellam 2003; Werner & Smith, 1992). These studies found that approximately 50 per cent or less of the antisocial youth studied did not become adult offenders. Many variables can affect each individual's development, acting on a continuum "The environment can amplify or confine the child's behaviour" to differing degrees (Delfos, 2004, p. 159).

One protective factor for children at risk of developing along an antisocial developmental trajectory can be well constructed educational policy. Unfortunately, it appears policy in New Zealand has not achieved the goal of creating an education system where all (or even most) students with special needs are able to access an open and welcoming school (Ministry of Education, 1996, as cited in Bourke & O'Neill, 2001). Bourke and O'Neil describe schools that develop reputations for their willingness to cater for special needs children in their school and schools who do not. They report that having a reputation for a good special education programme within the school becomes a magnet for more special needs children to attend. This is not wanted by many schools so they actively or passively deter enrolment of children with special needs. One secondary principal stated that; "We

don't want to be seen as a school which attracts special needs students because parents won't send their bright kids here" (Bourke & O'Neil, 2001).

Current Conceptualisation of Antisocial Behaviour

Investigators at the Oregon Social Learning Centre have researched antisocial behaviour for over four decades. They describe antisocial children as perceiving and therefore interacting with their environment differently to normal children. Children with behaviour difficulties more often than normal children interpret other people's behaviours as negative. They tend to be less attentive to social cues, more frequently attribute hostile intentions of others, generate fewer alternatives to interpersonal problems, respond more impulsively, rate aggressive solutions more highly and fail to use self-talk to explore the consequences of different courses of action (Reid, Patterson & Snyder, 2002). Church (1996) provides a comprehensive list of examples describing the challenging behaviours of many primary school children. These include moving about inappropriately, interrupting others when they are speaking, ignoring requests from adults, continuing to behave inappropriately after being asked to stop, interrupting or annoying others, blaming others when reprimanded, failing to follow classroom rules, failing to start classroom tasks when requested, failing to work on set tasks when unsupervised, failing to use a polite approach when initiating interactions with peers, failing to show appreciation, a lack of turn-taking skills, a lack of confidence on new tasks, failing to honour commitments, and failing to behave sympathetically when others are unhappy.

Clinical classification of severe behaviour difficulties tends to be guided by the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) (American Psychiatric Association, 2000). This manual defines three

disruptive behaviour disorders: Attention-Deficit/Hyperactivity Disorder (ADHD), Conduct Disorder (CD), and Oppositional Defiant Disorder (ODD).

Attention-Deficit/Hyperactivity Disorder (ADHD). The essential feature of Attention-Deficit/Hyperactivity Disorder is a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development (American Psychiatric Association, 2000).

Conduct Disorder (CD). The essential feature of Conduct Disorder is a repetitive and persistent pattern of behaviour in which the basic rights of others or major age-appropriate societal norms or rules are violated (American Psychiatric Association, 2000).

Oppositional Defiant Disorder (ODD). The essential feature of Oppositional Defiant Disorder is a recurrent pattern of negativistic, defiant, disobedient, and hostile behaviour toward authority figures (American Psychiatric Association, 2000).

Many shortcomings of the DSM-IV-TR are described by writers such as Carr (2006) who reports the "main technical problems [of the DSM-IV-TR] include low reliability, poor coverage, high co-morbidity and low validity" (p.84). Carr (2006) argues that highlighting a person's weakness can be counterproductive and a diagnosis alone does not provide a treatment plan as it simply groups symptoms without reference to causal mechanisms. The same behaviour can serve different purposes, for example, a child may yell while watching live sport, a child may yell when they stand on a nail, and a child may yell during a maths test. Basing a diagnosis on behaviour alone is less likely to generate an effective intervention than basing a diagnosis on behaviour and function. For example, no adult response is required when a child yells in support of his team scoring a goal whereas an effective adult response is required when a child yells in a maths test in order to be sent out and, hence to avoid it. Therefore, a more effective diagnostic classification than the DSM-IV-TR must be one of behaviour and purpose. This kind of diagnostic process is called 'functional assessment'. By

examining behaviour-and-purpose as a unit helps identify the causes of antisocial behaviour and later helps with the treatment of it.

Probable Causes of Severe Antisocial Behaviour

Children who engage in elevated rates of tantrum-like behaviour and other types of coercive behaviour are children who have discovered that tantrums result in the compliance of others more often than prosocial behaviour does. The relationship of such children with their parents is not a collaborative operation but a fight.

Coercion theory describes how parents and children shape each other's antisocial behaviour using both positive and negative reinforcement processes (Patterson, 2002). The crying of an infant often elicits at least the attention of an adult. This reinforces the behaviour of crying to gain attention. Similarly, for a toddler a tantrum can gain attention or can avoid compliance with parental requests. Childhood tantrums can also train the child's parents not to follow through with requests. For example, in a supermarket the parent may refuse a child's request for a treat. The child responds with a tantrum. So the parent gives in to the request for a treat and the child stops tantruming. Giving in positively reinforces the tantrum making this behaviour more likely in the future. Ceasing to tantrum negatively reinforces the parent's giving in making this behaviour more likely in the future. By degrees the antisocial child discovers that antisocial behaviour pays off more frequently than prosocial behaviour in social interactions (Church, 2003; Patterson, 2002; Snyder & Patterson, 1995).

Snyder and Stoolmiller (2002) report that "individual differences in antisocial behaviour are the result of cumulative daily social experiences of children with persons in their environment" (p. 69). Patterson (2002) supports this claim describing families of antisocial children to have higher occurrences of conflict (on average 4 times an hour) and for these coercive episodes to last longer than instances of conflict in families of 'normal' children. Put

simply, ‘normal’ children’s positive strategies for getting their needs met are more effective than coercive tactics and vice versa for antisocial children. As these behaviours are reinforced for the respective groups they continue to use them to control the other people in their environment.

When antisocial children do use positive strategies their parents are less likely to respond positively than the parents of ‘normal’ children. Parents of antisocial children are more likely to notice unwanted behaviours and also consider more behaviour unwanted than parents of ‘normal’ children. Antisocial children are socialised by their parents to use coercive techniques and not to bother with positive strategies as the former work more effectively than the latter (Dadds, 1997).

Antisocial development is often well advanced even before the child gets to school. At school, teachers may react strongly to negative behaviours creating a situation where the child again learns that attention comes best from negative behaviour. Therefore, the teacher may add to the same inadvertent negative reinforcement the child is receiving at home.

The lack of reinforcement for prosocial behaviour and high levels of reinforcement for antisocial behaviour can only shape a child’s antisocial behaviour. Coupled with this many parents of antisocial children do not have the ability to model appropriate interpersonal behaviours and instead the child develops watching his or her parents engaging in fights and destructive interactions.

Many researchers believe that parents are the central agents for the socialisation of children (Fite, Colder, Lochman, & Wells, 2006; Maccoby, 1992) and that antisocial and conduct problems develop as a result of the inability of some parents to socialise their children. Although the direction of influence is often debated, studies have found that parenting styles involving low warmth, low monitoring, harsh discipline, and inconsistent discipline, for example, are related to the exposed child’s externalising behaviour problems

(Bates, Petit & Dodge, 1995 cited in Fite et al., 2006) while parenting practices involving acceptance, approval, responsiveness, synchrony, guidance, and positive reinforcement are negatively related to such behaviour difficulties (Smith, Landry & Swank, 2000).

As children become older peer deviancy training and peer coercion develop as mechanisms in the development of antisocial behaviours (Snyder, Brooker, Patrick, Snyder, Schrepferman & Stoolmiller, 2003; Snyder, Schrepferman, McEarhern, Barner, Oeser & Johnson, in press). Snyder et al. (in press) believe that early conduct problems are associated with higher levels of victimisation from peers, coercive treatment and peer deviancy training. They suggest that these problems can occur from as early as peer exposure in kindergarten.

Prinz & Connell (1997) have found that when a child's school life is marked by learning difficulties as well as negative classroom behaviour and rejection by peers and teachers the child is at high risk of school failure and early exit from school through dropping out or expulsion.

Relationship between Behaviour Problems and Learning Disorders

"Behavioural and emotional problems occur more frequently in children with learning problems than in a cross-section of the general population, both at home and at school" (Schnitzer, Andries, & Lebeer, 2007). Learning disorders are often cited as the antecedent of behaviour problems, and in many cases when the learning disorder is managed the problem behaviour no longer serves a purpose. It is widely believed that children who cannot do required tasks in class may disrupt the class or 'act out' in order to avoid the task (Sundheim & Voeller, 2004). Receptive and expressive language impairments were found to be predictive of later behaviour problems in a four-year follow up study by Stark, Bernstein, Condino, Bender, Tallal and Catts (1984). However, Fergusson and Lynskey (1998) studied a cohort of New Zealand children and found that high rates of conduct problems often *preceded*

early reading difficulties, especially in boys. In considering the relationship between early reading difficulties and later conduct problems of a cohort of New Zealand children (once adjustments were made for confounding factors such as higher rates of childhood or family adversity) Fergusson and Lynskey (1997) found no statistically significant association between them. However, antisocial development can be seen in children prior to school age whereas reading delays cannot be seen until sometime after entering school. Accordingly, it is more likely that conduct problems interfere with learning and so at least add to reading difficulties (Fergusson and Lynskey, 1998).

The difficulties of diagnosing disorders such as Conduct Disorder, Oppositional Defiant Disorder or ADHD reliably and clearly translate to difficulties evaluating the relevant research. Research finding high correlations between learning disorders and behavioural problems in middle childhood tells little of cause but highlights an important overlap. Due to difficulties in diagnosis and definition in both areas of behaviour and learning difficulties, Prior (1996) estimates that the overlap is approximately 40 – 50 per cent. She goes on to explain "If a child's cognitive and emotional energy is directed towards disruptive behaviour, or if he or she is preoccupied with feelings of sadness or failure, there may be little attention and motivation left for the process of learning. Even well-directed remedial efforts can fail if the child's emotional and behavioural state is not taken into account" (pp. 118).

Functional Assessment

Research into causal processes helps to identify the kinds of information which must be collected during an assessment of children with serious behaviour problems. The process of functional assessment aims to discover why a person engages in antisocial rather than social behaviour within particular contexts. This is achieved by collecting evidence from

observations and charting outcomes to create hypotheses concerning the function of problem behaviour within a specific social environment.

A functional assessment for a child with severe behaviour difficulties sets out to accomplish three things; (a) to identify what the child can and cannot do, (b) to identify any environmental conditions at home or school that help maintain inappropriate responses, and (c) to identify the conditions that prevent the child learning other, positive skills and behaviours. Research indicates that functional assessment commonly identifies three general processes motivating inappropriate behaviour in schools; elevated rates of positive and negative reinforcement for antisocial behaviour, and low rates of reinforcement for prosocial behaviour. The first includes situations where the child is provided with positive reinforcement for their inappropriate behaviour through such things as attention from adults or peers, or getting to play with who or what they want. The second, includes behaviours that result in the child avoiding activities they do not want to engage in, such as subjects they dislike or speaking in front of the class and so on (Church, 2003). The third includes cases where the child is interacting positively but receives no reinforcement for doing so. Direct observations are used to collect information regarding when and where the problem behaviour occurs, how often it is occurring, and the consequences of these responses.

The Research into Effective Interventions

Research into the life-course development of antisocial children makes it clear that, in order to teach the antisocial child to use prosocial responses rather than antisocial responses when responding to task requests and interacting with others, it is necessary to change the consequences which have previously resulted from (a) antisocial and (b) prosocial responses (Patterson, 2002). It is necessary to ensure that prosocial responses produce more and more frequent reinforcement than antisocial responses. It is also necessary to change the

consequences of defiant, coercive and antisocial responses so that these never (or hardly ever) result in the child getting his or her own way. This requires setting clear task requirements and clear limits, careful monitoring of the child's behaviour, the firm and consistent enforcement of requirements and limits, the application of effective penalties for rule infringements, and the regular and consistent recognition and reinforcement of compliance, task completion, and appropriate interactions with other people.

According to Church (2003) a normally developing seven year old should have acquired age appropriate abilities regarding patience, attention, self-control, negotiation, compliance with instruction, and pre-academic skills amongst other things. Such skills are not achieved by children on an antisocial developmental pathway and so ought to be the focus of interventions designed to alter the negative trajectory.

To change a child's behaviour from antisocial to prosocial means it is necessary to alter the consequences of their behaviour to ensure that antisocial behaviour does not result in the child getting what they want. Clear and consistent boundaries need to be adhered to and consistent consequences must occur. Behaviour occurs in order to fulfil a goal so when an antisocial behaviour is punished the child needs a new way to obtain the goal. This may require teaching prosocial behaviours to replace the antisocial ones or the child may simply need motivation to use their prosocial skills. Accordingly, any positive behaviour must be rewarded and encouraged to replace the antisocial behaviours. The only behaviours that will gain the child what they want need to be prosocial. Both prosocial and antisocial behaviour must have consistent consequences. If an attempt to stop antisocial behaviour is made using only positive reinforcement for prosocial behaviours then the child may still gain reinforcement from antisocial behaviours and the intervention may fail. Likewise, if punishment is not coupled with positive reinforcement then only antisocial behaviour will gain attention and here too the child is unlikely to change. Changes to the consequences of a

child's behaviour must occur in as many settings of the child's life as possible and must keep happening until the child understands that prosocial behaviour gains more reinforcement than antisocial behaviour (Church, 2003).

Motivating behaviour change in antisocial children requires concrete rewards and concrete penalties, as this group lacks the normal responses to positive and negative social cues such as praise and reprimands. They do, however, respond well to concrete rewards or penalties.

Along with lacking the ability to respond appropriately to social cues antisocial children generally lack social skills. Social skills like turn-taking, how to ask a question or have a conversation are often things an antisocial child must be taught. These skills are well managed as they arise, for example, if a child shouts an answer out when expected to put their hand up and wait, the teacher can respond by explaining what is expected and asking the child to respond appropriately. If such opportunities are taken as learning opportunities many social skills can be taught in the normal running of the classroom and the child will eventually raise their hand and wait as expected (Kazdin, 2005).

Patterson, Reid & Dishion (1992) describe the antisocial child as enveloped in a situation where they are on task less than peers, get less work done than peers and accordingly fall behind peers. Once the antisocial behaviours are managed, the child will nearly always benefit from remedial teaching. The more intensive this is the faster the child will advance (Church, 2003).

What Happens in Schools?

It is difficult to ascertain whether there have been genuine changes in the relative number of children stood down from New Zealand schools. Statistics show ebbs and flows across time and an overall increase (Ministry of Education, 2007). The rise and fall of stand-

downs and exclusion rates claimed by the Ministry of Education are probably due to policy changes rather than behavioural changes in students. More recently schools have been encouraged to manage antisocial children in mainstream classrooms with few other options available unless very serious safety concerns are evident. According to Ministry of Education statistics 10 5 to 9-year olds were excluded from New Zealand schools in 2007. This number rose to approximately 175 for 10-14 year olds and 306 for 15 years and over. A total of approximately 491 children excluded from New Zealand schools in 2007 (Ministry of Education, 2007).

Differing special education placements have been devised and utilised in order to facilitate learning for students with various needs. Children can be placed in full inclusion, partial inclusion, full withdrawal and partial withdrawal settings.

Full inclusion. Full inclusion is the case where the antisocial child is in a normal classroom with their peers. A central benefit of an inclusive programme is that the children have the opportunity to learn to socialise with 'normal' peers and are exposed to positive social interactions. Research suggests that one child displaying antisocial behaviours with a group of 'normal' peers has better outcomes than one immersed in an antisocial peer group (Snyder et al., in press). The included child may also feel more a part of mainstream schooling than if isolated into other placements. The Contingencies for Learning Academic and Social Skills programme (CLASS) is an example of a programme that has been shown to be effective in managing behavioural problems in the inclusive classroom (Hops, Walker, Fleischman, Nagoshi, Omura, Skindrud & Taylor, 1978). This programme is introduced over 5 days and usually goes for 30 school days. Core components of this programme are the use of a red/green cue card, high frequency of praise, the opportunity for the target child to achieve a reward for the class to share, a reward/cost system for school and a reward system for home. Time out is also used if required (Hops et al., 1978).

Negative impacts from inclusive programmes include teacher time being taken up with managing the difficult child while other children may miss out on learning and other children learning antisocial responses by seeing the antisocial child getting what they want as a result of antisocial behaviour.

Full withdrawal. A full withdrawal programme is the case where the child with special teaching needs is removed from the mainstream class completely to attend a specialised class consisting entirely of children with special teaching needs. These programmes provide the mainstream teacher and students a break from the difficult child while providing the difficult child with more specialised learning opportunities. However, removing the child from all interaction with normally developing peers means that they miss out on much social learning, that is, all the social learning provided by normally developing peers. Another outcome is that social learning continues to occur but it is the learning of new antisocial behaviours from antisocial peers. Often stigma and negative labels are attached to withdrawal classes by teachers and students which further hinders the development of positive relationships which are such a necessary part of socialisation. The same labelling that can occur regarding segregated schooling can occur from teachers toward individuals identified as troublemakers. This sets up a pattern of negative interaction between teacher and child (Church, 2003). Once a teacher identifies a child as a problem they may notice more minor infractions and address them more often compared to children displaying the same behaviour but who are believed to be ‘good’ students.

An example of a full withdrawal programme is McKenzie Residential School in Christchurch, New Zealand. This school is designed for children who are not having their educational needs met due to behaviour problems. Generally, children live at the school where they have predictable routines, small class numbers and programmes and goals tailored to their needs. Incentive plans and rewards are central to managing and changing problem

behaviour as are clear and consistent sanctions for rule infringements. While the child is attending the residence parents are expected to complete a parenting programme on campus (McKenzie School, 2004).

There is a need for withdrawal programmes as an option for principals in order to maintain safety for students and teachers. Counter arguments to the withdrawal models center around the risks of bringing similar children together where they may well learn new antisocial skills from one another. Dishion, Andrews & Crosby (1995) found that antisocial teenagers in groups made poor progress compared to one antisocial teen within a group of normally developing peers. Based on these findings inclusion models are argued to be more effective at correcting antisocial behaviours.

Partial withdrawal/partial inclusion. Partial withdrawal programmes include those cases where the target child spends some proportion of their day or week within the regular setting of a mainstream school. Partial withdrawal indicates that the child will spend more time as part of their normal class with certain parts of the day or whole days in a specialised class. This may mean, for example, one-on-one time for specific learning or time in a class with older children, or children with similar difficulties. Partial inclusion means the child will spend most of the day or week separate from their normal classroom with specific times of inclusion with their normal class. These times may be during a play-time, lunch or other manageable integration time for the child, while the rest of their time is spent in an on campus classroom or at another location away from the mainstream school. Often teacher to child ratios are high in such programmes and much more attention is afforded to each child. The curriculum can be shaped to most appropriately suit the child's learning with particular focus on their areas of difficulty. Partial programmes attempt to take the best of both inclusion and withdrawal programmes. These programmes can help the child feel part of the mainstream school, help socialise the child and make a transition back to a mainstream classroom easier

for all involved. Partial programmes increase the cost of educating the child with special teaching needs by adding the cost of teacher training, a specialised classroom, specialist teachers and a specialist curriculum. Obtaining funding for these extra costs can be extremely difficult (McMahon, Wells, & Kotler, 2006).

Kā Māhuri ('Young Sapling')

The Kā Māhuri programme is a partial inclusion programme which was designed to help manage a situation for principals and schools faced with numbers of suspensions and expulsions due to antisocial and disruptive behaviours. The aim of the project was for the children who attended the programme to transition back to their home school on completion of the intensive 10-week programme.

The Kā Māhuri programme was a joint initiative between the Canterbury Primary Principals Association and the Ministry of Education. Taking its first cohort in August 2006 the programme provides high level interventions for cohorts of six children with behavioural problems aged between 5 and 8 years. A three tiered approach provides a withdrawal centre of extra support for the children, parent training and school wide behaviour management support. One teacher and one behaviour support worker staff the programme. Children are admitted to the 10-week programme by process of referral from their school, a psychologist, and a Special Education caseworker or Resource Teacher of Learning and Behaviour (RTLB). There are three intakes annually. At the outset of the present study in 2008, 13 schools across the Christchurch area were included in the Kā Māhuri cluster. Four days a week students attend Kā Māhuri (a stand alone classroom located at Northcote School) with Wednesday spent at the child's home school supported by a teacher aide. The programme is flexible to individual needs and focuses on four central competencies; numeracy and literacy, resiliency, social skills, and behavioural strategies. Central to the programme is a supportive

environment in which each child is encouraged to develop a disposition conducive to learning. The Kā Māhuri Handbook (Canterbury Primary Principals Association & Ministry of Education, 2006) describes an environment that fosters learning dispositions that include "curiosity, risk-taking, concentration, persistence, resilience, responsibility, creativity and fairness" (p. 24). Empowering each child to feel capable in learning situations and experience success is central as is each child having an individual education plan designed for their specific learning needs.

Parents are expected to enter into the "The Incredible Years" parenting programme simultaneously with the child's admission to Kā Māhuri. The parenting course covers an array of parenting related skills from playing with their child, praise and reward, effective communication, anger management, problem solving to involvement with school and teacher conferences. The Incredible Years parent training is focused on developing and strengthening parenting skills such as positive discipline, confidence and monitoring, while also fostering parents' involvement in their child's schooling in order to promote emotional, social and academic skills and reduce negative externalising behaviours (Incredible Years, 2008). Multiple studies have shown support for the long term effectiveness of the Incredible Years programme (Taylor, Schmidt, Pepler & Hodgins, 1998; Webster-Stratton, 1982; Webster-Stratton, 1984; Webster-Stratton, 1989; Webster-Stratton, Reid & Hammond, 2004). Parents are also invited to participate or observe their child at Kā Māhuri and regular contact occurs with most parents via telephone.

Alongside these programmes the home school receives ongoing professional development provided by the Kā Māhuri staff to help meet the needs of the referred child. This may include developing a more positive school culture, revising disciplinary systems or establishing more effective teaching behaviour. The Kā Māhuri teacher provides one-on-one support for teachers of admitted children in a number of areas. The Kā Māhuri teacher visits

schools on a weekly basis and advises each child's teacher in a number of areas such as specific academic needs. This might include strategies or motivators that the child is responding to well and specific student strengths or weakness that might inform teaching plans. In the same way, behaviour management strategies that are proving effective are considered for adaptation to the normal classroom. Creating safe and positive classroom environments for everyone involved is always central and any relevant advice regarding these is shared. Any other information that can support the child in the transition back to the mainstream class after the programme is communicated also. The combined efforts of the child, parent(s) and school are intended to reintegrate and support the child in ongoing mainstream education (Canterbury Primary Principals Association & Ministry of Education, 2006).

The average day at Kā Māhuri consists of one-on-one academic learning, group projects and social skill development through interactive play (such as lego or cards). Field trips of educational relevance, self esteem building, or social skill learning occur regularly also. Field trips are dependent on individual behaviour, often combined with the in-class reward system. This reward system sees children rewarded for positive behaviour such as compliance, on task behaviour, helpful or positive social behaviour together with loss of rewards for non-compliance, off task, or antisocial behaviour. Random rewards also occur as the staff deem appropriate, including use of computer time, specific toys, and cooking.

The Kā Māhuri programme characteristics and philosophy seem most similar to that of the nurture groups designed in London in the 1970's. Bowlby's (1965) attachment theory underlies the nurture group model; some children have had poor quality interactions with caregivers, or attachment figures, causing a lack in ability to interact and adapt to others in their environment. Cooper, Arnold, & Boyd (2001, p. 161 cited in Moore et al., 2006) described the following ten central characteristics of nurture groups:

1. A nurture group is integrated provision. It is an agreed part of an LEA/school continuum of special educational needs provision, either as an integral part of an individual school or as a resource for a cluster of schools.
2. The curriculum includes the National Curriculum and takes full account of school policies.
3. All staff work towards the child's full return into mainstream classes.
4. Children attend the Nurture Group for a large part of each day or for substantial regular sessions. This can be on a short or medium-term basis, but is usually two to four terms.
5. Two adults work together modelling good adult relationships in a structured and predictable environment where children can begin to trust and to learn.
6. It supplies a setting in which missing or insufficiently internalised essential early learning experiences are provided.
7. The emphasis is on supporting positive emotional and social growth and cognitive development at whatever level of need the children show by responding to them in a developmentally appropriate way.
8. There is an emphasis on language development through intensive interaction with an adult.
9. Social learning through co-operation and play with others is essential and the group is constituted with this in mind.
10. Staff involve parents/carers as early and as fully as possible and have a positive attitude towards them.

Aims of the Present Research

The aim of the present research was to examine the effectiveness of the Kā Māhuri programme. The following specific questions were addressed:

— Does the child's time on task in the classroom increase throughout the programme?

— Does the child display increased positive social interactions and decreased negative social interactions at Kā Māhuri and at their home school?

— If the child's reading level was lower than expected for their age on admission to Kā Māhuri does it improve by exit?

— If the child's writing ability was lower than expected for their age on admission to Kā Māhuri does it improve by exit?

— If the child's numeracy skills were lower than expected for their age on admission to Kā Māhuri do they improve by exit?

— If the child's attitude toward school was poor on admission to Kā Māhuri does it improve by exit?

— If these aspects improve while at Kā Māhuri do these improvements generalise to the child's home school?

CHAPTER 2

METHOD

Kā Māhuri is a 10 week programme designed to take in six children three times per year from a catchment area of 13 primary schools. The programme is flexible to individual needs and focuses on four central areas: numeracy and literacy, resiliency, social skills, and behavioural strategies. The present study evaluated the progress of the first two cohorts admitted to Kā Māhuri in 2008. The first cohort was admitted in February and the second in May.

Participants

During the course of the present study Kā Māhuri was staffed by a teacher and a teacher aide. The teacher had a Master of Education, a Post graduate Diploma in Educational Studies, an Advanced Diploma in Teaching, a Diploma in Deaf Education, and 28 years of experience teaching 4 to 18 year olds. The teacher aide had a Certificate in Child Protection Studies and 8 years teacher aide experience in various primary schools.

The original plan was to evaluate the progress of one cohort of six children. However, the February intake initially included only five children. Of the five children one did not have a home school and two others were repeating the programme, leaving only two children whose progress following entry to Kā Māhuri could be measured and reported. These two children are described below.

To increase the number of children in the project, the evaluation was extended to include the second cohort admitted in May. The May cohort consisted of six children of whom three were repeats. This left three children from Cohort 2 whose progress could be monitored from the point of entry to the programme.

The five children, all boys, were referred to the programme from their home schools. The children's demographic details are given in Table 1.

Table 1. Children participating in the Kā Māhuri programme evaluation

Child	Cohort	Years of Age	Gender	Ethnicity	Stand-downs (reported)	Medication
One	A	9	Male	NZ European	Multiple	Rubefen
Two	A	8	Male	NZ Samoan	1	Rubefen
Three	B	7	Male	NZ European	2	Nil
Four	B	5	Male	NZ Maori	0	Nil
Five	B	7	Male	NZ Maori	0	Nil

Child 1. Child 1 was a 9-year-old boy. According to teacher reports, he had a history of aggressive and violent behaviour toward peers and teachers. The school records report multiple instances of non-compliance and violence. He was stood down on multiple occasions in 2007 for non-compliance, verbal threats and disrupting his class. His classroom teacher described him as 'oppositional and defiant' and having 'anxiety issues'. He was prescribed Rubefen for a diagnosis of Attention Deficit/Hyperactivity Disorder. According to his classroom teacher and the Kā Māhuri teacher he took his medication most but not all mornings. On some days he did not have breakfast. It has been claimed that this may reduce the effects of this type of medication.

Child 2. Child 2 was an 8-year-old boy. According to teacher reports, Child 2 had a history of threatening and aggressive behaviour and use of some sexually inappropriate language. He began attending his current school after being stood down from a previous one

as a result of the above behaviours in 2007. His current teacher did not report any severe behavioural problems for Child 2 since she began teaching him at the start of the 2008 school year, although she described some 'very negative days' prior to Kā Māhuri beginning. He was referred on the basis of his prior history. He had been prescribed Rubefen for a diagnosis of Attention Deficit/Hyperactivity Disorder. His teacher reported that he managed his medication well.

Child 3. Child 3 was a 7-year-old boy. He was described by his classroom teacher as lacking social skills, as very controlling in games with others, as attention seeking and as very focused on identifying other student's misbehaviours. His teacher reported that on a number of occasions that he had become angry and stormed out of school. Child 3 had attended only one school and had been stood down twice. On the first occasion he was stood down two days at the start of March 2008 for verbal abuse then again the following week for three days for defiance and punching another student.

Child 4. Child 4 was a 5-year-old boy who was described by his teacher as lacking social skills and the ability to engage with others, as having difficulty listening to and following instruction, and as often moving about or leaving the room inappropriately. His teacher also explained that he was 'angry' much of the time. He had only attended one school and had no history of stand-downs.

Child 5. Child 5 was a 7-year-old boy. He was reported by his classroom teacher to have no friends, to have problems focusing on tasks and following instructions, and to be 'fidgety'. He had no history of being stood down from school for any period.

Settings

The Kā Māhuri classroom is an open plan room made up of a large communal desk area where projects and one-on-one teaching occurs, a kitchen area, a couch and cushion area for

story reading, and an area for computer work. A lot of student's projects and art are displayed on the walls along with rules, expectations and incentive plans. A time out room, teacher's office, toilet and observation room with one way mirror are all within the same building. Outside play and breaks are at different times to the rest of the school so the school playground is accessible with no risk of interaction with mainstream school children.

Each child admitted to Kā Māhuri spent Monday, Tuesday, Thursday and Friday at Kā Māhuri and Wednesday at their home school with their classroom teacher. Weekly performance measures were obtained for each child both at Kā Māhuri and at their home school on Wednesdays. Each child was observed in their home school once each week and at Kā Māhuri once each week.

Measurement Procedures

The investigator entered into an agreement with the chair of the management committee and the Kā Māhuri teacher to collect the following data to assess each child's progress; weekly direct observations of each child's engagement with his/her school work using a standard interval recording observation of time on task; weekly observations of each child's social interactions using an observational procedure which records positive and negative behaviour towards others and the teachers reactions to these behaviours; quiet room use; a weekly teacher administered measure of reading accuracy and fluency using a timed running record of reading from a passage at the child's current level and a timed decoding fluency test; a weekly teacher administered measure of writing accuracy and writing fluency using a timed writing sample collected during a standard expressive writing activity; regular assessment of progress toward one or two numeracy goals as specified on the child's Individual Education Plan (IEP); a weekly measure of progress towards one or two of the social goals on each child's IEP; before and after data on disciplinary incidents, stand-downs

and exclusions from the child's home school; a weekly teacher administered 'My Day at School' questionnaire completed by the child to assess attitude toward school; and weekly points earned as a result of a behaviour-based, in-class reward system.

Direct Observations. Weekly direct observations were used to gather information regarding time on-task and the proportion of positive and negative social interactions with peers and teachers. The time on-task interval recording procedure consisted of counting the proportion of 10-second intervals that the child was on-task. On-task behaviour was defined as attending to teacher assigned tasks during a 10-second interval. Off-task behaviour was defined as any behaviour other than those specified or expected by the teacher (Church & Tyler-Merrick, 2007). This was done by marking the recording form with a tick to indicate on task and a cross to indicate off task.

The same form was also used for recording the proportion of pro-social and antisocial behaviour displayed by the children. All social interactions or attempts (initiations and responses) were coded using the Antisocial Development Screen (Church & Tyler-Merrick, 2007) as Positive, Neutral or Negative. There are six coding subcategories for Negative interactions; the first is non-compliance/defiance, which is defined as failure to comply with a specific instruction given to the class or target child within 25 seconds. Verbal abuse/swearing at another person is the second subcategory, defined as offensive verbal behaviour directed at another person. Negative Verbal behaviour is the third category and encompasses all negative verbal behaviours that do not fall into the previous two categories (for example, whining or threats). Any hitting or pushing type actions are coded as Inappropriate Physical behaviour and any attempt to intentionally hurt another person is recorded as Dangerous Physical behaviour. The final subcategory is Other Antisocial behaviour and is defined as behaviour that is not acceptable within the setting but does not fall into one of the above subcategories. The response of the teacher to the target child's social behaviour is also coded. These

responses are coded as positive or negative. Positive reactions are coded as positive while negative reactions are coded in one of the following two ways: Negative Verbal Reactions (including reprimands, warnings or reminder of rules) or Punishment (including time out, planned ignoring, loss of privilege and such).

While observing the children the writer was either behind a one-way mirror (at Kā Māhuri) or attempting to be inconspicuous in their classroom so as not to affect the target child's behaviour. Due to time constraints only one baseline observation was recorded for Child 1 and Child 2 (Cohort A). Two baseline observations were recorded as time allowed for Child 3, Child 4, and Child 5 (Cohort B).

On seven occasions during the Cohort A study the researcher was accompanied by an assistant who observed the same intervals for both Child 1 and Child 2. Mean inter-rater reliability was 97 per cent (range 94 to 100 per cent) for on-task behaviour and 98 per cent (range 95 to 100) for child social behaviours. During the second cohort these measures were taken on six occasions for Child 3, Child 4 and Child 5.
Mean inter-rater reliability was 95 per cent (range 92 to 100 per cent) for on-task behaviour and 98 per cent (range 94 to 100) for social behaviours.

Quiet room use. Any instance of the child being sent or choosing to use the quiet room in an attempt to manage behaviour and rationale for use will be recorded as part of each child's daily report by the Kā Māhuri teacher.

Reading. The Burt Word Reading Test, New Zealand Revision (Gilmore, Croft, and Reid, 1981) was used to assess general reading ability as scores indicate age equivalence bands separately for boys and girls. The test consists of 110 words printed in decreasing print size and graded in approximate order of difficulty. The stimulus words are presented on a sheet of paper from which the student reads aloud, pronouncing each word until a ceiling of 10 consecutive words read incorrectly is reached.

Decoding Fluency. The Canterbury Decoding Fluency Test (Williams, 2002) was used to assess Decoding Fluency. A copy of this test is shown in Appendix 1. This grapheme recognition test uses short words and non words containing the 45 graphemes most commonly used to represent the 40 English language phonemes. There are 18 lines of 5 words with the entire set appearing twice, the second time in a different order. The target grapheme appears at the beginning of each word with the exception of the words "boy", "ox" and "hay". Words are scored as correct if the target grapheme is pronounced correctly, for example, ea-t is scored as correct if said as "ea-r" because the target "ea" is pronounced correctly.The Kā Māhuri teacher recorded the time the child took to read the entire set, marking incorrect responses and modelled the correct response.

Reading Fluency. The Prose Reading Observation, Behaviour and Evaluation of Comprehension (PROBE) (Parkin, Parkin, & Pool, 2002) was used to evaluate reading accuracy and reading comprehension. A series of age graded passages begin at 5 to 6 years and proceed through to 14.5 to 15.5 years in 12 months steps. Each set is presented as a short story the child is required to read aloud while the teacher records correct or incorrect reading of each word. The teacher then asks the child specific questions listed on the same sheet designed to assess the child's comprehension of the text. The original plan was to administer these passages as a timed test to measure prose reading fluency but this did not happen.

Writing. Timed writing samples on teacher selected topics were collected from each child on a weekly basis by the Kā Māhuri teacher. The researcher calculated the number of words and legible letters written per minute.

Numeracy. The original evaluation plan asked the Kā Māhuri teacher is to set a numeracy goal for each child appropriate to their ability and to use an appropriate assessment to measure the child's progress towards this goal. However, no numeracy goals were set for

the children who took part in the study so it was not possible to collect any data on progress towards numeracy goals

Social goals. In the original evaluation plan the Kā Māhuri teacher was to set one or two social goals for each child appropriate to their needs and to use an appropriate assessment to measure progress towards this goal. As no goals were set for the children who took part in the study it was not possible to collect any data on each child's progress towards social improvement goals.

Disciplinary incidents. The researcher sought and obtained permission to record disciplinary incidents, stand-downs and exclusions which occurred while each child was attending their home school.

Attitude to School. Every Thursday (except in Week 10) following the child's Wednesday at their home school each child completed a 'My Day at [Home] School' form (Appendix 2). This form required the child to complete two sentences, firstly, 'I did what the teacher asked' on a three point scale; All the time, sometimes, or not really and secondly, 'I played with other children' using options from a three point scale; Really well, a few problems, didn't play with anyone.

Rewards earned. It was originally intended that Kā Māhuri staff would reward children displaying positive behaviour with points on a chart that could be used toward a larger reward on a daily basis and that each child's daily total would be recorded by the Kā Māhuri teacher. However, it was discovered that Kā Māhuri staff began fading these rewards from the first week. This meant that the daily totals could not be used as a measure of improvement across the 10-week programme.

Parenting programme. Parents agreed to complete the Incredible Years parenting programme at a Ministry of Education training facility while their child attended Kā Māhuri. Table 2 shows each parent's attendance at the parenting programme.

Table 2. Parent's completion of the 'Incredible Years' parenting programme.

Child	*Parents*	*Completed while child at Kā Māhuri (Yes/No)*	*Completed after child at Kā Māhuri (Yes/No)*
One	*Mother*	*No*	*No*
	Father	*No*	*No*
Two	*Mother*	*No*	*No*
	Father	*No*	*No*
Three	*Mother*	*No*	*No*
	Father	*No*	*No*
Four	*Mother*	*No*	*Yes*
	Father	*No*	*No*
Five	*Mother*	*No*	*No*

Ethical Approval

The University of Canterbury's Human Ethics Committee approved the application to undertake the project, provided that all the children remained anonymous and identifying details of their home schools were omitted (Appendix 3). A letter outlining the project and consent forms (see Appendix 4 and 5) were sent to parents and schools with the admission documentation from Kā Māhuri. A verbal explanation of the study was read out to the children and any further questions that the children or their parents had were answered before proceeding with any assessment.

CHAPTER 3

RESULTS

Child 1

Child 1, who had been referred for aggressive and violent behaviour towards others, attended Kā Māhuri on every day while he was in the programme. The data showing changes in Child 1's academic and social behaviour are presented measure by measure.

Time on task and antisocial behaviour. The results of Child 1's baseline recordings in the home school confirmed the reasons given for his referral to Kā Māhuri. During a 20 minute observation he was on task 72.5 per cent of the time. Child 1 displayed negative social behaviours in 27.5 per cent of the intervals. He was largely unfocused, fidgety and required many prompts. However, only one of his many inappropriate behaviours was physically inappropriate (pushing a peer).

Once he began attending Kā Māhuri his weekly Wednesday home school observation scores ranged from 43 per cent on task to 100 per cent on task, as shown in Figure 1. His negative social behaviours occurred in between 0 and 57 per cent of intervals.

As shown in Figure 2 his weekly observation scores at Kā Māhuri ranged from 92.7 per cent on task to 100 per cent on task. His negative social behaviours at Kā Māhuri were recorded to range between 0 per cent and 16.3 per cent.

By Week 4 at Kā Māhuri and Week 5 at his Home school Child 1's behaviour improved markedly and was relatively stable from this time onwards. However, during Week 9 at the home school and the Follow up some slight increases in off task behaviours were observed. As can be seen in Figure 1 and 2 the general trend of Child 1's behaviour at both Kā Māhuri and his home school was an increase in time on task and a decrease in negative social behaviour.

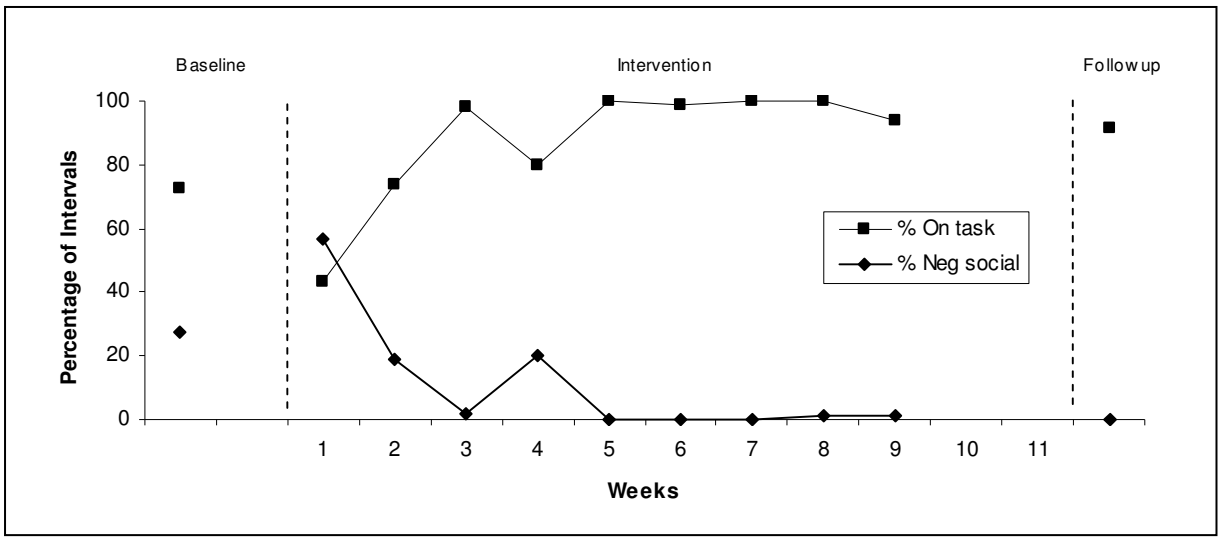

Figure 1. Percentage of weekly observation intervals for Child 1's on task behaviour and negative social behaviour at home school.

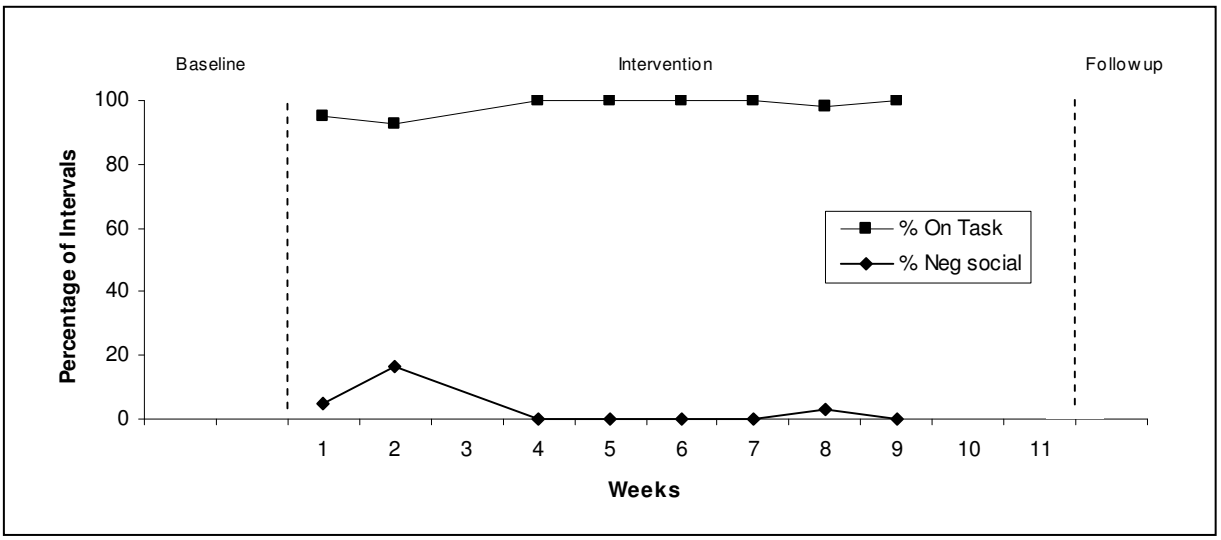

Figure 2. Percentage of weekly observation intervals for Child 1's on task behaviour and negative social behaviour at Kā Māhuri.

Quiet room use. According to teacher reports Child 1 was sent to the quiet room at Kā Māhuri a total of nine times, reportedly for various reasons such as being 'hyperactive', 'disruptive', 'lashing out', and 'provoking'. His teacher tended to explain his behaviour on these occasions as anxiety related. On one occasion she reported that he had not had his stimulant medication before coming to school.

Reading accuracy and fluency. Child 1 was administered the Burt Word Reading Test (New Zealand Revision) on two occasions, firstly in the baseline week and again in Week 7. The results from both sessions (53 then 58 respectively) placed Child 1 in the 9.06 to 10 year old age equivalence bands for boys while showing improvement.

As can be seen from Table 3 his ability to read graphemes, as assessed by his teacher using the Canterbury Decoding Fluency Test improved markedly while at Kā Māhuri, particularly between Week 3 and 5.

Table 3. Number of correct responses per minute on the Canterbury Decoding Fluency Test for Child 1

Week	*Number of correct graphemes read per minute*
3	16.5
5	36
8	40
9	42

The PROBE Prose Reading Observation Behaviour and Evaluation of Comprehension for 8.5 to 9.5 year olds was administered in the Baseline week and Child 1 achieved 99 per cent reading accuracy and 87.5 per cent reading comprehension. When retested in Week 7 on the 9 to 10 year olds version he achieved 98 per cent accuracy and 70 per cent comprehension.

'My Day at School' Self report questionnaire. Child 1's responses on the My Day at School Questionnaire are summarised in Table 4. His responses to 'I did what teacher asked' and 'I played with other children' became more positive while attending Kā Māhuri. This

suggests that he felt he was doing what was expected of him more by the end of the intervention than at the beginning.

Table 4. Responses to 'My day at school' self report questionnaire for Child 1

Week	I did what the teacher asked	I played with other children
1	Sometimes	A few problems
2	Sometimes	A few problems
3	All the time	Really well
4	Sometimes	A few problems
5	Sometimes	Really well
6	All the time	Really well
7	All the time	Really well
8	All the time	Really well
9	All the time	Really well

Writing accuracy and fluency. Child 1 completed written samples from Week 3 to Week 9 showing erratic speed/accuracy results, as can be seen in Figure 3. Generally, no improvement in writing skills was apparent from these samples.

Disciplinary incidents. Child 1 was stood down on multiple occasions in 2007 for non-compliance, verbal threats and disrupting his class. No expulsions prior to Kā Māhuri attendance were reported. During the data collection of the present study no post Kā Māhuri

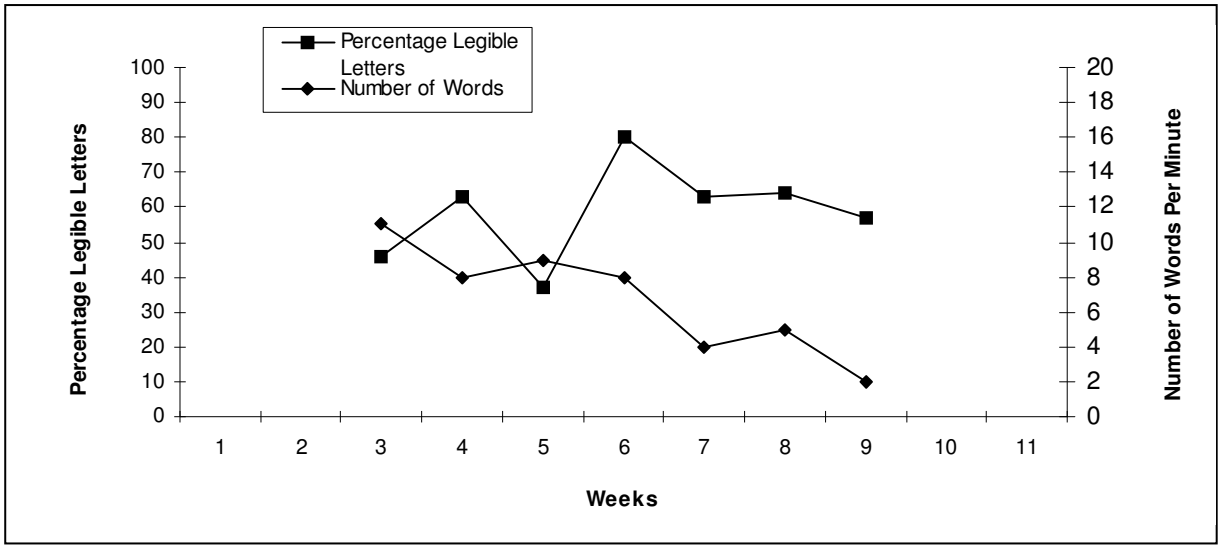

Figure 3. Number of words written by Child 1 and percentage of legible letters in a timed writing exercise

stand-downs were reported. Subsequently the Kā Māhuri teacher reported that Child 1 was expelled following an incident soon after completing the data collection. The incident involved bringing a weapon to school and threatening a peer. The school reported that this incident occurred the day after the child was seen to be hit by his father after school, resulting in a Child Youth and Family Services (CYFS) notification.

Parental Involvement in the 'Incredible Years'. Neither Child 1's mother or father attended the Incredible Years programme while he was at Kā Māhuri. However, approximately a month after Child 1 completed Kā Māhuri his father began and completed a parenting course through Whakatata house 'Managing Challenging Children'. An evening course, 2 nights a week for a month.

Summary. Child 1 was referred for aggressive and violent behaviours which were substantiated by direct observations and teacher reports. During his time at Kā Māhuri Child 1 showed that he has the ability to remain on task and greatly lessen his use of negative social behaviours. His reading ability has continued to progress well as evidenced by the Burt Word

Reading Test and the PROBE. While his decoding ability showed good improvements it remains behind that expected for his age. The writing samples collected did not display any sustained improvement in writing ability. It appears from reports that the gains made at Kā Māhuri and at the home school may not have been supported in his home life. If Child 1 was being hit at home then this may explain his use of violent and aggressive behaviour at school. Clear, well enforced boundaries at Kā Māhuri could only manage this behaviour for the duration of the programme. The prognosis for this child has improved significantly since this time as his father is showing motivation to change his parenting and behaviour management skills by completing a parenting programme.

Child 2

Child 2's referral to Kā Māhuri was due to threatening and aggressive behaviour and the use of sexually inappropriate language. He attended Kā Māhuri on 33 of 34 days and was absent one day due to illness. Changes in Child 2's academic and social behaviour are detailed below by measure.

Time on task and antisocial behaviour. The results of Child 2's baseline recordings were consistent with the referral reports that he was off task and engaging in negative social behaviours in the classroom. During a 20 minute observation he was on task 37 per cent of the time and displayed negative social behaviours in 65 per cent of the observational intervals.

As can be seen in Figure 4, once he began attending Kā Māhuri his weekly Wednesday home school percentage of intervals containing on task behaviour ranged from 94 to 100 per cent. The percentage of intervals containing his negative social behaviours gradually fell from 9 to 0 per cent.

Child 2's percentage of intervals containing on task behaviour at Kā Māhuri ranged from 85 to 100 per cent on task, as shown in Figure 5. His percentage of intervals containing

negative social behaviours at Kā Māhuri were recorded to steadily fall from 18.8 to 0 per cent. Generally, Child 2 showed improvement in these areas that remained quite consistant from Week 4 through to the Follow up observation.

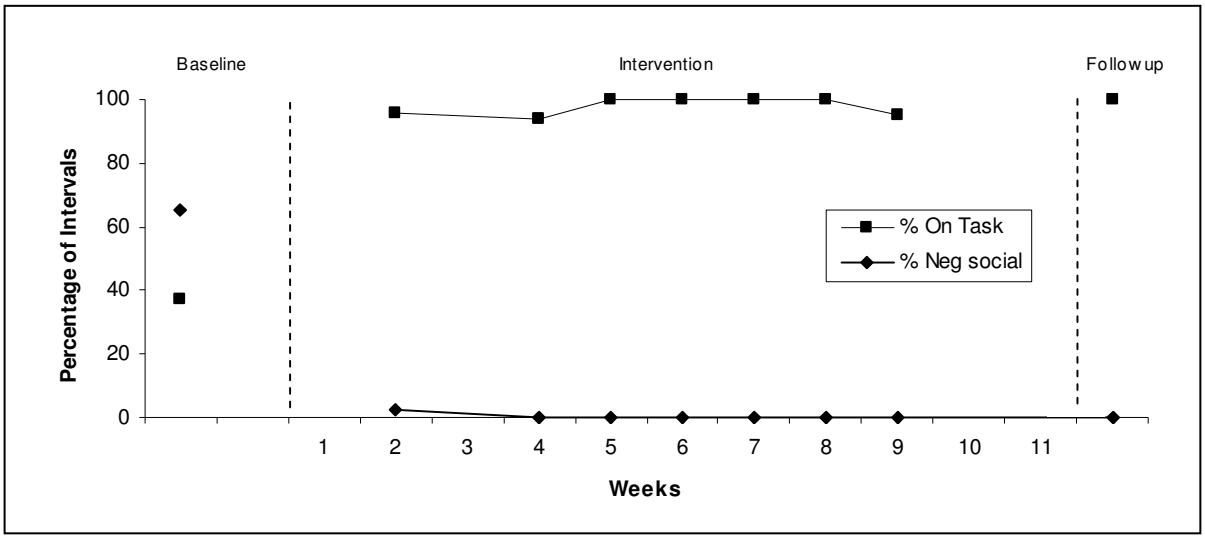

Figure 4. Percentage of Weekly Observation Intervals for Child 2's On Task Behaviour and Negative Social Behaviour at Home School.

Quiet room use. Child 2 was sent to the quiet room once at Kā Māhuri. His teacher reported that this was because he 'lost [the] plot' was 'swearing' and 'hitting the window'. The teacher reported that the reason Child 2 behaved in this way was unrelated to the circumstances surrounding it.

Reading accuracy and fluency. The Burt Word Reading Test (New Zealand Revision) was administered to Child 2 in Week 7 and results placed him at a reading level of 12+ years.

As can be seen from Table 5 his ability to read graphemes, as assessed by his teacher using the Canterbury Decoding Fluency Test, improved markedly while at Kā Māhuri, increasing threefold between Week 3 and 5.

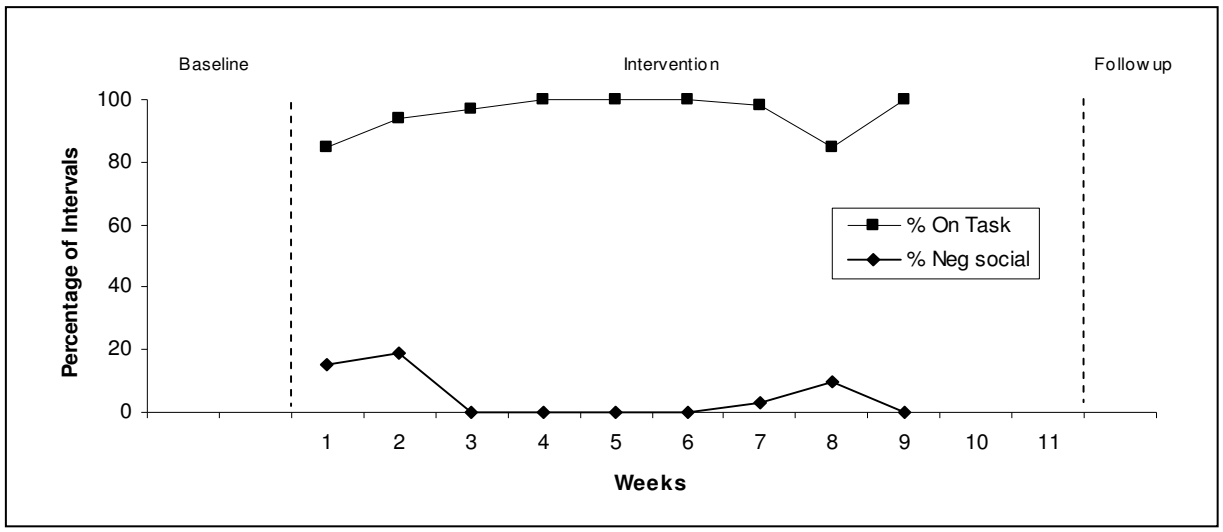

Figure 5. Percentage of Weekly Observation Intervals for Child 2's On Task Behaviour and Negative Social Behaviour at Kā Māhuri.

Table 5. Number of correct responses per minute on the Canterbury Decoding Fluency Test for Child 2

Week	*Number of correct graphemes read per minute*
3	21.5
5	67.5
7	76
9	78

The PROBE Prose Reading Observation Behaviour and Evaluation of Comprehension for 9 to 10 year olds was administered to Child 2 pre-Kā Māhuri and during Week 6. He achieved 99 per cent reading accuracy and 55 per cent comprehension on the initial testing and 100 per cent reading accuracy and only 30 per cent reading comprehension in Week 6.

'*My Day at School' Self report questionnaire.* Child 2's responses on the My Day at School Questionnaire are summarised in Table 6. His responses to 'I did what teacher asked' were initially less positive and improved quickly while attending Kā Māhuri. The responses he gave to 'I played with other children' suggests he felt he was playing with other children without problems throughout these weeks.

Table 6. Responses to 'My day at school' self report questionnaire for Child 2

Week	I did what the teacher asked	I played with other children
1	Sometimes	Really well
2	All the time	Really well
3	Sometimes	Really well
4	All the time	Really well
5	All the time	Really well
6	All the time	Really well
7	All the time	Really well
8	All the time	Really well
9	All the time	Really well

Writing accuracy and fluency. As can be seen in Figure 6, Child 2's percentage of legible letters and words written in timed samples steadily increased across assessments from Week 3 throughout his time at Kā Māhuri.

Disciplinary Incidents. Child 2 was expelled from his 2007 school after repeated stand-downs for non-compliance and aggression. This year at his present school no stand-downs were reported prior to, during, or since attending Kā Māhuri.

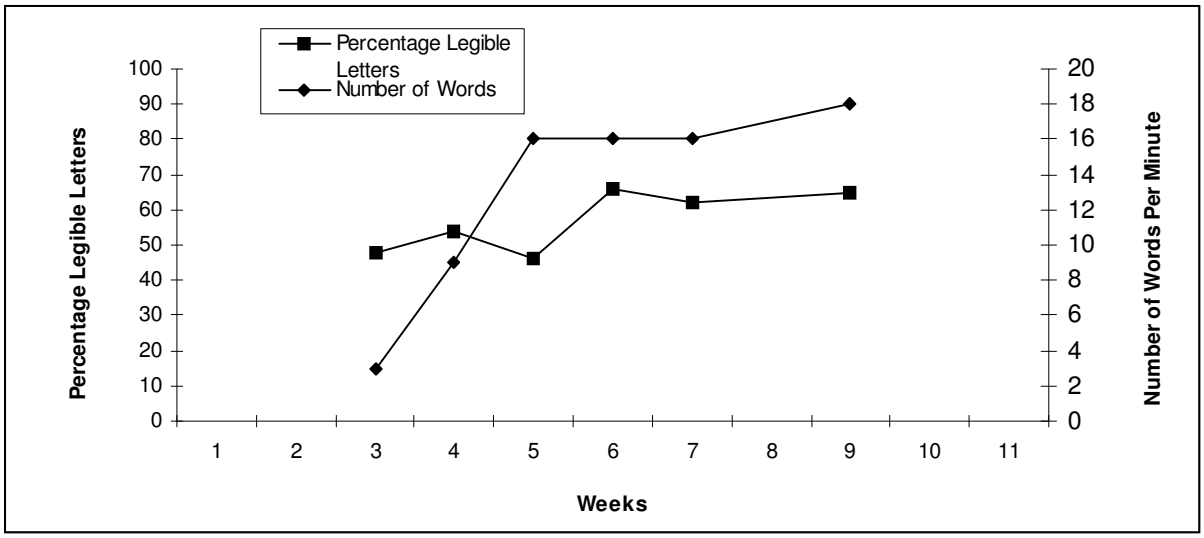

Figure 6. Number of words written by Child 2 and percentage of legible letters in a timed writing exercise

Parental involvement in the 'Incredible Years' programme. Neither of Child 2's parents completed the Incredible Years programme at any stage.

Summary. Child 2's referral to Kā Māhuri for threatening and aggressive behaviour was supported by the direct observations at Baseline intervals and at Week 1 and 2. However, no instance of sexually inappropriate language use was recorded during direct observation. It appears that while at Kā Māhuri his on task behaviour improved markedly and his negative social behaviours decreased markedly. His ability to read graphemes improved greatly from well below expected levels to an age-appropriate level and his writing accuracy and fluency also showed steady improvement. As his behaviours are being managed well it seems his academic abilities have been given opportunity to flourish. Child 2's parents did not complete the required parenting programme which may indicate a higher need for support and structure at school.

Child 3

Child 3, who had been referred for off task, defiant and negative social behaviour was absent from Kā Māhuri on two occasions during his time in the programme. The results of the separate measures of change in Child 3's academic and social behaviour are given below.

Time on task and antisocial behaviour. The results of Child 3's baseline recordings in the home school were consistent with the referral reports that he was displaying off task, defiant and negative social behaviours in the classroom. During two 20 minute observations he was on task 76 and 77 per cent of the time and displayed negative social behaviours 23 and 24 per cent of the time, as can be seen in Figure 7. Once he began attending Kā Māhuri his weekly Wednesday home school observation scores ranged from 81.2 per cent on task to 100 per cent on task, as shown in Figure 7. His negative social behaviours ranged between 0 and 18.8 per cent. At his home school both off task and negative social behaviours decreased from the baseline recordings and remained quite stable from this time onwards.

As shown in Figure 8 his weekly observation scores at Kā Māhuri ranged from 93 per cent on task to 100 per cent on task. His negative social behaviours at Kā Māhuri were recorded to range between 0 and 7 per cent. Very few off task or negative social behaviours were observed at Kā Māhuri throughout his stay.

Quiet room use. Child 3 was never sent and never went of his own accord to the Quiet room as reported by the Kā Māhuri staff. This is consistent with the direct observation data.

Reading accuracy and fluency. Child 3 was administered the Burt Word Reading Test (New Zealand Revision) on two occasions, firstly in Week 1 then again Week 3. The results of testing showed that he was reading at his age level (a reading age of 7 to 7.5 years).

As can be seen from Table 7 his ability to read graphemes, as assessed by his teacher using the Canterbury Decoding Fluency Test, improved steadily but remained well below the level expected for his age.

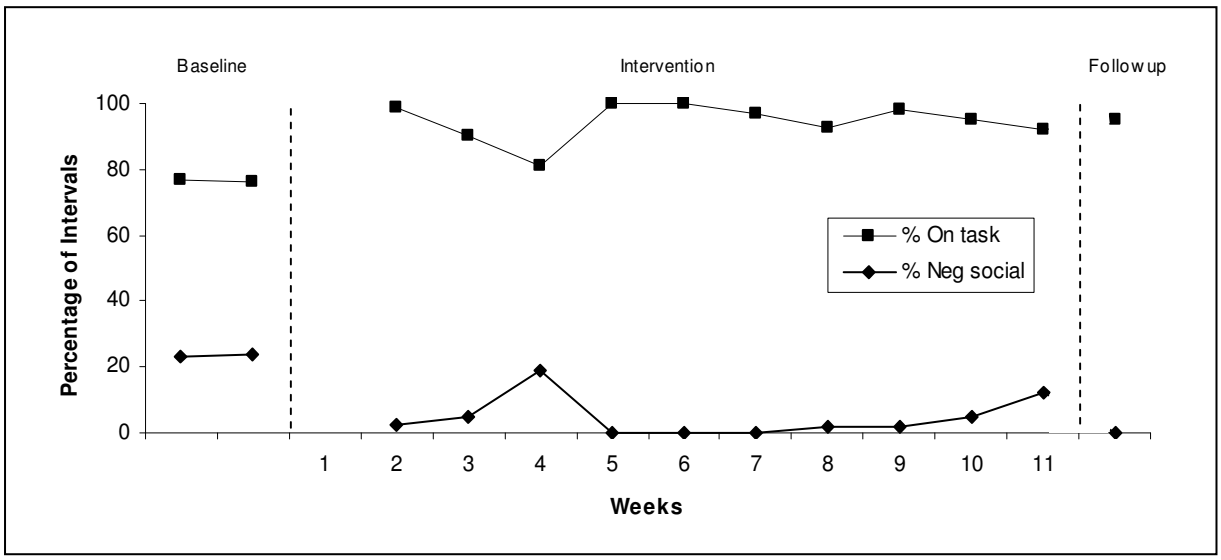

Figure 7. Percentage of weekly observation intervals for Child 3's on task behaviour and negative social behaviour at home school.

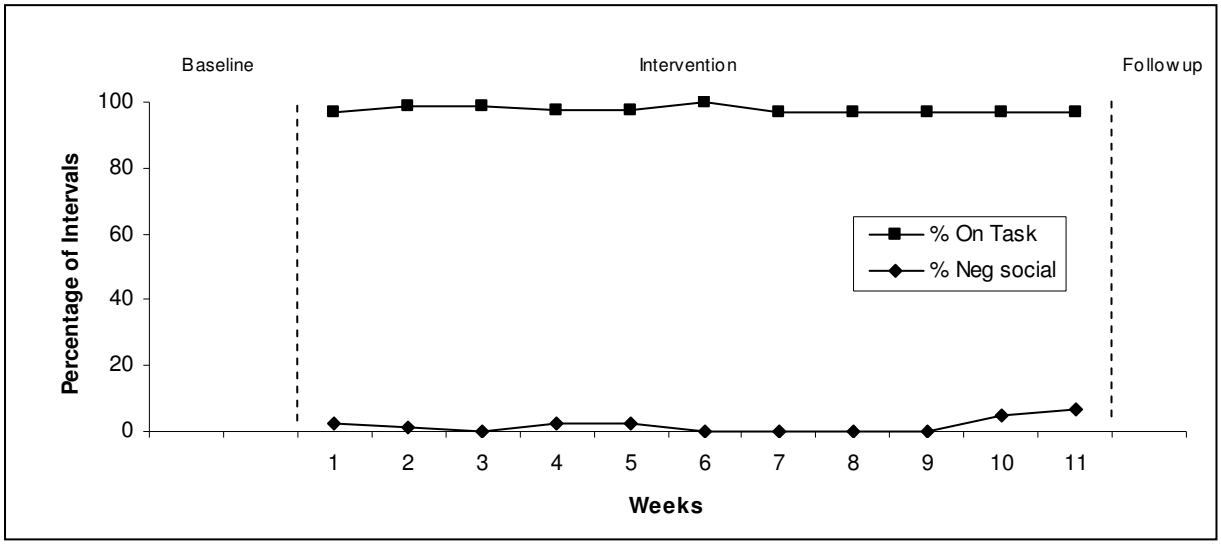

Figure 8. Percentage of weekly observation intervals for Child 3's on task behaviour and negative social behaviour at Kā Māhuri.

The PROBE Prose Reading Observation Behaviour and Evaluation of Comprehension for 7 to 8 year olds was administered in the Week 3 and Child 3 achieved 97 per cent reading accuracy and 60 per cent reading comprehension. He did not achieve a pass on the initial test

and was retested on a higher age group assessment form. When retested in Week 9 on the 8 to 9 year old version he achieved 90 per cent accuracy and 2 per cent comprehension.

Table 7. Number of correct responses per minute on the Canterbury Decoding Fluency Test for Child 3

Week	*Number of correct graphemes read per minute*
1	25
2	26
3	29
5	28
7	31
9	33

'My Day at School' Self report questionnaire. Child 3's responses on the My Day at School Questionnaire are summarised in Table 8. His responses to 'I did what teacher asked' and 'I played with other children' were very positive while attending Kā Māhuri. This suggests that he felt he was doing what was expected of him throughout the intervention.

Writing accuracy and fluency. As can be seen in Figure 9 Child 3's percentage of legible letters and words written in timed samples showed no improvement while at Kā Māhuri.

Disciplinary incidents. Child 3 began a new school at the start of the year due to an expulsion in 2007 for non compliance, verbal abuse and physical violence. At the beginning of 2008 he had been stood down on two occasions for a total of five days (within the same

Table 8. Responses to 'My day at school' self report questionnaire for Child 3

Week	I did what the teacher asked	I played with other children
1	All the time	Really well
2	All the time	Really well
3	All the time	Really well
4	All the time	Really well
5	All the time	Really well
6	All the time	Really well
7	All the time	Really well
8	All the time	Really well
9	All the time	Really well

two week period) from his referring school. On the both occasions Child 3 reportedly used physical violence toward peers, threats, swearing and non compliance. Since Child 3 started attending the Kā Māhuri programme there were no disciplinary incidents reported at Kā Māhuri or the home school.

Parental involvement in the 'Incredible Years' programme. Neither Child 1's mother or his father completed the Incredible Years parenting programme during the Kā Māhuri programme or subsequently.

Summary. The off task, defiant and negative social behaviours reported at Child 3's referral were substantiated by direct observations at the home school in the initial intervals. It is apparent that Child 3's behaviours were managed well at Kā Māhuri from Week One throughout the intervention. The increased on task and decreased negative behaviour carried

over to his home school. His academic assessments showed that Child 3's reading skills and writing skills were at age appropriate levels. However, there was little evidence of improvements in reading or writing skills during the 10-week evaluation period.

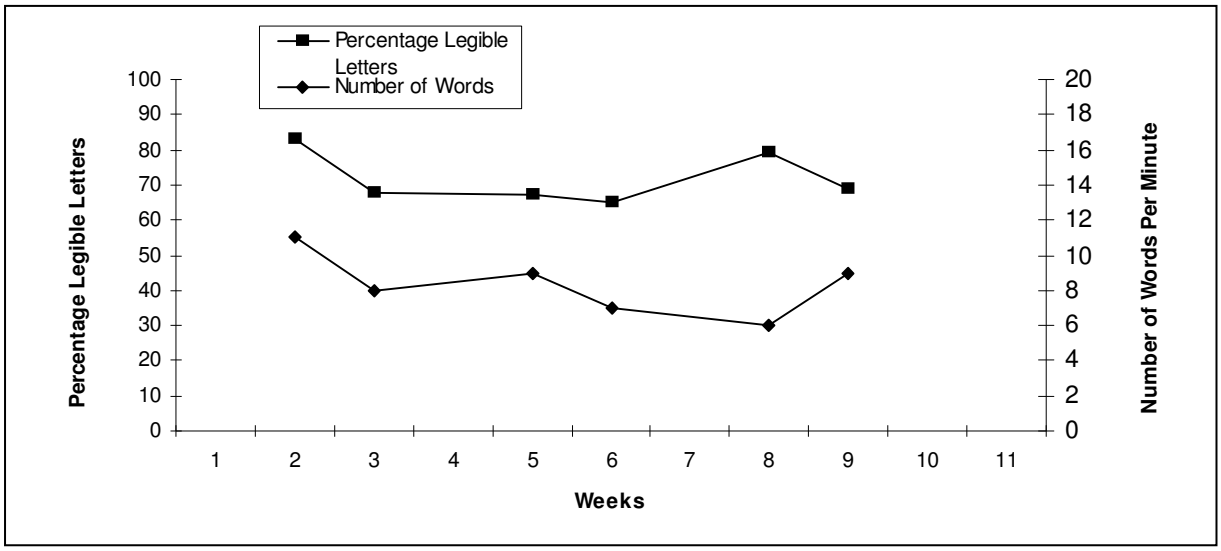

Figure 9. Number of words written by Child 3 and percentage of legible letters in a timed writing exercise

Child 4

Child 4 was referred to Kā Māhuri for anger problems and non compliant behaviour. He was absent 3 days of the 34 he was expected at Kā Māhuri. Data for the various measures used to identify changes in Child 4's academic and social behaviours are presented below.

Time on task and antisocial behaviour. The results of Child 4's baseline recordings in the home school confirmed the reasons given for his referral to Kā Māhuri. During two 20 minute observations he was on task 38 and 50 per cent of the time and displayed negative social behaviours 38 and 42.5 per cent of the time.

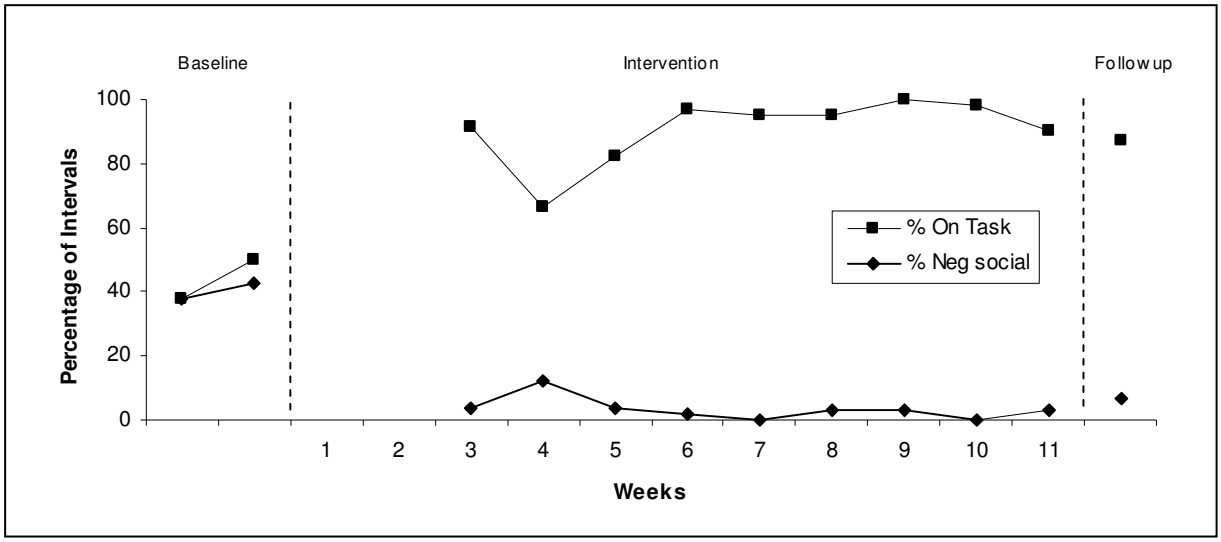

Figure 10. Percentage of weekly observation intervals for Child 4's on task behaviour and negative social behaviour at home school.

Once he began attending Kā Māhuri his weekly Wednesday home school observation scores ranged from 66.2 per cent on task to 100 per cent on task, as shown in Figure 10. His negative social behaviours ranged between 0 and 12.5 per cent. Child 4's behaviour at his home school had improved markedly by Week 6 and remained at a constantly improved

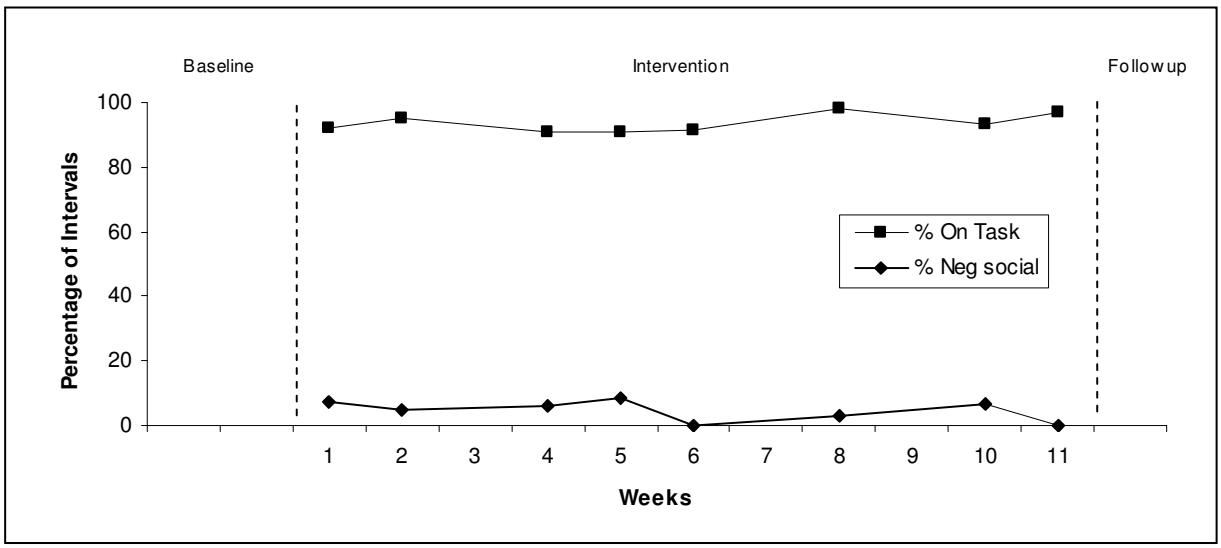

Figure 11. Percentage of weekly observation intervals for Child 4's on task behaviour and negative social behaviour at Kā Māhuri.

level throughout the remaining weekly observations.

As shown in Figure 11 his weekly observation scores at Kā Māhuri ranged from 91 per cent on task to 98.5 per cent on task. His negative social behaviours at Kā Māhuri ranged between 0 per cent and 8.8 per cent. While at Kā Māhuri his behaviour was consistently on task and he displayed very little negative social behaviour.

Quiet room use. According to teacher reports Child 4 was sent to the quiet room twice while at Kā Māhuri. On both occasions his teacher reported he was non-compliant and once he reportedly damaged equipment. The first instance of using the quiet room his teacher felt was at least partially explained by tiredness.

Reading accuracy and fluency. Child 4 was administered the Burt Word Reading Test (New Zealand Revision) on one occasion (Week 2) and he did not achieve a score. The Kā Māhuri teacher believed his abilities did not improve while at Kā Māhuri and so the Burt was not re administered.

The PROBE Prose Reading Observation Behaviour and Evaluation of Comprehension was not administered as the youngest age for use is 5 years and the Kā Māhuri teacher did not believe Child 4 to have the ability to complete any part of the assessment

'My Day at School' Self report questionnaire. Child 4's responses on the My Day at School Questionnaire are summarised in Table 9. His responses to 'I did what teacher asked' and 'I played with other children' do not appear to improve in his time at Kā Māhuri.

Writing accuracy and fluency. Child 4 completed written samples from Week 2 to Week 9 showing an erratic pattern and generally no improvement in writing skills. This is shown in Figure 12.

Disciplinary incidents. Child 4 had not been stood down for any length of time prior to or during his Kā Māhuri attendance and has not been stood down since completion of the programme.

Table 9. Responses to 'My day at school' self report questionnaire for Child 4

Week	I did what the teacher asked	I played with other children
1	Sometimes	A few problems
2	Sometimes	Really well
3	Not really	Didn't play with anyone
4	All the time	Really well
5	All the time	Really well
6	Not really	Didn't play with anyone
7	Sometimes	Didn't play with anyone
8	Sometimes	Really well
9	All the time	Really well

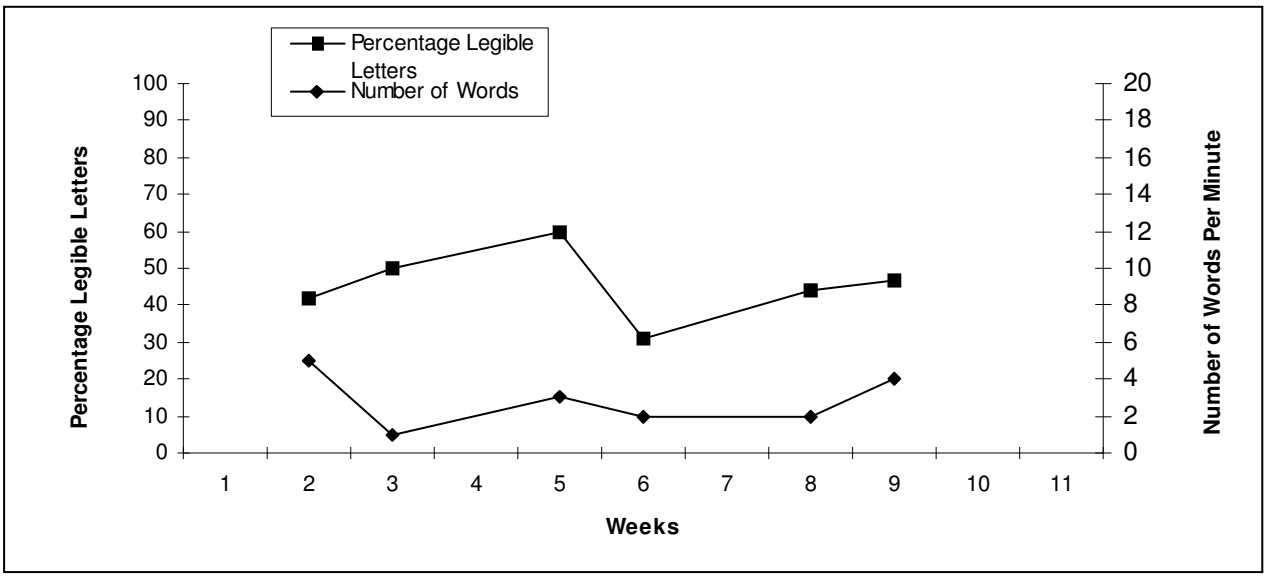

Figure 12. Number of words written by Child 4 and percentage of legible letters in a timed writing exercise

Parental Involvement in the 'Incredible Years' programme. The Incredible Years parenting programme was not completed simultaneously with the Kā Māhuri programme by either of his caregivers but his mother is, at the time of writing this report, completing the course.

Summary. Child 4 was referred for anger and compliance problems, which direct observations confirmed were occurring. His behaviours improved considerably while attending Kā Māhuri and continued to be at a greatly improved level during the follow up interval. Due to his age and low level of academic ability on entry to Kā Māhuri he required teaching in very basic skills – skills that were not assessed by the measures used in this study. His behavioural improvements now allow him and his teachers the opportunity to focus on his academic learning.

Child 4's mother has shown motivation to help continue his improved behaviour by beginning the parenting course required by Kā Māhuri, therefore greatly improving his prognosis.

Child 5

Child 5 was referred for problems with compliance, and attention to tasks and was reported to have no friends. His attendance at Kā Māhuri was good; he was absent on only one day of the 34 day programme. The data showing changes in Child 5's academic and social behaviour are presented measure by measure.

Time on Task and Antisocial Behaviour. Baseline observations of Child 5 in the home school confirmed the reasons given for referral to Kā Māhuri. As can be seen in Figure 13 he was on task 74 and 94 per cent of the time and displayed negative social behaviours 8.3 and 28 per cent of the time across two 20 minute observation sessions. While attending Kā Māhuri his weekly Wednesday home school observation scores ranged from 67 per cent on task to

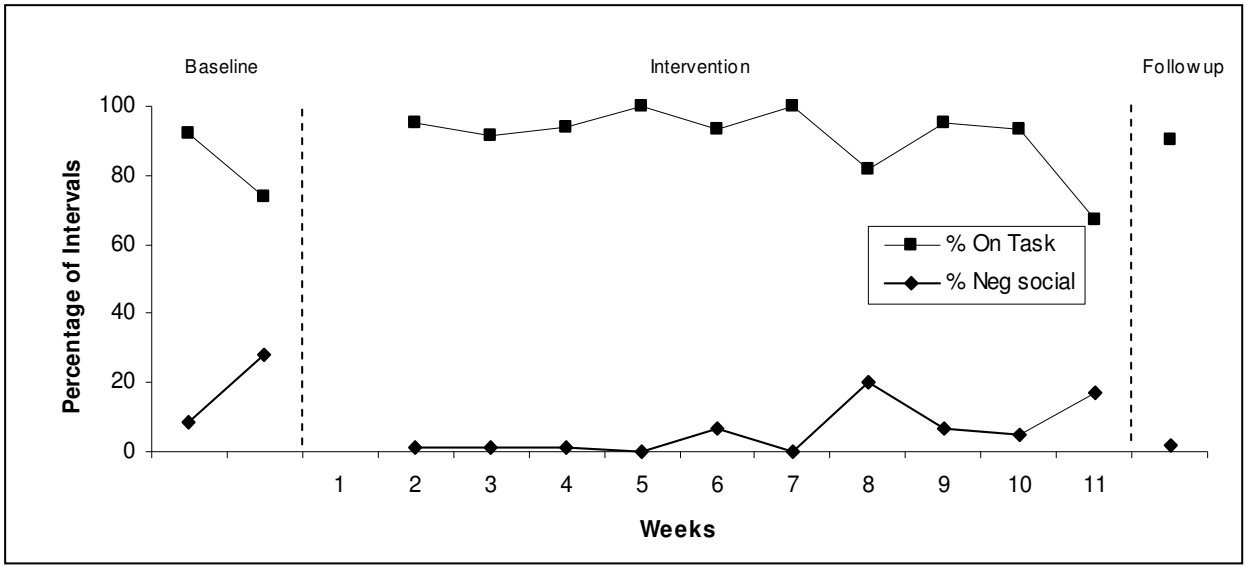

Figure 13. Percentage of weekly observation intervals for Child 5's on task behaviour and negative social behaviour at his home school.

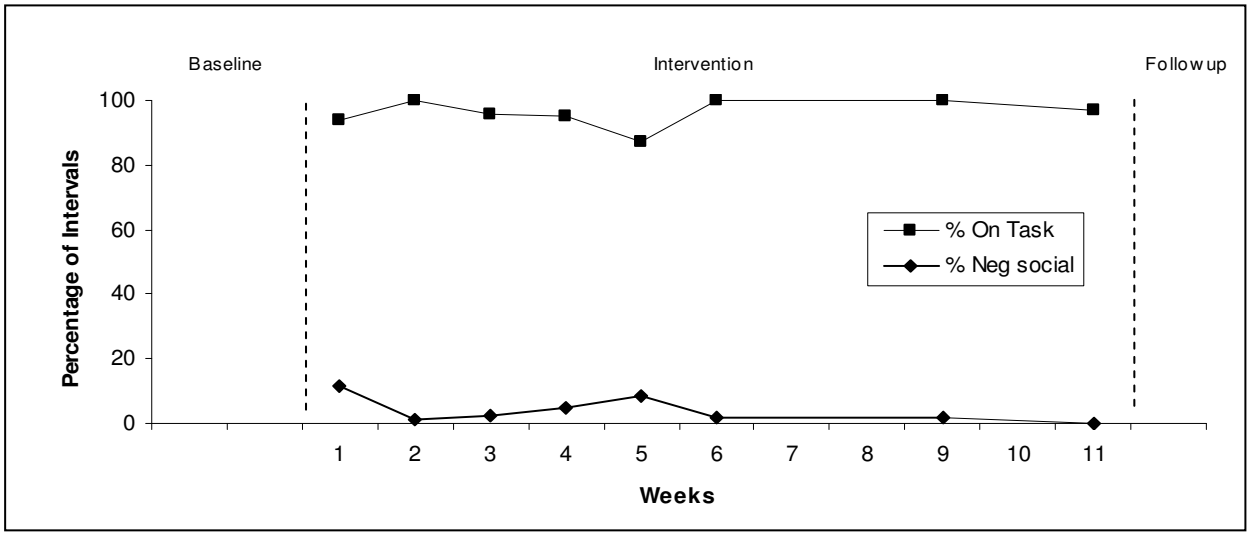

Figure 14. Percentage of weekly observation intervals for Child 5's on task behaviour and negative social behaviour at Kā Māhuri.

100 per cent on task, as shown in Figure 14. His negative social behaviours ranged between 0 and 20 per cent.

As shown in Figure 14 his weekly observations at Kā Māhuri ranged from 87.5 per cent on task to 100 per cent on task. His negative social behaviours at Kā Māhuri ranged from 0 per cent to 11.3 per cent of intervals.

Reading accuracy and fluency. Child 5 was administered the BURT Word Reading Test (New Zealand Revision) on two occasions, firstly in the baseline week and again in Week 3. In both the baseline and Week 3 assessments Child 5 scored within the age appropriate age band of 7.05 to 7.11 years.

As can be seen from Table 10 his ability to read graphemes, as assessed by his teacher using the Canterbury Decoding Fluency Test showed steady improvement throughout his time at Kā Māhuri, although it remained lower than expected for his age.

The PROBE passage for 7 to 8 year olds was administered in the Baseline week and Child 5 achieved 99 per cent reading accuracy and 75 per cent reading comprehension. When retested in Week 3 on the 7- 8-year olds version he achieved 100 per cent accuracy and 60 per cent comprehension.

Table 10. Number of correct responses per minute on the Canterbury Decoding Fluency Test for Child 5

Week	*Number of correct graphemes read per minute*
1	14.5
3	16
5	18
9	32

'My Day at School' Self report questionnaire. Child 5's responses on the My Day at School Questionnaire are summarised in Table 11. His responses to 'I did what teacher asked' seem to be more positive at the beginning of the programme than toward the end. The responses he gave to 'I played with other children' generally moved from not playing with others to playing 'Really well' from Week 5. This may show he felt his social interactions occurred more often and were positive from this point onwards.

Table 11. Responses to 'My day at school' self report questionnaire for Child 5

Week	I did what the teacher asked	I played with other children
1	All the time	Really well
2	Sometimes	Didn't play with anyone
3	All the time	Didn't play with anyone
4	All the time	Didn't play with anyone
5	All the time	Really well
6	Sometimes	Really well
7	All the time	Really well
8	Sometimes	Didn't play with anyone
9	All the time	Really well

Writing accuracy and fluency. As can be seen in Figure 15 Child 5's percentage of legible letters and words written in timed samples showed some improvement across assessments from Week 2 to Week 9 at Kā Māhuri.

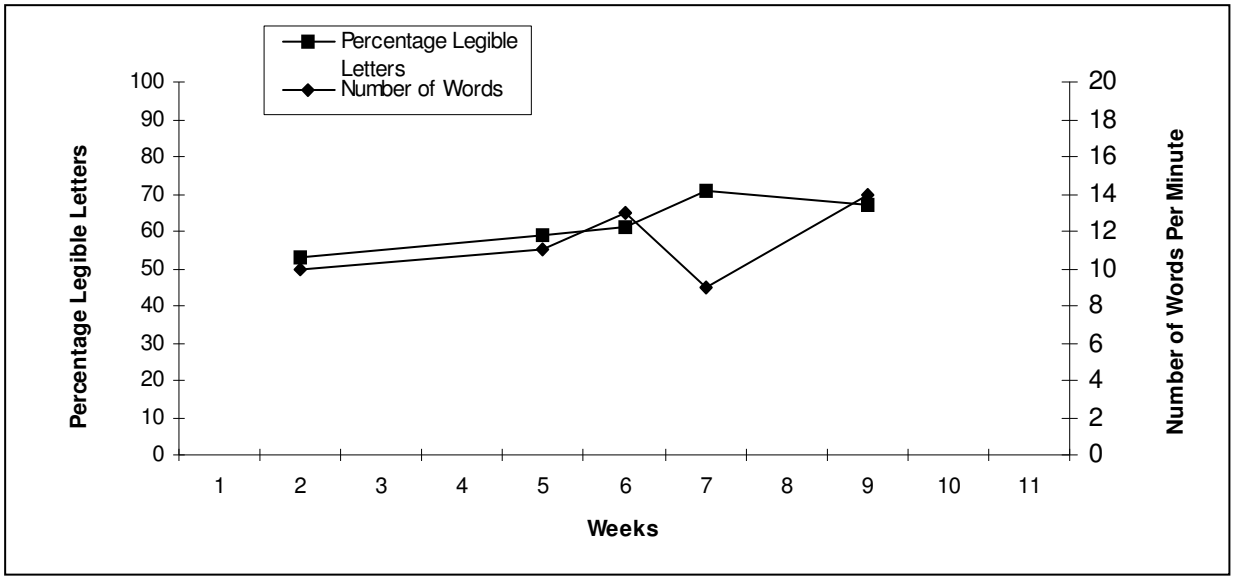

Figure 15. Number of words written and percentage of legible letters in a timed writing exercise

Disciplinary Incidents. Child 5 had not been stood down prior to attending Kā Māhuri. No Stand-downs have been reported during or since completion of the Kā Māhuri programme.

Parental involvement in the 'Incredible Years' programme. Child 5's parents did not take part in the Incredible Years programme at any point.

Summary. The reasons stated for Child 5's referral were verified by the direct observations that showed intervals of non-compliant and off task behaviours and negative social actions. While at Kā Māhuri Child 5 showed he has the ability to remain on task and to engage in greatly reduced levels of negative social behaviours. Child 5's behaviours at his home school indicate he has the ability to focus on tasks and manage days at school with very few or no negative social interactions. His reading ability appears appropriate for his age and, while his ability to read graphemes on the Canterbury Decoding Fluency test is steadily improving, it remains weak. It appears from reports that the gains made at Kā Māhuri and simultaneously at the home school may not have been supported in his home life for an

example, the lack of support his parents have shown by failing to attend the Incredible Years parenting programme.

CHAPTER 4

DISCUSSION

Evaluating Programmes in Real Life Settings

The present attempt to measure the effects of the Kā Māhuri programme was hampered by several practical difficulties. First, the evaluation was undertaken on the understanding that the first cohort would consist of six children. However, as three children were returning to the programme they could not be used for the study as they had already been involved in the intervention. A fourth child had no home school and the data collected at Kā Māhuri alone was of little use in the evaluation. Admission of this fourth child contravened the admission criterion that each child must be a member of a class within a mainstream school - a class which they are able to attend one day per week (Canterbury Primary Principals Association & Ministry of Education, 2006). Because the first cohort changed from six participants to two, a second cohort was required to provide sufficient numbers and this doubled the data collection time. The second cohort only added three more participants due once again to the inclusion of returning children. Inclusion of a second cohort led to a second challenge as it meant that a research assistant had to be trained and employed to make observations while the researcher was on placement out of town.

The admission of "returnees" also indicated that Kā Māhuri was receiving fewer referrals than had been expected. Kā Māhuri was initially set up to receive referrals from thirteen schools. The Kā Māhuri teacher was actively recruiting students throughout the year and in the second cohort admitted one child as late as the first week of the programme. During 2008 the programme received referrals from ten of the cluster schools, however one school accounted for four of the five participants in the present study. The fact that one school referred far more children was seen by the Kā Māhuri teacher as a result of some schools in

the Kā Māhuri catchment area not wanting to be seen to be unable to manage the behaviour of poorly behaved students. Why this should be could not be determined as it fell outside the scope of this research.

The admission agreement signed by the parents included an agreement that parents would attend the next available Incredible Years parenting course. During the course of the present study however only one parent of the five sets of parents completed this parenting course. It is clear from research (Church, 2003) that children with serious behaviour problems who receive well designed interventions both at school and at home tend to make more progress and more rapid progress than children who receive only a school intervention or a home intervention. The fact that four of five children received only a school intervention may explain in part the relatively slow progress made by the children in this evaluation.

Prior to beginning the evaluation the Kā Māhuri teacher and the Chair of the Management Committee agreed that the nine measures listed in the Method section above would be collected. The investigator was to collect the direct observation measures and the teacher was to collect the academic and social progress measures. The expectation that the Kā Māhuri teacher would collect this data was not met consistently. Some measures were not collected at all and the measures that were supposed to be timed were not always timed. For example, numeracy goals were not set or measured and the timed running records of reading and writing were not initially timed. This led to loss of data and to the gaps which can be seen in Figures 3, 6, 9, 12, 15 and in Tables 3, 5, 7 and 10.

A well designed experimental evaluation requires before, during, and after measures. Unfortunately many of the baseline measures were not collected by the Kā Māhuri teacher and this limits the conclusions which can be drawn from the present evaluation. An example of this occurred with respect to writing. Writing samples were not recorded until Week 2 (at

the earliest) of the programme. This occurred for various reasons one of which was the very late inclusion of Child 5.

Conclusions

Improvements in behaviour. The present study found that the Kā Māhuri programme was having some observable effects on antisocial and disruptive behaviour and markedly improving the on task behaviours of children identified as having difficulties in these areas. All participants showed increases in their on task behaviour, increases in positive social behaviour and decreases in their negative social behaviour during direct observation at Kā Māhuri and their home schools. Improvements for all participants were apparent in the above areas by Week 4 of the programme and appeared stable from about this stage through to the follow-up interval. Child 5 showed a more erratic pattern than any other participant. This may have been linked to the child's home school teacher, at Week 8, announcing she would be leaving the school. This coincided with Child 5's highest incidence of off task and negative social behaviour since the baseline observations. Child 5 seemed to have a close positive relationship with his teacher.

As only one follow-up observation was obtained for each child it is difficult to comment on whether or not the behaviour changes reported here would have been maintained. Walker, Ramsey and Gresham (2004) have argued that maintenance procedures are required long term to maintain the gains resulting from intensive programmes for children with behaviour disorders. The Kā Māhuri programme offers short term support and guidance for teachers and schools and it is assumed that these lay a foundation for maintaining the changes which occur during the programme. At the present time Kā Māhuri teachers only follow up their students for three to four weeks after the student has returned to their home school. Given the expense of the Kā Māhuri programme, data needs to be collected longer term, for example with two

and four month follow-ups, in order to see whether or not the gains reported in this dissertation are maintained.

The social and attentional gains made by the children in the present study are important because if these improvements are maintained, these children will have acquired an increased learning potential. While a child is off task they are missing out on many learning opportunities. Once the child is spending more time focused on teacher instruction and learning tasks, they will be in a better position to learn than before.

Improvements in academic performance. Reading performances for four of the five children were measured and all showed improvement from the initial assessment. Reading ability for Child 4 was not accurately assessed. He failed to register a score on initial testing and his word reading ability was deemed to be unmeasurable using the Burt Word Reading Test (New Zealand Revision). The teacher also deemed the PROBE reading test to be inappropriate for Child 4 as she felt he did not have the ability to complete any part of this test either. Because his teacher considered that his reading performance had not progressed he was not retested. Only Child 2 achieved age appropriate reading of graphemes and prose reading. However, as the Kā Māhuri teacher was of the view that Child 2 was already reading above his expected age level she therefore tested him using the passage for a year above his age. He achieved 100 per cent accuracy of reading but only 30 per cent comprehension. This result indicates that he was skilled with respect to decoding (reading accuracy) but not comprehension. Had he been assessed using the age appropriate passage he may, or may not, have proven to be comprehending what he is reading at the age appropriate level. To further complicate this result, his classroom teacher and the Kā Māhuri teacher believed his reading ability to be ahead of his age level, he was not assessed using the PROBE until week 6 of the programme, so no indication of intervention effects could be observed.

In spite of the measurement difficulties four of the five children showed improvements in reading performance while at Kā Māhuri. In light of the short ten week course, improvement in general was good. Appropriate and accurate individual measures need to be continued to be taken to assess ongoing performance and long term effects post Kā Māhuri.

The tests of writing performance showed that only two participants made gains on either dimension; number of words written per minute or percentage of legible letters in a sample. Child 2 showed a large, steady increase in number of words written and a steady increase in percentage of legible letters from Week 3 to Week 9. Child 5's improvements were less substantial but steady on both dimensions from Week 2 to Week 9. The three remaining participants showed erratic results with no apparent gains visible. However, no participants were tested before Week 2 and follow-up measures were not taken.

Taking into consideration the brevity of the programme, measurable improvements in writing performance may have been an optimistic goal considering the children's writing performance on entry. The two children with highest initial performance showed the only improvements. The failure of Child 4 to show gains may have been related to letter and word formation being a new skill compared to Child 2 and Child 5 who were practicing a skill they already had a grasp of.

On the attitude toward school measure Child 3 responded as positively as possible from Week 1 to Week 10. His responses indicated he felt he was doing what the teacher asked well and was playing positively with other children every Wednesday at his home school. Given the change in Child 3's behaviour observed across intervals his initial responses did not fit well with his behaviour. Child 1 and Child 4 indicated improved attitudes, although Child 4's were very slight. Child 5's answers showed no change in response to teacher requests but increased positive interaction with others.

Although changes are apparent on some measures for the children in this study it is important to note Church's (2003) caution that remedial academic help is often necessary for such children or they may become frustrated with school and revert to old behaviours to avoid learning tasks. Four of the children in the present study remained behind peers with respect to basic literary skills and are at risk of reverting to previous behaviours once returned to their mainstream class and mainstream curriculum. This highlights a concern that remedial efforts may need to be more intensive for the programme to be effective. Further post Kā Māhuri follow-up data is required to assess this.

Conclusions regarding programmes of this type

Many writers have argued the costs and benefits of inclusion with and without withdrawal for children with special teaching needs (e.g. Norwich & Kelly, 2004). Church (2003) sounded a caution about grouping children with behavioural problems together. If an average child learns a lot from his peers it is fair to assume an antisocial child does as well. However, there was no evidence of the Kā Māhuri children learning new antisocial behaviours from each other – presumably because the children were young, there were two teachers to six children, and behaviour was very well managed by the teachers.

Another example of a successful local withdrawal programme is provided by McKenzie Residential School. McKenzie School is also very tightly run by experienced and knowledgeable staff. The staff to child ratio is very low and accordingly costs are high as they are for Kā Māhuri. However, as children get older keeping such operations successful becomes increasingly difficult. Generally, putting these children together does not work in the majority of cases and the reason for that is that it is difficult to manage more than six behaviour disordered children in one place. It is also often not very rewarding for staff to

work with these children and, as stated above, these children can learn new antisocial skills from each other.

The consensus at the present time seems to be that the most effective intervention is to place the antisocial child in an environment where they will have the most opportunity to learn prosocial behaviours from adults and peers. Writers including Carr (2006) and Snyder et al. (in press) describe children's inclusion in mainstream classrooms as an important environment for prosocial development. Inclusive education can also mean more cost effective education. There are a number of factors which can have negative impacts on children when they are excluded from mainstream classroom activities. These include stigma, bullying, and social isolation (Norwich & Kelly, 2004).

There are a number of examples of withdrawal programmes involving similar participants to the present study which have achieved significant behavioural improvements and in some cases significant academic gains (McMahon et al. 2006). However, it is generally the case that these are individualised and open ended with the average duration exceeding ten weeks. Commitment from and involvement by parents also appears to be involved is regarded as crucial, or at least beneficial, to outcomes (Church, 1999; Ewing, 1999).

Programmes like McKenzie Residential School and Kā Māhuri achieve gains but are very costly. These costs are justified if the children are appropriately socialised because this has the potential to save taxpayers hundreds of thousands of dollars over the life of the child (Church, 2003). However, if these children are not socialised this money is wasted in that it could have been spent on supports like RTLBs, teacher aides or general teacher professional development. If the costs of the Kā Māhuri staff (one teacher wage and one teacher aide wage) and the cost of daily taxis for the children were used for upskilling the children's teachers the money involved might have a much greater impact. For example, if many teachers received some training in managing antisocial children more children would benefit

and larger numbers of difficult children might be effectively taught and managed in their classroom.

Importance of intervention across settings

One of the most obvious shortcomings of the Kā Māhuri implementation is that the parents of the participants did not attend the parenting course while their child was attending Kā Māhuri even though all had agreed to do so. However, one parent of Child 4 did attend following their child's time at Kā Māhuri and one parent of Child 3 attended an alternative course following their child's time at Kā Māhuri. There may be a number of reasons why the parents did not attend the parenting programme. For example, a parenting programme may not have been running when their child was attending, their work commitments may have prevented them from attending, they may have had mental health problems, or they may simply not have been motivated to attend. Child 1's parent attended an alternative parenting course following a notification to CYFS regarding alleged physical abuse by them toward their child and an incident the following day resulting in their child's expulsion from school (the incident involved Child 1 threatening a peer with a weapon). These events may have motivated him to attend the parenting course.

Behaviour training in the classroom can be effective and long-lasting (Hops et al., 1978) but researchers also argue that behaviour training must occur across multiple settings for the behaviour change to be lasting (Conduct Problems Prevention Research Group, 2004; McMahon et al., 2006). If a child continues to receive reinforcement for antisocial behaviours at home then the implementation of an individual behaviour plan at school may simply teach the child to switch from prosocial to antisocial as they move from school to home. Ewing (1999) and Church (1999) have shown that if behaviour training and change occurs across multiple settings including home and school then long lasting behaviour change can occur.

The failure of the Kā Māhuri participant's parents to attend the Incredible Years parenting program highlights a potential failure in the habilitation of the children.

Positive relationships between children and adults involving consistent boundaries and modelling of appropriate social behaviours have been repeatedly argued as vital in a child's social development (e.g. Patterson, 2002; Snyder & Stoolmiller 2002). The Kā Māhuri programme and the staff seem to provide this for the children who attend the programme. It was beyond the scope of the present study to formally assess any attachments formed between Kā Māhuri staff and the children involved. However, during direct observations it appeared that close relationships were formed which seemed to have a positive impact on the children's attitude to what was being asked of them. Like nurture groups the Kā Māhuri programme seems to have a lot of focus on this aspect of treatment.

Both the Kā Māhuri staff and the individual classroom teachers made numerous comments regarding the lack of nurturing in the children's home lives. For example, one child's parents reportedly involve the child as a decision maker within the parents conflicts and another child was often reported to be tired and without lunch after all night parties which had occurred at his home.

In Church's (2003) review he argues that a well designed intervention involving a child's home and school can rectify behavioural and academic difficulties in a high percentage of cases if applied early enough. However, a main finding of this present study is that there was not greatly accelerated progress and progress did not occur on all of the measures. This suggests that the treatment programme may have been lacking in intensity or duration. The small effects that occurred across academic measures support the view that the intensity may have been insufficient. During formal and informal observations it seemed apparent that the majority of time at Kā Māhuri was spent on behavioural and social aspects with less time spent on academic learning and fluency building. The measurement data

supports this hypothesis with large improvements in behavioural measures, for example the on task measures, and much smaller improvements in the academic measures, such as the reading and writing measures.

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APPENDIX 1

CANTERBURY DECODING FLUENCY TEST

Date: _____ Tester: _____ Participant: _____

Graphemes Correct: _____ Errors: _____ Correct Graphemes per Minute: _____

pa	in	to	eat	ka	
on	far	shoo	er	do	10
oil	bee	hay	lee	so	
ed	the	vee	oat	jar	20
eel	no	at	we	urn	
quit	aim	me	oo	go	30
or	zoo	boy	why	irk	
coo	cha	owl	ha	art	40
ra	up	ox	out	you	
shoo	eat	eel	bee	pa	50
to	in	hay	jar	urn	
the	aim	ka	boy	do	60
oo	me	er	go	cha	
vee	out	coo	owl	far	70
at	up	irk	ha	oil	

lee	oat	zoo	ra	or	80
we	quit	so	ed	why	
on	art	ox	no	you	90

APPENDIX 2

My day at [Home] School

I did what the teacher asked:-

All the time sometimes not really

I played with other children:-

Really well a few problems didn't play with anyone

One good thing that happened at school yesterday:-

_____

_____

One sad thing that happened at school yesterday:-

I learnt:-

Choices I made:-

APPENDIX 3

Ref: HEC 2008/3/CoEdn

22 February 2008

Mr Nathan Gillespie
School of Education Studies & Human Development
College of Education
UNIVERSITY OF CANTERBURY

Dear Nathan

Thank you for forwarding the revised documents in support of your recent application. The College of Education Ethical Clearance Committee is pleased to inform you that your research proposal "Evaluation of the Ka Mahuri Programme" has now been granted ethical approval.

Should circumstances relevant to this current application change please note that you are required to reapply for ethical approval.

If you have any questions regarding this approval please let me know. We wish you well for your research.

Yours sincerely

Associate Professor Janinka Greenwood
Chair
Ethical Clearance Committee

"Please note that Ethical Approval and/or Clearance relates only to the ethical elements of the relationship between the researcher, research participants and other stakeholders. The granting of approval or clearance by the Ethical Clearance Committee should not be interpreted as comment on the methodology, legality, value or any other matters relating to this research."

APPENDIX 4

UC UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Information Sheet: Kā Māhuri Evaluation

Dear Parents,

My name is Nathan Gillespie and I am studying toward a Masters degree in Child and Family Psychology at the University of Canterbury. With your consent I hope to conduct an analysis of your child's progress through the Ka Mahuri programme in order to evaluate its effectiveness.
This will involve;

- Observations of each child's engagement with his/her school work using a standard interval recording observation of time on task during selected classroom activities.

- Observations of each child's social interactions using an observational procedure which records positive and negative behaviour towards others and the reactions of others to the child's positive and negative social behaviours.

- A weekly measure of reading accuracy and reading fluency using a timed running record of reading from a reading passage at the child's current level.

- A weekly measure of writing accuracy and writing fluency using a timed writing sample collected during a fairly standard expressive writing activity.

- An assessment of progress towards one or two numeracy goals.

- A weekly measure of progress towards one or two social goals.

- Stand-down and exclusion data will be collected from your child's school and could be collected again from their school 3 months following return to school.

- Collecting your child's weekly "My Day at School" responses in order to assess their attitude to school .

- Questionnaires relating to your child's social and educational skills.

All information will be confidential and the resulting report will not contain any identifying details. This report will be used as a dissertation toward my Masters degree.

As participants you and your child may choose to pass on any question or withdraw participation at any stage. You are under no obligation to participate and involvement is purely voluntary.

If you and your child are willing to participate in this study please complete the attached consent form. Please do not hesitate to contact myself, my supervisor (listed below) or Ka Mahuri staff for any further information.

Thank you for your time.

Nathan Gillespie: Researcher
Ph. 0276127260 or
E-mail: nrg23@student.canterbury.ac.nz

John Church Ph.D.: Supervisor
Phone: 364 2544 or
E-mail: john.church@canterbury.ac.nz

1. This project has received ethical approval from the University of Canterbury College of Education Ethical Clearance Committee.

2. Complaints may be addressed to:
Associate Professor J. Greenwood, Chair, Ethical Clearance Committee
College of Education, University of Canterbury
Private Bag 4800, CHRISTCHURCH Telephone: 345 8390

APPENDIX 5

Consent Form: Kā Māhuri Evaluation

Nathan Gillespie
Education Department
University of Canterbury

1. I have read and understood the requirements of participation in this study. I have also been given the opportunity to ask the researcher any questions relating to this study.

2. I understand that all information will be completely confidential and the resulting written report will not contain any identifying details.

3. I understand that I can withdraw our participation from the study at any stage. Nor are we under any obligation to participate.

4. I agree that _____ _____ (child's name) will take part in the study described in the attached information sheet.

Parents Signature: _____ Date: / /2008

Phone Number: _____

Home Address: _____

_____

_____

Thank you for your participation.

Nathan Gillespie
Phone: 0276127260 or
E-mail: nrg23@student.canterbury.ac.nz

1. This project has received ethical approval from the University of Canterbury College of Education Ethical Clearance Committee.

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