Promoting motivational needs to improve academic engagement in the primary classroom: using homework completion rates to measure the efficacy of classroom behaviour management strategies.

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This thesis results entirely from my own work and has not been offered previously for any other degree or diploma.

Signature 

Abstract

Engaging primary aged children in academic tasks beyond the school gates is an age-old problem for many teachers and ubiquitous across many school settings. While the process can be felt as intrusive in the home environment (Edwards and Warin 1999) the benefits have been associated with more than subject specific academic achievement. Homework can develop fundamental learning behaviours (Bempechat 2004) which include the encouragement of independent learning, intrinsic engagement and life-long learning skills which can improve academic achievement in secondary school and beyond. However, around a third of children were found to regularly not complete homework tasks at primary school (Cooper et al 1998) which may disadvantage these pupils and harm their life choices when they are older.

Homework is an integral part of the UK primary curriculum but its completion involves a complex list of motivational factors which can be influenced by rewards and punishments in the classroom. This project explored the efficacy of some common rewards systems, using homework completion rates as the measuring instrument. The project focuses on the impact of ClassDojo, a popular internet-based program, as a classroom behaviour management tool that incorporates homework completion as an important requirement of the pupils' practice. The system's efficacy is compared in two ways. The study was done over two school terms and involved twin classes (a Comparison and a focus class). In term one both classes were treated the same, following the school policy of using a Zone Board for behaviour management and house points to reward classwork and homework completion. In term two the Focus class used ClassDojo to reward all of these while the Comparison class continued as in term one.

The findings suggest that when a classroom behaviour management system incorporates homework, school work and classroom behaviour within the same reward structure, while consistently supporting the motivational factors important for intrinsic engagement and pupil self-worth, homework turn-in rates can be improved within a few weeks. ClassDojo in itself was not found to be the motivationally pertinent factor but the way it was used to address and support all pupil learning and behaviour that influenced the children's homework completion rates and classroom academic engagement. Alternative behaviour management systems could be equally effective if they address the needs identified in the motivational model and support intrinsic motivational engagement.

Contents

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List of Figures and Tables

Chapter 1 Introduction

Homework is a complex, often emotional (Xu, 2018) process, the purpose and value of which extends far beyond the learning intention of any individual activity or worksheet. Described as 'the job of childhood' (Corno & Xu, 2004) and defined as 'tasks assigned to students by school teachers that are meant to be carried out during non-school hours' (Cooper, 1989), homework has the potential to develop in children skills and aptitudes they may need in adult life (Corno & Xu, 2004). Not only does the process facilitate additional study time, which can add up to over a year of curriculum time in the primary school alone, it can contribute to independent working habits and assuming responsibility (Fisher & Frey, 2008), provides opportunities for students to learn more and be engaged with their learning (Kerzic, 1966; Rosário, et al., 2015) as well as involving parents in their children's education (Epstein & Van Voorhis, 2001; Hallam, 2004) and addressing school policy requirements (Epstein & Van Voorhis, 2001). These long-term benefits are valued by adults (Warton, 2001; Coutts, 2004) but difficult to communicate to young children, who often value homework as a much shorter-term consideration, the benefits and costs measured in immediate learning opportunities (Rosário, et al., 2015), meeting parental expectancy (Pino-Pasternak, 2014; Doctoroff & Arnold, 2017; Luo, Ng, Lee, & Aye, 2016), against loss of leisure time (Coutts, 2004) and potential punishments.

Supporting children to engage with the homework process necessitates teachers consider the activities they set in the same terms as the children do while being mindful of the longer-term benefits. One way to achieve this is to establish homework completion as an explicit part of classroom practice; place it on par with classwork completion, rewarding and punishing both via the classroom behaviour management

policy. Although homework is an out-of-hours activity, it is generated in the classroom and seen by teachers as an extension of the school curriculum (Epstein & Van Voorhis, 2001), children need to see the learning potential of homework tasks in the same terms they view class based learning.

This project explored the effect of bringing homework and classwork into one sphere of influence; by explicitly including homework as an element of expected classroom behaviour and rewarding it as such using ClassDojo, a popular internet-based program. The impact of this approach is compared to other reward schemes, the effectiveness being measured with the homework turn-in rates. A discussion around the motivational influences and pupil needs is used to understand the children's responses to the different systems, the conclusions drawn could inform a way forward for primary schools to theorise, improve and encourage pupil engagement, academic achievement and well-being.

1.1 Background to study

As a primary school teacher of some 20 years, I, along with countless other teachers, have struggled repeatedly with the issue of homework completion and tried many systems to encourage the practice (DfE, 2011; DfE, 2014). I have established robust reward schemes, offered homework clubs, involved parents and applied punishments all with limited effect (see figure 1.1) until one year, after Christmas I was advised by a colleague to try ClassDojo (see section 4.10). It appeared to be just another reward and punishment system but worth a try. This project grew from the behaviour anomaly that occurred during that trial (the pink line (Class A) in term 3 on figure 1.1). I wanted to investigate further what it was about the way I used ClassDojo that might have been

responsible for the sudden increase in homework completion rate and to see if it was repeatable in a more challenging setting.

Figure 1.1 shows the homework turn-in rate of five classes that I taught over five academic years. All the data are from one school and all the children were in Key Stage 2 from Years 4 to 6 (8 to 11 years old). Each class was given a similar style of homework activity but offered a variety of rewards and punishments for completion / non-completion. There is no discernible correlation between the rewards / punishment schemes used and the resulting homework turn-in rate. However, a general pattern does appear year on year which relates more to what is happening in the school calendar than what is happening in the classroom. There is an undulation to the graph with a positive start to the year, a slump before Christmas, a surge in term 4 and 5 focused around reports and parents' evenings and an easing off towards the end of the year. Class B showed a prononunced surge in term 5 as parents responded to the new section on the reports that specifically commented on the pupils' homework completion rates. There is also the anomoly in term 3 for Class A, when I introduced ClassDojo and the resulting 100% turn-in rate which sparked this research project.

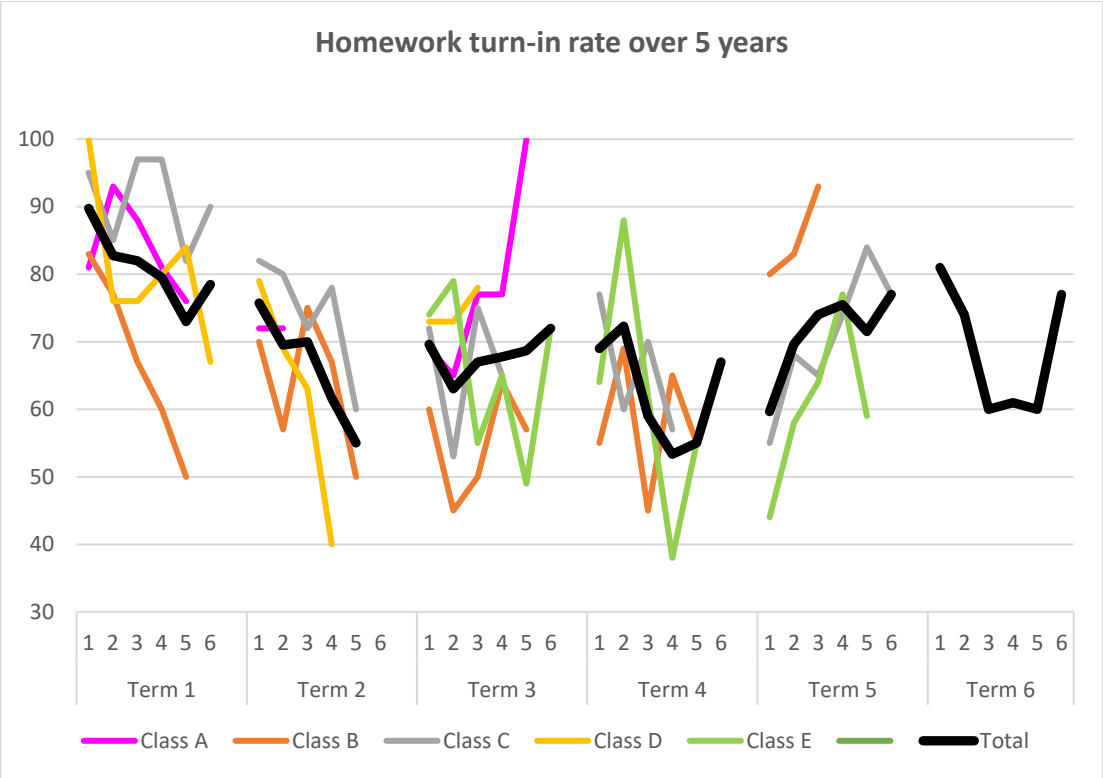

Figure 1.1 Background homework turn-in rate. The graph shows the average percentage of returned homework each week throughout the year with the 'Total' line highlighting the overall average for all five classes.

The teacher that recommended I try ClassDojo was not surprised by my positive results as she had similar success with her class when she used the system as a classroom behaviour management tool. I interviewed teachers from other schools and they had similar positive experiences:

> I feel ClassDojo is very effective. For instance, when my class have started to become chatty, I remind them that they are working towards points on ClassDojo and many of them resume back to their work almost instantly.
>
> (Year 4 / 5 teacher)

> Giving points and taking away points for behaviour, work, participation, on task, etc. They work well for encouraging participation particularly. I have only recently started taking away dojo points – this has an immediate effect on the whole class. I like the fact I can reward the children without talking to them.
>
> (Year 1 teacher)

> It gives us a sense of pride and teamwork as a class community.
>
> (Year 5 teacher)

However, it was only the Year 5 teacher that used ClassDojo to reward homework completion as well as classroom behaviour and they had one of the highest reported turn-in rates (90%). Their comment too - *It gives us a sense of pride and teamwork as a class community* – suggested there were some additional motivational factors being employed with this system. When I reviewed my practice, I realised I too was using ClassDojo for homework and classroom behaviour management, something I had not done before, but I was also using negative points when homework was not done, something the other teachers I spoke to did not do. This project was born from my need to understand the educational and social impact of including homework completion as part of a classroom behaviour management system.

1.2 Purpose of the study

The purpose of this study was to establish if a teacher's use of classroom behaviour management tools can motivate primary aged pupils to complete and hand in

homework. By including homework as an important part of classwork the teacher may be communicating their belief in the value of the task for the child's education (Bang, Sua'rez-Orozeo, Pakes, & O'Connor, 2009), not just for the associated learning the activity targets (which might well be achieved in the classroom) but the process of engaging in academic tasks away from school and the associated support systems. Equally, parents' support of children doing academic tasks at home also communicates their belief in the value of education (King & Ganotice, 2014; Kyriacou, 2009) which imparts a significant engagement motivation and will impact the child's academic achievement (Régner, Loose, & Dumas, 2009). A teacher's approach to motivation does influence student motivation (Hoffmann, Huff, Patterson, & Nietfeld, 2009) as well as communicating a perception of achievement potential and competence. If a teacher communicates the belief that the student can achieve a task, then the student may respond by engaging with the activity that will lead to learning taking place particularly if the task is seen as important to the pupil's peers and the value of the activity is evident in the classroom environment. Collectively generating Dojo points for doing homework, which contribute to a class reward, could give the homework tasks this kind of value. However, this public valuing of homework could lead to a fear of failure and work avoidance if children feel they might be exposed as incompetent to peers (Schunk, Pintrich, & Meece, 2008; Jackson, 2006) which leads us to the question of how students perceive punishments and rewards in the social environment of the classroom and what effect they might have on individual motivation (Weiner, 1990, p. 621; Wigfield & Wentzel, 2007).

1.3 Importance and significance of the study

The relationship and attitudes a child develops towards learning in their early years informs their academic motivation engagement and achievement throughout their school career and into adult life (Laitinen, Lepola, & Vauras, 2017; Goulart & Bedi, 2017; Gottfried, Nylund-Gibson, Gottfried, Morovati, & Gonzalez, 2017; Hidi & Harackiewicz, 2000). These early years of schooling are therefore crucial to the development of positive learning behaviours, growth mindset characteristics (Dweck, 2000) and robust self-efficacy beliefs that form a solid foundation on which academic success can be built. Unsurprisingly, considering the age of the child, this is also the phase in their development when parental interest and engagement in educational issues is the most significant influence on the child's attitudes and behaviours (Park & Holloway, 2017; Lazarides, Viljaranta, Aunola, Pesu, & Nurmi, 2016; McDowall & Schaughency, 2017). As pupils move through the primary and secondary phases, their peers begin to influence their academic motivation, but fundamental attitudes and learning orientations are often well established by then.

Reflecting parental attitudes to education, young children often thrive in line with family expectations (Park & Holloway, 2017; Lazarides, Viljaranta, Aunola, Pesu, & Nurmi, 2016; McDowall & Schaughency, 2017), a situation that maintains the status quo in the home and perpetuates social inequalities. There is a necessity for children to fit into the domestic structures of their family if they are to benefit from the emotional and physical security most families provide. However, this means parents who are supportive, and value educational endeavours and their child's school often have children who value them too, while unsupportive parents or those unable to support their children, foster pupils with lower motivation to engage with learning and

educational opportunities. Arguably, it is the children with disengaged parents that are at the biggest risk of academic underachievement and face a future of potential disadvantage.

It is often via the homework process that teachers become aware of parental support levels and facilitation issues, particularly when the discussion focusses around uncompleted tasks. Irrespective of the cause of unsupportive parents it is often futile to pressure them into engaging with the homework process and counter-productive to place the child in the middle of such opposing spheres. Parents will do what they can do, to support their children. Pressure from schools via social contracts and official letters for incomplete homework will not support them to facilitate the children's learning behaviours if the parents are unable or unwilling to do so. The reasons behind a parent's unsupportive behaviour are often complex (Hill, Witherspoon, & Bartz, 2018) and beyond school resources to improve, but this should not automatically mean the affected children should be subject to the implied disadvantage of their social background.

During this study, a small percentage of students in the background and focus classes drew my attention with their dramatic behaviour changes. Each came from a significantly disadvantaged family setting – the details of which were not comparable, but the results were. In class the pupils were more focused on maintaining friendship bonds than academic achievement, they occasional demonstrated lesson engagement and were generally assessed as achieving below age related expectations. They also produced no homework. However, when the ClassDojo intervention was used each child changed week by week. Not only was homework being produced but their lesson

engagement improved too. It was clear their home lives had not changed during the project but the use of ClassDojo had offered them a social value to their behaviour that appeared to address a need each had for social acceptance and worth to the group. Engaging with classroom lessons and producing homework was rewarded with Dojo points that contributed to the whole class goals, these children could demonstrate their value to the group via their behaviour and efforts, something engaging in academic tasks did not achieve at home. Another outcome of this behaviour change could be the development of autonomy and control; the pupil finding they can exist and thrive in competing spheres or fields (Bourdieu, 1993).

These pupils may well have been more academically able than they were demonstrating in class because their family backgrounds were not supportive of educational provision. However, their needs to belong and be socially accepted in both settings should not be dominated by either field. The significance of this study lies in the understanding that young children need to be part of their family and demonstrate the doxa of that unit. However, if this approach is not wholly supportive of the educational ethos and practices of the school it should not necessitate disadvantage for the child. Through creative and informed classroom behaviour management strategies pupil needs on all levels can be supported which, in cases I have observed, helped children improve their academic motivation and achievement and perhaps their well-being too.

1.4 Research Questions

Testimonial evidence from teachers who have used ClassDojo suggest it is an effective classroom management tool and my own background data (figure 1.1) indicates it influenced homework completion for one class but this must be tested in a different

setting. This project aimed to find out if the use of a classroom management tool can positively influence behaviour beyond the classroom and if so why one method might be more effective than another. It is then important to look at the wider picture for pupils in the class and understand the impact of the management tools from their perspective. A change in pupil behaviour may be desirable from the teacher's point of view but might come at a cost for the child.

Research Questions

1. Can children who habitually refuse to do their homework be motivated to hand it in?
2. What are the perceived benefits and drawbacks of reward / punishment classroom management practices?
3. What classroom motivational practices are effective in primary schools on homework completion rates?

1.5 Structure of the thesis

This thesis begins by placing the project within the primary school classroom practice of homework completion and establishes, for one teacher, the limited effects of her reward systems on completion rates. A chance trial of the classroom behaviour management software ClassDojo lead to an anomalous data spike which warranted further investigation. The literature review begins by looking at the topic of behaviour management in primary schools and the current reward / punishment systems being used in UK classrooms. It explores the use of Zone Boards as this is prevalent as the whole school behaviour management system in use in the schools involved in this study.

The impact of the rules associated with the Zone Board system is also discussed. The discourse then focusses on the place of homework in the primary phase, its effect on those involved and the research relevant to its intended value and the role it has on the pupils' intrinsic motivation for learning and completing academic tasks. This discussion is expanded to explore the role of intrinsic motivation and concepts of self and the impact rewards can have on behaviour. This leads to the concept of fear in education, goal orientation theory and the importance of mindsets on behaviour, motivation and needs. The thesis then moves on to the research and design of the project, explaining what was done, what data were generated, and the analysis used. The results, analysis and discussion are presented together in chapters 5 and 6. Chapter 5 focuses on the results involving homework completion rates while chapter 6 discusses the use of ClassDojo and its impact on the pupils' motivational profiles. The results are discussed in terms of current research and theory explored in the literature review to understand what the results are suggesting. The data cover quantitative results of homework completion rates and test scores from two classes, one with whom ClassDojo was used and a twin, comparison class who did not use it. Qualitative data from questionnaires explore pupil motivational profiles and their feelings about using ClassDojo. The thesis closes with a summary of the project findings and a discussion about how pupil motivational needs are influenced by the classroom behaviour management strategies used by teachers.

Chapter 2 Literature Review

This chapter begins and ends with an analogy of a primary classroom which serves to highlight the role of effective classroom behaviour management techniques and the theory on which they are based. Employed correctly, consistently and with understanding, these systems and techniques can transform the learning experience and environment for pupil and teacher alike.

2.1 Introduction

Primary school classrooms are a battleground of needs and agendas: up to three dozen individuals endlessly fight for control and attention in the complex, vacillating social maelstrom of egos, personalities and wilful intent. A situation exacerbated by a lack of reprieve: these individuals, adult and child, are locked together, day in day out for a whole year, unlike secondary schools and beyond where changing curriculum subjects entail a change of teacher, location, environment and at times classmates. Every lesson sees teachers fight for student attention and compliance in moving through the planned learning activities, following the wider school agenda for academic achievement and behaviour while pupils fight to protect their sense of self-worth, competence and social standing within their peer group. This unique situation creates its challenges which are often overlooked in the research literature but it can also offer individual teachers a valuable opportunity to significantly impact a pupil's academic growth – beyond mere curriculum knowledge and skills. There is the opportunity to influence the child at a more fundamental level, one that will begin to establish learning behaviours that set the foundation for future academic success.

This foundation is discussed in terms of basic needs which, if adequately addressed supports behaviours that create intrinsic motivation, a positive or growth learning approach and resilience to failure. These behaviours can create mature learners with the skills to mitigate some of the deleterious effects of poverty and disadvantage (Dweck 2012). In this study homework completion is used as an indicator of behaviour change as it is considered part of school work and therefore comes under classroom behaviour management (Grigg, 2010), but it is done away from the direct influence of the teacher and therefore demonstrates the pupil motivated behaviour beyond the facilitation of the school environment and resources. Parental influence is acknowledged as significant in homework completion (Edwards & Warin, 1999; Kyriacou, 2009) at this age and negative parental influences do hamper completion and turn-in rates (King & Ganotice, 2014; Régner, Loose, & Dumas, 2009), however, addressing pupil needs in school can support and motivate the child to find alternative methods of achieving the desired work production.

I argue that the well-established and ubiquitous classroom behaviour management and motivational strategies I was using as part of my classroom practice do not adequately address pupil basic needs and therefore miss the opportunity to effectively create mature learners. I explore the current situation in a sample of schools, with regards behaviour policies and homework policies – discuss these in terms of motivational theories such as intrinsic / extrinsic motivation, self-worth theories, goal orientation and achievement theories to establish that pupils have a collection of basic needs which are not being fully addressed; a situation contributing to perceived pupil under-performance.

I present the theoretical foundation for the existence of a list of basic needs which include: autonomy, choice, control, interest, competence, capability, self-worth and relatedness, all of which are acknowledged as important in Goal Orientation Theory. I organise these needs into my own motivational model which is a reworking of Maslow's hierarchy of needs (1954). Then I conclude by arguing that established theories of motivation support the claim that: primary aged children could benefit in their academic achievement and general well-being by having their basic needs addressed in the classroom. Additional positive effects could include: increased intrinsic motivation, task engagement, resilience and perseverance in the face of failures. All of which are important at this age as they create the foundation for a successful future. I further argue that adopting a humanistic cognitive behavioural teaching approach, which emphasises the internal causes of behaviour (Porter 2000) is well suited to the creation and support of mature learners.

The advantages and disadvantages of the classroom behaviour management strategy will be discussed with a view to establishing an approach that can be taken to the classroom and applied with confidence.

2.2 Behaviour Management

All schools in the UK are required to have behaviour policies in place covering what is expected of pupils while they are at school and the repercussions if undesirable behaviour occurs. The policies are agreed across the school, regularly reviewed and must be published in the classrooms (see figure 2.1) and on school websites (Carr, Coulter, Morling, & Smith, 2017). Figure 2.1 was displayed next to the Zone Board (figure 2.2) where it was visible to the children and could be regularly referred to by

teaching staff. It clearly lists the steps, in order, which must be followed when a child misbehaves and leaves no room for negotiation or discretion. There exists a remarkable similarity across the sector with regards expectations, punishments and procedures at primary school level which is reflected in the advice in teacher training textbooks (Chaplain, 2014; Griggs, 2010) and the support offered by educational psychologists (Hart, 2010). Each class can then create their own rules (see section 2.2.3 rules) and monitor the behaviour of pupils (see section 2.2.2 zone boards) to apply the agreed rewards / punishments (section 2.2.1) set out in the school wide policy.

Classroom behaviour management is a sub-section of the school wide policy and involves techniques used by individual teachers, intended to manage the whole class and in some cases, individual pupils. The management of pupil behaviour is essential for effective teaching and learning to take place (Evertson, Weinstein, 2006; Kyriacou, 1998: 2009) and is generally defined as the actions taken by teachers to create a supportive environment for academic and social-emotional learning to take place (Evertson, Weinstein, 2006; Kyriacou, Ellingsen, Stephens, & Sundaram, 2009). For the rest of this thesis the terms behaviour management and classroom behaviour management will be used interchangably and used to discuss pupil behaviour at the class and individual level.

Behaviour management techniques are generally intended to promote children's self-discipline and awareness of the consequences of their actions (Grigg, 2010) however, many approaches are interpreted as controlling pupil behaviour (Dada & Okunade, 2014) rather than developing the child's ability to control themselves. Approaches to behaviour management are broadly linked with theories of learning and can be loosely

grouped into three camps based on who is deemed responsible for pupil behaviour. There are theorists who believe the teacher is responsible (Canter and Canter 2001; Kounin 1970; Skinner 1966; Kohn 1999) and can manage behaviour using Assertive Discipline or the teaching environment, use of rewards and lesson structure. Some assign the pupil with accepting responsibility for their own behaviour (Glasser 1989) but many see it as a social construct built through relationships, communication, modelling and respect (Bandura, 1977; Dreikurs, Grunwald, & Pepper, 1998; Dewey, 1910). In these cases, the teacher is a facilitator, to guide pupils in constructively developing their capability to manage their own behaviour. However, many teachers employ a mixture of these approaches (Kaya, Lundeen, & Wolfgang, 2010) but it has been found that a positive behaviour management approach invites desirable behaviours (Atherley, 1990) rather than suppressing poor behaviour, it improves well-being and academic outcomes (Burke, Oats, Ringle, Fichtner, & DelGaudio, 2011) and will benefit all pupils especially if there is a strong social-emotional focus (Korpershoek, Harms, deBoer, Van Kuijk, & Doolaard, 2016).

Step	Action		Responsible
Step 1	Praise other pupils	Restate the rule	CT
Step 2	First verbal warning	Warning Card given	CT
Step 3	2nd verbal warning	Child moves to orange traffic light. ❑ Time out in another classroom	CT
Step 4	Final warning- Time out	❑ Child moves to red traffic light ❑ 5 minute period of reflection ❑ Ignore secondary behaviours ❑ Parent informed if this becomes regular	CT
Pupils must move through the traffic lights at CT discretion.			
Step 5	Continued high level disruption	❑ Parents / Carers informed that behaviour card may have to be put in place to support behaviour	CT
Step 6	Persistent disruption which warrants involvement of other staff	❑ In class behaviour card graded 1 to 4 ❑ Parents informed about card (They must have been informed previously of issues re: behaviour)	FLO SLT
Class behaviour cards.			
Step 7	Follow step 1-4as above	❑ Red traffic light indicates a grade 4, child to miss play ❑ Card is to be signed by SLT at the end of each day	CT/TA supervise
Step 7	2 Grade 4's in a day	❑ Parents informed ❑ FLO to meet with parents	CT FLO
Step 8	3 4's in a day or 4 4's in a week	❑ FLO supports pupil in/out of class rest of day ❑ Internal exclusion (am) will take place the next day (mark on Behaviour card) ❑ CT must provide class work ❑ 2nd incidence = whole day internal exclusion	SLT informed and CT inform parents FLO Supervison (Fresh start each term)
	Reduced time table or Alternative hours- 1st 1 day, 2nd 3 days, 3rd 1 week. (mark on Behaviour card)	❑ Pupil removed from school for 2nd session and attends from 3 to 5pm	SLT to supervise
Step 9		❑ Exclusion	HT
HT to have completed behaviour cards returned to him			
No 4s in a week means behaviour card is discontinued			
Current Class behaviour cards looked after by CTs			
If card not signed by SLT then first number next day is 4 – CT to support child to get signed			

Figure 2.1 The behaviour management strategy displayed in the Focus and Comparison Classrooms.

2.2.1. Reward and Punishment Systems in the Primary Classroom

Behaviour exists for a reason; it satisfies a need. Pupil behaviour in school exists because it satisfies a personal need that exists in that situation, it earns the student something they want (Porter, 2000) at that moment in time; behaviours continue because they work. Teachers generally have two courses of action open to them when it comes to behaviour management in the classroom: punishment or reward (Reupert & Woodcock, 2015; Kaya, Lundeen, & Wolfgang, 2010). These systems, Payne (2015) explains, are based on behaviourist theories where undesirable behaviours can either earn a direct punishment or be ignored in favour of rewarding an alternative desirable behaviour (Porter, 2000; Grigg, 2010). Although rewards and punishments can be administered for both behaviour and academic tasks, a situation supported by positive behaviour management strategies, Shreeve et al (2002) found that pupils tend to associate rewards with work and punishments with poor behaviour, a situation supported by the school behaviour management policy (figure 2.1).

To change or reinforce a behaviour it is first important to understand the need or motive it is addressing, this is not always as straightforward as it might appear, ambiguity abounds; some punishments can be perceived by the child as a form of reward depending on the motivational need behind the behaviour. Merrett (1985) tells us about the often-experienced situation of a teacher ticking off a child regarding poor behaviour only to have the behaviour repeated, sometimes within a few minutes of the reprimand. He explains this is because the ‘ticking off’ is positively reinforcing the behaviour as it is rewarding the child’s need for attention. Esturgó (2010) suggests that disruptive behaviour is the result of low emotional intelligence, a need for social acceptance and can be associated with pupil stress management strategies. Unfortunately, this sort of

conduct is unlikely to improve the child's social relationships and can increase the stress levels of teacher and pupil, but the need for attention remains and so the behaviour is repeated. Ignoring the pupil's inappropriate actions and giving attention for more desirable ones will, over time, reduce and eventually eliminate the poor behaviour as it is no longer an effective way to satisfy the need for attention or social interaction (Grigg, 2010). Conversely, not rewarding desirable behaviours, discussed further in section 2.2.4, can be perceived as a punishment by the pupil, resulting in a reduction of desirable behaviours in favour of more low-level disruption (Durmuscelebi, 2010; Clunies-Ross, Little, & Kienhuis, 2008; Jackson, Dempster, & Pollard, 2015). Intended punishments, as set out in school policies (figure 2.1) also have their downside: poor behaviour cannot go unacknowledged, if rules are broken some form of punishment is required (Roache & Lewis, 2011). Wearmouth et al (2005, p. 95) list five reasons why direct punishment in schools can cause adverse effects:

1) *'Punishment becomes less effective the more it is used, meaning the harshness of the punishment has to be increased by degrees to maintain its effectiveness,*
2) *Although punishment may stop the undesirable behaviour to some extent, it does little to signal or reinforce acceptable behaviours,*
3) *Punishment motivates 'escape and/or avoidance responses' such as lying and truanting,*
4) *Punishment becomes associated with fear, anxiety and guilt which are completely out of place in educational settings.*

Furthermore, the teachers who dispense punishment reduce their effectiveness as dispensers of positive reinforcement,

5) *Punishment both models and reinforces behaviours such as aggression and violence.'*

Wearmouth et al's list suggests that the role of punishment and the fear of punishment in school is undesirable and potentially harmful to student well-being and teacher-pupil relationships, trust and empathy, as well as the implied knock-on effect of reducing academic achievement. Way (2011), Roache et al (2011) and Lewis (2001) tell us that not only do difficult students rarely respond well to this sort of teacher aggression it has been found to diminish pupil responsibility for their own actions and perpetuates poor behaviour, adding that severe punishments might lead to pupil defiance and further disruptive behaviour. The existence of fear in education is explored further in section 2.6, its existence goes far beyond the association with deliberately applied punishments and is unlikely to ever be entirely removed from schools and learning (Jackson, 2010). Rules are fundamental to the world at large, it cannot function without a set of desired behaviours and consequences for transgression and nor can a school. However, teachers can take the opportunity to positively motivate pupils to comply by recognising desirable behaviours and celebrating them (Hapsari, 2013).

2.2.2 Zone Boards

In the primary classroom, there is a current trend to monitor pupil behaviour by way of Zone Boards, figure 2.2 shows the traffic light system used in the Focus class during this study and the silver rocket that was added at a later date once the use of ClassDojo had ended. The red and blue labels are the children's name tags and the blue headed

table under the red circle is one of the four house boards (the others are out of shot), on which each child records their house points earned that week. Zone Boards can take a variety of forms from the traffic light system shown, to weather symbols (storm cloud, sun and rainbow), or a football referee based card system. Occasionally the zones extend in the positive direction above green to perhaps silver and gold or in the Focus class' case, to a rocket for the best behaved children.

The basic concept is that Green is Good, so each day the children's names begin on the green zone and if they transgress the rules, their name is moved down to the orange / yellow zone. Further transgression will result in movement to the red section and then on to punishments such as missing playtime, being moved to another class for a while, speaking to the head teacher and perhaps parental involvement (figure 2.1). However, rule complience can move the child's name card back up the zone board towards green. Many schools do not extend the zone boards above green, prefering to praise children with more tangible rewards such as raffle tickets to be entered into a prize draw, merits, house points, badges, certificates or fruitions (tokens of monetary value that can be collected and exchanged for shopping vouchers). With the exception of house points, which are usually displayed on a separate board, these tangible rewards are not on display in the classroom in the same way as the zone board and serve to separate the good and bad behaviours. The use of tangible rewards has been linked, for a long time, with a fierce debate on their behavioural impact (Deci, Ryan, & Koestner, 1999; Cameron & Pierce, 1994) with a general caution about their use and the lowering of intrinsic motivation and the reduction of desired behaviours. While conversely, naming and shaming poorly behaving pupils by displaying their names publically on a zone

board may not employ the implied peer pressure to conform but give the transgressor the public attention that motivated the behaviour in the first place *(Merrett, 1985)*.

Figure 2.2 The zone board and behaviour management strategy (figure 2.1) displayed in the Focus classroom.

Interestingly these systems' very robustness can be linked with detrimental consequences for pupil motivation. There is an unintended rewarding of poor behaviour as it highlights certain children above their peers and rewards them with attention for

doing the wrong thing, a situation that could promote more poor behaviour (Rogers, 2003) and give peer status to wrong doers. Teachers involved in this project have reported a straitjacketing effect as it restricts their use of alternative classroom behaviour management systems and techniques that might publically recognise desirable behaviour. There is also the strange anomoly that exists, especially for schools that do not extend the board above green. At the beginning of each day all the children are returned to the green zone for a fresh start and those on green at the end of the day are often praised for good behaviour and doing the right thing. However, remaining on green, seen as a good thing, can be achieved by pupils who do nothing all day as long as they don't misbehave and come to the teacher's attention; pupils who go out of their way to be good, helpful and compliant as well as children absent from the class. If being helpful, compliant and actively well-behaved becomes equal to doing nothing outstanding or even being absent from the class, the motivation for actively positive behaviour may become eroded.

2.2.3. Rules

The use of rules is recognised as an essential element to effective classroom management (Hart, 2010; Rogers, 2003; Carr, Coulter, Morling, & Smith, 2017) provided they are kept to a minimum and are phrased positively using specific and simple language (Little & Akin-Little, 2008). Ideally these rules should be written collaboratively, with the children and teacher agreeing the nature and importance of each one to the effective running of the classroom. Carr et al (2017, p106) suggest these rules are displayed in corridors and the classroom and that each class should develop their own set of rules specific to their classroom needs. A suggested example of rules, written by children are:

- Be kind to others
- Act with courtesy and consideration at all times
- Follow instructions
- Try my best
- Use a quiet, polite voice
- Walk in school
- Keep our school and its environment clean and tidy
- Continue to behave responsibly out of school.

(Carr, Coulter, Morling, & Smith, 2017)

Alongside the rules there should be clear reward procedures and punishment consequences; making the behaviour expectations in a classroom explicit is supposed to create a positive learning environment in which children can feel secure and confident. However, using a list of rules to run a classroom could be considered controlling, an act that Hart (2010) equates with oppression. He goes on to say that the process of controlling young children hinders their development of self-esteem and self-identity, reinforcing a sense of powerlessness and stunting their growth towards equality (p571). This might be so if the rules are imposed on the class, but in the situation described above, when the children have had an input as to what the rules should be and why they are in place students can internalise and integrate (Ryan & Deci , 2000) the social value associated with certain behaviours with their own socialisation values.

Crucial to this behaviour management approach is the concept of choice in reducing undesirable behaviours (Shrogren, Faggella-Luby, & Bae, 2004). The child has a choice about what to do and it is an informed choice as they know the consequences of their

behaviour before the action is taken. So, the child is more empowered to act in accordance with the social rules of the classroom while also addressing their personal needs regarding competence, relatedness and autonomy which Nie and Lau (2009) believe underpin student motivation and inform their behaviour. Yet despite the robust appearance of the ubiquitous policies these systems are ineffective: poor classroom behaviour persists reflecting a lack of academic engagement but even more of a concern is the contribution these policies can have to lowering classroom motivation, academic achievement, self-efficacy and well-being.

2.2.4 The negative impact of rules

Even displaying a list of rules and punishments that are common across the school as opposed to personal to the class (see figure 2.1) can focus teachers and pupils on transgression (Chaplain, 2014; Grigg, 2010; Hoffmann, Huff, Patterson, & Nietfeld, 2009) rather than encouraging them to notice and praise positive behaviours. A sense of fairness encourages pupils to report their peers' rule breaking, it even encourages them to stop task engagement to bring the behaviour to the teacher's notice forcing confrontation and moving attention away from any learning that was taking place. This makes alternative behaviour management strategies such as ignoring poor behaviour and praising desired activities very difficult for the teacher, indeed pupil tale-telling often ends with transgressor and reporter getting warnings as both end up off-task and wasting lesson time. This constant vigilance on the rules and who is breaking them creates a negative pressure on classroom relationships between teacher and the class and between the children and their peers (Woods, 2008) impacting the sense of support and encouragement in the classroom and the well-being and trust of everyone involved.

For teachers there is an under-publicised effect of this focus on rules and their transgression and that is the negative impact on teacher's sense of self-efficacy (Hoffmann, Huff, Patterson, & Nietfeld, 2009) and the encouragement of mediocrity in the children. Teachers who have to comply to an imposed list of rules and punishments do not necessarily feel empowered and supported by them, as the school policy intends. Indeed, a teacher may feel constrained and subjugated, the suggestion being they are incapable of controlling the class themselves via their use of relationships, lesson planning and environment management. This will impact their sense of self-efficacy as the authority figure and lower their morale and motivation which will influence the overall morale and motivation of the class and hence the pupil learning and achievement (Addison & Brundrett, 2008; Diamantes, 2004; Gokce, 2010).

For children, the situation becomes even more interesting. It is easier to get attention for transgression than for compliance (Merrett, 1985) and with the 'green is good' system, simple compliance gains no reward or praise. In point of fact only excelling expected behaviour gains any positive praise and that is usually recorded elsewhere. So, for the majority of children the current behaviour system endorses mediocrity and underachievement because it encourages them to sit quitely and do the minimum work required to keep themselves out of the orange zone but actually does little to motivate them to excel or apply themselves to learning activities beyond a bare minimum accepted level of achievement. Adding the silver rocket to the Focus class' zone board (figure 2.2) went some way to addressing this issue but, as many schools have discovered, further rewards are required to augment the system (Covington & Manheim Teel, 1996).

In conclusion, motivating pupils to excel in the classroom while keeping a focus on rules and their transgression is difficult and contradictory. While rules are a necessary part of social situations their over-emphasis in the classroom can run in opposition to their intended purpose; eating into teaching time, focusing attention away from learning, demotivating individuals and creating an atmosphere of scrutiny and control. Classroom management strategies that emphasis positive behaviours and the use of proactive strategies have been found to improve academic outcomes and well-being (Burke, Oats, Ringle, Fichtner, & DelGaudio, 2011).

2.3 Homework in Primary School

Motivating pupils to excel beyond the classroom and the immediate influence and support of teacher and peers is extremely difficult. As an academic practice homework has been found wanting (Cooper, Jackson, Nye, & Lindsay, 2001) yet its value at primary school level may lay in the needs it can address and its potential for future success (Bempechat, 2004). Doing academic tasks away from the classroom can provide pupils with a sense of autonomy (Katz, Buzukashvili, & Feingold, Homework Stress: construct validation of a measure, 2012) and competence (Farrell & Danby, 2015). It can provide challenge and build a positive learning attitude; skills vital for future academic success. Homework at primary level is very different to secondary school (Farrow, Tymms, & Henderson, 1999) mainly due to parental involvement and supervision (see section 2.3.2) which can influence completion rates, quality of work and the pupil's attitude to the process and education as a whole that develops as a result.

Parents are more involved in individual homework tasks with young children, such as reading with them, checking spellings and testing tables as well as organising the child

(Wingard & Forsberg, 2009) and faciliatating (Cooper, Jackson, Nye, & Lindsay, 2001) when, where and for how long they are to engage with the tasks set. So homework effort, completion rates and the quality of work produced can be a reflection more of parental influence (Thirumurthy, 2014; Şad & Gürbüztürk, 2013; Luo, Ng, Lee, & Aye, 2016; Flunger, Trautwein, Benjamin, & Ludtke, 2015) than entirely as a result of pupil ability and engagement. Consequently, this is associated with a level of stress and tension within the home (Wingard & Forsberg, 2009; Cooper, Jackson, Nye, & Lindsay, 2001; Solomon, Warin, & Lewis, 2002) especially when coupled with reluctant children, the pressures on time and energy resources of working parents and extra-curricular activities such as sports clubs and family time are taken into consideration which raises questions about whether young children should have homework at all.

2.3.1 The place of homework in primary schools

There are many debates regarding the place of homework in the primary school (Weston, 1999; Edwards & Warin, 1999; Stern, 2006; Rudman, 2014; Cooper, Civey Robinson, & Patall, 2006; Farrow, Tymms, & Henderson, 1999) ranging from the positivist approach aiming to establish what makes good homework to the ultimately negativist stance that questions whether it should exist at all; both positions claiming the child's best interests and academic achievement as their presiding concern. Yet despite the political shift between these see-sawing positions most primary schools in the UK continue to set regular homework for their pupils and encounter the persistent problem of what to do to motivate all students to complete it. Getting children to consistently do their homework has become one of the most obstinate and frustrating behavioural problems teachers face (Killoran, 2003; Xu and Wu, 2013) in the modern primary classroom. Indeed Cooper et al (1998) found that typically around a third of

students regularly don't complete their homework while Hallam (2004) found it to be up to a quarter of the school population that did not comply even when reward systems were in place; meaning a significant proportion of children are regularly disadvantaged academically as they do not engage with the current homework process, a position that undermines the potential academic achievement of a significant proportion of the class.

It is not difficult to conclude that homework completion involves more influences than those at play in the classroom alone, there is a complex interaction (Cooper, Jackson, Nye, & Lindsay, 2001) between teacher, school, parents, family and child. Nor are these influences consistent and predictable. There are trends of course, certain families can be relied on to hand work in and others can be relied on not to but even within these trends there will be variation depending on family commitments, pupil health and general interest in the activities set. The child's autonomy and control regarding homework completion is often implied in the classroom with them receiving praise or punishment for the work while the parent's role in the process is overlooked.

2.3.2 Homework effect on the family

Homework is an adult construct to which children comply (Farrell & Danby, 2015) there is little, if any, decision making on the part of the child and indeed the younger they are the more their activities are controlled by an adult or indeed adults working together. At primary school parents will usually check the child's book bag for letters and homework from the teacher and then oversee that the activities are completed by the due date. A cyclical process is set up - teachers set the homework activities and establish a due back date, parents facilitate when and where the work is done and become, in part at least, responsible for its timely return for marking. The homework

process is a continual loop of regulation established to satisfy school policy and accountability; there is parental regulation of children and school regulation of family life (Fosberg , 2007), which can be seen as an infiltration into the home (Edwards & Warin, 1999), an infiltration that is not always welcome nor always easily accommodated even for the most supportive of families. Participation in the homework process is part of an implied social contract with the aim of improving the academic outcomes of the child. A child's average homework completion rate is often interpreted as an expression of family habitus or parental effectiveness (Solomon, Warin, & Lewis, 2002) not only by the teacher but by the parents themselves and potentially by the parental body as a whole. This is often a cause of stress between parents, children and teachers (Cooper, Lindsay, Nye, & Greathouse, 1998; Katz, Buzukashvili, & Feingold, 2012), a stress that can flare up into confrontation when completion rates drop.

There is much written about the stresses associated with the homework process especially at the primary level with relation to the family. Xu and Corno (1998) discuss parental feelings of resentment that their relaxation time is taken up with homework, and Bempechat (2000) gives accounts of parents sending notes to teachers explaining how they would not allow their children to finish homework tasks that were deemed too long or too complicated to complete quickly. It is interesting to note, as Bempechat (2004) does, these are often the same middle-class parents who later demand more exacting courses of study from their children's secondary school teachers in order that they are well prepared for the competitive college/university application process (p194). What is often over-looked is the stress of this behaviour on the primary school teachers as their efforts to achieve academic success for their pupils is hampered by parents. Family attitudes to education and homework particularly, especially at a young age does

have implications for academic outcomes (Cooper, Lindsay, Nye, & Greathouse, 1998; Cooper, Jackson, Nye, & Lindsay, 2001; Solomon, Warin, & Lewis, 2002). It establishes a level of importance that the child will associate with all educational tasks, often bringing the opinions to the classroom and applying them to their classwork as well as their homework (Katz, Kaplan, & Buzukashvily, 2011; Galindo & Sheldon, 2012; Dumont, et al., 2012).

2.3.3 The academic impact of homework

Homework has the potential to directly support classroom learning (Kerzic, 1966) by offering opportunities to practice skills, prepare for learning that will be undertaken in class or by extending learning that has already been undertaken (Rosario 2015). Extending learning was found by (Rosário, et al., 2015) to have the most positive impact on academic achievement in maths as pupils were fully prepared by the teacher and the classroom learning to independently take the subject matter further. Without the time, space and resource constraints of timetabled lessons, homework can provide students with the freedom to explore learning tasks in more depth, submersing themselves in the topic and allowing their own interest paths to guide the activity. Undertaking homework tasks in this way can support associated learning behaviours such as effective time management skills (Núñez, et al., 2015), the development of control and assuming responsibility of what to study and how to do it (Fisher & Frey, 2008) which have been found to positively support academic achievement and learning engagement as well as student motivation and sense of competence (Flunger, Trautwein, Benjamin, & Ludtke, 2015).

The often quoted argument against homework at the primary level is the finding by Cooper et al (1998) that suggests no academic gain is associated with the activity at this age. It is not until mid-way through secondary school that positive grade improvement associations can be found, a time that corresponds to the student beginning to take responsibility for their learning behaviours with respect to examinable courses such as GCSEs / O levels which have a tangible effect on the student's future career potential. This is a powerful argument when one of the supposed benefits of homework is to extend the school curriculum time and so improve academic achievement (Hallam, 2004). However, there has been a correlation found between Ofsted graded 'good' and 'outstanding' schools and a positive inclusion of homework activities that consolidate and reinforce classroom learning. Hallam (2004), Weston (1999) and Gustafsson (2013) found a positive effect of time spent on homework and achievement in mathematics while Cooper et al (1998) found that students who did more homework had better achievement scores.

Of course a reason for the correlation between highly rated schools and homework provision could be that one of Ofsted's criteria for 'good' and 'outstanding' is the teaching provision and homework is part of the Teaching Standards (DfE, 2011; 2014) against which teachers and schools are assessed. While explanations can be offered by the school for choosing not to offer homework to their pupils the implication is that achieving a 'good' or 'outstanding' grade will become more difficult if teachers are not meeting all their targets and standards. Also promoting oneself as a 'good' or 'outstanding' school is vitally important in the current climate if a school is to attract students to enrol in sufficient numbers to remain viable. Additionally, students that enjoy academic activities will voluntarily engage in such tasks in their free time, so

enhancing their learning which will improve their academic achievement. It is therefore hard to isolate the core factor that can be attributed to the improvement, is it the students latent academic ability or their positive behaviour towards additional work? It is probably a combination of both.

2.3.4 Teacher impact on homework completion

Teachers want parents to demonstrate a positive attitude towards education (Adams & Christenson, 2000), it often forms part of a teacher's evaluation of the pupil (Bang, Sua'rez-Orozeo, Pakes, & O'Connor, 2009) even if it is an informal appraisal. Homework completion is an important way to demonstrate home attitudes, even if they are at odds with the child's performance in school it impacts positively on the overall assessment. The teacher's role in the homework process has two parts, not only do they need to set the tasks, making sure they are relevant to the classroom curriculum and achievable within the time-frame and resources of the home, they must also monitor its return and mark it. The response to homework in the form of written feedback has been found to impact the quantity and quality of its completion (Strandberg, 2013; Núñez, et al., 2015) particularly when it is checked and corrected in the classroom (Paschal, Weinstein, & Walberg, 1984). This could be because it establishes the importance of the task within the school curriculum and creates a value to its completion, not to mention the implied humiliation in front of peers if it is not done. The feedback needs to focus on how to improve and how well the learning objectives have been addressed with specific reference to the curriculum subject to which it refers.

Unfortunately, homework at the primary school level is generally weekly spellings to learn, reading to an adult and to learn multiplication tables, it is impossible to give

written feedback aimed at improving achievement for these tasks. Indeed, testing the student is the most common way of assessing learning which brings with it added motivational issues. Evidencing to the child and parent, the specific value to the curriculum of the learning involved in these tasks is deeply problematic as the activities are aimed at building a solid foundation of skills on which all other curriculum learning sits. The learning is tested and graded moving the student focus away from the learning objectives (Strandberg, 2013) towards a focus on maintaining a level of achievement they feel befits their efforts rather than their achievements or development.

2.3.5 Other influences

Children's attitudes about homework are positively associated with parental attitudes which are also directly related to their performance in school (Bempechat, p192, 2004; Cooper, Jackson, Nye, & Lindsay, 2001). That is to say, if parents are supportive of the teacher's homework practice and encourage pupils to do the work set, to the best of their ability, then this positive attitude is fostered in the child and lays a foundation for later years (Cooper, Lindsey, & Nye, 2000) which influences the academic achievement and outcomes attained. Conversely, parents who are not supportive of the teacher's homework practice will convey this and negative attitudes will be developed (Epstein & Van Voorhis, 2001).

However, despite the attitudes towards homework, children in primary school also need regular support to undertake the tasks, be that reading to an adult or being tested on spellings and if that support is not available then the child is put at a disadvantage. İflazoğlu and Hong (2012) found that students from low socio-economic backgrounds often had a positive attitude towards homework, as did their parents but did not always

succeed because their parents were, in many cases, unable to help through lack of time due to work commitments or lack of academic ability and skills. It is therefore important to balance the parental role in the homework process with the pupil's responsibility for undertaking the task (Weston, 1999) and where needed, to support the pupil in achieving what is required by augmenting the resources they have available. It is not appropriate to feel sorry for pupils from disadvantaged backgrounds, or those with unsupportive parents and allow them to do little or no homework while their peers are expected to complete the set tasks. Bempechat (2004) says this is an expression of pity and does a disservice to the parents and children by communicating a belief of incompetence on both parties which ultimately suppresses academic achievement which in turn can widen the achievement outcomes of pupils from advantaged and disadvantaged backgrounds.

Interestingly, pupil attitudes towards homework completion and the importance of general academic achievement may be influenced primarily by parents but the motivation behind actually doing the work was not found to be to solely to satisfy parents or teachers (İflazoğlu & Hong, 2012) but to compete with peers. That is to say, pupils may believe homework to be useful or important for their academic improvement but this attitude alone will not necessarily be enough motive to ensure the work is done and returned to the teacher. A pupil's learning-orientation will impact homework management skills (Xu & Wu, 2013) but ultimately it is the importance peers assign to the completion of homework tasks that has been found to carry significant weight in the motivation of individuals (Cooper, Jackson, Nye, & Lindsay, 2001) and their actual behaviour.

2.3.6 Primary school homework in summary

Although measurable academic achievement has not been associated with primary school homework per se, pupils that undertake more homework have been found to achieve better grades (Cooper, Lindsay, Nye, & Greathouse, 1998) which is why the practice itself endures in the UK backed by government policy as a means to tackle academic disadvantage. Teachers are encouraged to set homework weekly to meet their Teaching Standards against which their performance and pay are judged (DfE, 2014) while schools are encouraged to support the practice of homework alongside classwork so as to be judged 'good' or 'outstanding' in Ofsted inspections.

However, these motives might be considered superficial next to Bempechat's (2004) reasoning which claims homework is a vital pedagogical practice that plays a long-term role in achievement motivation. Young pupils should be supported by parents and teachers to form a positive attitude to homework and the opportunity for independent learning that it affords. This attitude lays the foundation for future academic success which has been associated with improved grades in secondary school. So, doing homework in primary school should be seen not only as an opportunity to extend the school curriculum with learning activities that can be done without a teacher present, but also to establish and manage independent learning management skills that will pave the way to future academic success.

Little comprehensive research has been done on homework at primary level and the motivational methods that effectively promote its completion (Rudman, 2014), clearly it is not enough to rely solely on parents. Pupils need to become responsible for the completion of the tasks and the value of the task itself must be relevant to the classroom.

Ways need to be found that reduce family stress and promote positive emotions as well as develop pupil autonomy (Katz, Buzukashvili, & Feingold, 2012; Xu J. , 2018) and ownership of the activity.

A variety of methods have shown some increase in homework turn-in rates: these include the use of planners to record what homework is set and when it is due in; graphing of completed tasks which is shared in class (Bryan & Sullivan-Burstein, 1998; Bryan & Burstein, 2004) and cooperative teams that support each other with task completion (O'Meila & Rosenberg, 1994). These methods suggest the homework process can go beyond an academic task undertaken as a personally directed activity that may or may not yield some degree of academic achievement but can address a more social element, a way to demonstrate ability and competence in front of peers.

Finding effective motivational strategies that engage pupils with homework is not only beneficial in creating mature learners - that is learners who display time-management skills (Muhlenbruck, Cooper, Nye, & Lindsay, 2000), who are persistence even during times of difficulty, who can learn from mistakes and who develop intrinsically motivated reasons to undertake tasks – it is an indicator of a successful school (Epstein & Van Voorhis, 2001); a successful school with supportive parents and an engaged student body.

2.4 Intrinsic motivation and its importance in the primary school

The traditional dichotomy of terms, intrinsic and extrinsic motivation, describe the oppositional reasons or goals for behaviour (Thoonen E. E., Sleegers, Peetsma, & Oort, 2011). Extrinsic motivation is doing something for an external reason or unrelated

reward such as house points, merits or certificates, while intrinsically motivated behaviour concerns the performance of activities for their own sake, for the pleasure inherently found in the activity itself (Gottfried, Fleming, & Gottfried, 2001). Intrinsically motivated activities are not expected to yield rewards (Lepper, Keavney, & Drake, 1996) beyond the personal satisfaction of undertaking them and when this is linked to academic activities high-quality learning (Ryan & Deci, 2000) has been found to occur, far higher than the same tasks undertaken for extrinsic reasons. So, stimulating and supporting intrinsic motivation is important in educational settings.

2.4.1 Intrinsic motivation, academic intrinsic motivation and internally controlled behaviour

These are three closely linked terms that are easily interchangeable in the literature but actually have different origins despite the exhibited behaviour being expressed in a similar fashion.

Intrinsic motivation, and its antonym extrinsic motivation, are general terms relating to the use of reward for undertaking or engaging with an activity. Deci, Ryan, Koestner and Cameron, Pierce discuss their research in these terms when applied to students of all ages undertaking activities under various experimental conditions. However, the terms can be used in relation to any activity, learning related or otherwise and as much of the traditional debate suggests (Deci, Ryan, & Koestner, 1999; Cameron & Pierce, 1994) both forms of motivation can be influenced both positively and negatively by the way a task is presented and any associated rewards or punishmensts attached to it.

Academic intrinsic motivation describes a student's approach to academic related activities. It might be subject specific or fluctuate in strength with relation to different academic subjects but it also describes the more overarching approach and attitude to education in general. Gottfried (1990) and Gottfried, Fleming and Gottffried (2001) found it to be a stable, reliable and valid construct for primary aged children and showed that academic intrinsic motivation at age 9 was a significant predictor of motivation up to two years later and that higher levels of academic intrinsic motivation correlated with higher school achievement, lower academic anxiety and favourable perceptions of academic competence (p525). Although stable at a young age academic intrinsic motivation was found to decline with age (Gottfried, Fleming, & Gottfried, 2001) suggesting the importance of primary school teachers enhancing and cultivating intrinsic motivation in their students.

Internally controlled behaviours may appear to originate from an intrinsic form of motivation but Ryan, Koestner and Deci (1991) describe the origin as an internal pressure to maintain self-worth which is antagonistic to intrinsic motivation. It is when an individual does something because they believe it is expected by others, they do not engage in the activity because the activity is intrinsically motivating, more that the social outcomes of the activity work towards maintaining a sense of self-worth and competence. The behaviour is intentionally controlled by the individual in-line with what might be expected in the situation, a form of peer or social pressure. Intentional behaviour exists along a continuum from autonomous (behaviours undertaken with little deliberate thought, habitual behaviour) to controlled (behaviour requiring the individual to actively motivate themselves to do) (Deci & Ryan, 1987). At the autonomous end of the spectrum it can be considered a fully internalised form of extrinsic motivation and

this along with intrinsic motivation has been associated positively with quality learning (Deci, Ryan, & Williams, 1996). It is therefore important to understand what motivates students to engage with a task and appreciate the expression of their behaviour as related to internal conditions and their emotional connection with the task.

2.4.2 Intrinsic motivation as a construct of self

Intrinsic motivation is an important construct in educational settings across cultures (Zhou, Ma, & Deci, 2009) and emanates from the self (Ryan & Deci , 2000), so intrinsic motivation is an expression of the student's inner self, a reflection of their well-being and self-perceived abilities. It has been linked with a variety of desirable qualities such as competence, autonomy, relatedness, mental health and well-being (Ryan & Deci , 2000; Vansteenkiste, Lens, & Deci, 2006). It is also reflected as an interest in learning, valuing of education, improved confidence in capability and autonomy (Deci, Vallerand, Pelletier, & Ryan, 1991) which can coalesce to create a mature learner who is resilient to set backs and failure, viewing them as learning opportunities and not personal, damaging critiques of the self.

2.4.3 Motivation by reward

Unfortunately, academic intrinsic motivation is not easy to cultivate in all students for all curriculum-based activities at all times in the classroom and the use of rewards and incentives is regularly employed in schools (Grigg, 2010) to encourage pupils to engage with tasks they would not otherwise engage with. This is an example of extrinsic motivation and involves someone engaging in a task for a reward or to avoid a punishment (Wearmouth, Richmond, Ted, & Berryman, 2004) a situation often found not only in schools but in adult life too. The reward and indeed the punishment do not

need to have any relevance to the task and can be tangible or verbal / social rewards (Chaplain, 2014). The impact these rewards have on intrinsic motivation was the focus of a robust debate between Deci et al (1999) and Cameron, Pierce (1994) which polarised the research community for some time. Working with findings of meta-analyses on both sides Cameron and Pierce (1994) claimed 'reward does not decrease intrinsic motivation, that verbal praise increases intrinsic motivation and the only negative effect appears when expected tangible rewards are given for simply doing a task' (p363). Whereas Deci, Ryan and Koestner (1999) claimed 'all rewards undermined free-choice, intrinsic motivation and significantly undermined self-reported interest in the task. Tangible rewards were more detrimental for children than older students and verbal rewards tended to be less enhancing for children than older students' (p627).

This has left primary school educators in a confused state. They understand that intrinsically motivated students do not need rewards, either tangible or verbal (Lepper, Keavney, & Drake, 1996) even though verbal rewards enhance intrinsic motivation (Wiesman, 2012). Extrinsic rewards should not be used (Deci, Koestner, & Ryan, 2001) yet 'teachers learn that if they want their third graders to continue with their efforts [ ] they should reward them for their progress' (Hennessey, 2000, p. 60). Adding to these mixed messages Lepper et al (1996) tell us that intrinsic motivation is not really possible in primary schools, as tasks set by adults cannot be undertaken without some form of social approval being attached to their completion.

The main problem would seem to be not necessarily the nature of the reward but how it is perceived and indeed how the task being rewarded was presented in the first place. It

is an often quoted finding that extrinsic rewards can undermine intrinsic motivation (Deci, Koestner, & Ryan, 2001), engagement (Deci & Ryan, 1987) and interest (Deci, Ryan, & Koestner, 1999) and yet extrinsic rewards are ubiquitous in schools suggesting their use does facilitate desirable learning behaviours. Perhaps there is a balance of intrinsic and extrinsic motivation to be found that can support the basic needs of autonomy, competence and relatedness in this social context. Deci, Ryan and Williams (1996) suggest inclusion of choice, challenge, informational feedback, interpersonal involvement and the acknowledgement of feelings to be useful. That is to say teachers who use rewards to control student behaviour may demotivate their pupils and lower their self-esteem because compliance is felt as a reduction in autonomy and competence. Whereas the same rewards used informationally that support autonomy will have the opposite effect (Deci, Nezlek, & Sheinman, 1981). The situation appears to be more related to how the student perceives the situation in relation to their internal motivational profile (Lester, 1990), that is how the situation relates to their sense of self.

2.5 Reward impact on concepts of Self

The use of many motivational strategies, even the innocuous verbal praise, can illicit emotional reactions and behaviours counter to the intended effect but very much in line with student perceptions of self, reflecting the inextricable link between pupil emotions and their motivations. The self is a complex entity, ever shifting, multifaceted and multi-labelled. Self-worth is a complex term which refers to the 'judgement one makes about one's sense of worth and dignity as a person' (Seifert, 2004, p. 141) and reflects the level to which one believes they are loved, respected and valued as a person (Seifert, 2004). If this judgement is challenged it can trigger protection strategies such as self-handicapping (Thompson, 1994; Covington & Manheim Teel, 1996), learned

helplessness and work avoidance behaviours. The aim of these strategies is to remove the self from the activity causing the negative judgement. This could mean students may refuse to attempt an activity because failing after trying to succeed knocks self-esteem far more than failing because the task was not even started. Self-esteem and self-perceptions of competence can be protected if there is an opportunity to believe the task could have been achieved if it had been completed.

Another fundamental element of the self that significantly impacts motivation is self-efficacy (Dweck, 1986) – that is the degree to which the student believes themselves capable of achieving what is asked of them or achieving a positive outcome from the task in front of them. Positive self-efficacy beliefs lead to positive learning behaviours while negative beliefs can move the behaviour in an ego or performance oriented direction and potentially away from the learning or task completion altogether. While protecting and promoting student perceptions of self are important, Elliott et al (2001) warn us of the dangers associated with the Western tendency to provide overly positive feedback on pupil work and limit negative points in an attempt to support images of self-worth and self-efficacy. They claim this affirms mediocre and insubstancial performance leading to pupils' exaggerated sense of their ability or the mistrust of adult evaluation (p53). Conversely, Jackson (2015) warns teachers about damaging these entities by using overly negative feedback to pupils' work and creating shame, fear and embarrassment, claiming that pupils will exhibit defensive behaviours as a form of self-worth protection if these strategies are publically employed.

Perceptions of self are bound up in emotion and judged on social elements relative to one's relationship and value to others. Students value activities that can lead to positive

outcomes e.g. increased social status (Schunk & Zimmerman, 2007) among their peers. Seeing others achieve in this way can motivate individuals to emulate their peers (Zimmerman & Schunk, 2001), while seeing others being reprimanded or punished can also impact one's behaviour and emotional reaction too. Creating a positively motivating environment in the classroom takes planning, understanding and a delicate hand. What is needed is students with a realistic self-image based on their own abilities and skills. Rewards can be used to create and reinforce this self-image.

Rewards – that is any form of positive reinforcement, from praise, written feedback to tangible rewards or free time – reinforces student perceptions of self and should be explicitly contingent on success criteria (Thompson, Self-Worth Protection: Review and implications for the classroom, 1994), likewise punishments. However citing the criteria needs care. Offering excessive reward for a task can be experienced as controlling (Thompson, Self-Worth Protection: Review and implications for the classroom, 1994), if the reward seems overly generous in relation to the effort required to undertake the task then the student may feel manipulated by and obligated to the teacher; an uncomfortable position which is likely to impact negatively on the learning situation and the teacher-pupil relationship. There is also the issue of what criteria the reward is for. Covington (1996) discusses two situations which he refers to as games: the ability game and the equity game. In the first, the ability game, he claims few students can succeed in achieving top grades which forces the majority of students to adopt failure avoidance behaviour (p27). In this game grades are seen as the motivators and the rewards but they can be experienced as threatening especially if self-image is low. Not everyone can achieve the top grade (Kohn, 1999) in a class and receiving a lower grade than someone else based on ability simply reinforces low self-image

concepts and demotivates the student. Lower ability students will never achieve grades higher than their more able peers no matter how much effort is invested, so why should they bother?

In Covington's equity game there is equal access to rewards which are based on criteria such as work being in on time, number of ideas, length of writing. This, in addition to feedback that points out the strengths of the work as well as where improvements might be made (Covington & Manheim Teel, 1996, p. 56), is more likely to motivate students of all abilities with both high and low self-image and so supports learning for all.

2.6 Fear in the classroom

Wearmouth (2005) mentioned earlier (section 2.2.1) there is no place for fear, anxiety, shame and embarressment in education, but the very structure of a school environment is built on a fear culture (Yilmaz & Göçen, 2015). The rules, behaviour management policies and the hierarchy of teachers and head teacher in positions of power over vunerable children create this while utilising the ever present threat of punishments for poor behaviour as a controlling mechanism. Even the classroom is an emotional minefield (Bledsoe & Baskin, 2014), with peer scrutiny, teacher authority and performance expectations. A fear of academic failure can even eminate from home (Jackson, 2010) inflicting pressure on children to achieve in class, attain good test scores to be well placed for furture career success. So, far beyond the intentional use of fear by teachers to control children (Davies, 2004), as implied by Wearmouth, there exists the acknowledged fear implicit in the process of learning itself. However, these fears can orientate pupils towards performance goals and comparison to peers (Elliot & Harackiewicz, 1996) which has been associated with lower achievement and impacts

psychological well-being (Kaplan & Maehr, Achievement Goals and Student Well-Being, 1999).

Learning is a stressful endeavour, even more so when what is to be learnt is not intrinsically interesting to the student and imposed on them by adults. The levels of student self-efficacy, competence and capability create an emotional reaction to the learning environment (Salend, 2011) and contributes to the fear of failure (Bledsoe & Baskin, 2014; Dweck, 2006) or being outperformed by peers. This fear can create undesirable work avoidance behaviours, disruptive classroom behaviours and impact academic success.

2.7 Goal Orientations

Up to now we have seen how the use of rewards and punishments can influence classroom motivation, how important intrinsic motivation is to learning and how the construct of self is linked with student emotion, touching on how this informs learning behaviours. I am now going to bring these points together using Goal Orientation Theory to explore how student emotion and their concepts of intelligence or ability informs behaviour in relation to academic tasks. The 'goal' in this case is conceptualized as the guide for behaviour (Elliot & Murayama, 2008, p. 614), emotionally informed and centred around the student's sense of competence (Dweck, 1986; 2000; 2017) and efficacy beliefs (Pintrich, Marx, & Boyle, 1993), an expression of how the student interprets their abilities to achieve.

There are four basic behaviour patterns, sometimes refered to as goal orientations, that have specific relevance to primary education: mastery, learning or task orientation,

performance or ego orientation which has an approach and avoid component and the work avoidance orientation. Some authors separate mastery into approach and avoid elements (Pintrich P. , 2000a; Pintrich P. , 2000b; Elliot A. , 1999; Wigfield & Cambria, 2010; Pintrich, Conley, & Kempler, 2003) but this distinction is too fine to be of relevance to young children. In a similar vein, work avoidance is rarely mentioned in the literature as a high proportion of research deals with older students at secondary school, college or university and they predominantly choose to study their courses and therefore are unlikely to demonstrate work avoidance to any significant degree. In primary school however work avoidant behaviour is a persistant issue whether it arises from a work avoidance or performance avoidance orientation. Kaplan and Midgley (1997) found that goal orientation and perceived ability are consistent commodities which suggests pupils generally react in a similar, repeatable pattern although this can be influenced by a teacher.

Working backwards then, a work avoidant orientated student has no wish to engage with the academic task in hand. This might be because they attach no value to the task, they would rather do anything else or there is no adequate incentive to undertake the task that will compensate for the cost (usually in time; effort or loss of alternative activity time) of doing the task. With regards homework completion at primary school, this is a significant orientation to be considered.

The performance or ego orientation has two components, the avoidant orientation reflects a desire to avoid looking incompetent (Thoonen E. , Sleegers, Peetsma, & Oort, 2011; Wigfield & Cambria, 2010) which, like work avoidance can be expressed by not doing the academic task set i.e. not doing or giving in homework. However, the reason

behind not doing the work is very different, the work avoidant student may well be capable of completing the task just can't see why they should while the performance avoidant student is emotionally challenged by the task, fearing it will expose them as incompetent or of low ability in comparison to their peers. The performance approach orientation involves a desire to demonstrate competence and outperform peers (Wigfield & Cambria, 2010). Students are focused on maximising a favourable evaluation of their abilities, using comparisons to peers as a way of verifying their efficacy.

The mastery, learning or task orientation focuses on improving personal skills in relation to the self, mastering material and learning new things (Wigfield & Cambria, 2010). Both mastery and performance approach orientations are associated with positive learning outcomes (Elliot & Harackiewicz, 1996) but differ in how far the student is likely to go. Performance approach students will achieve as far as they need to to outperform their peers, once competence is demonstrated they can stop (Midgley, Kaplan, & Middleton, 2001; Elliot, McGregor, & Gable, 1999). Mastery students will continue to strive for more and more learning opportunities demonstrating a continued need to master more material and understand more than they did before. This behaviour is strongly linked with intrinsic motivation, self-efficacy development and mature learning behaviours such as persistance and resilience regarding failure and long-term achievement (Heyman & Dweck, 1992).

Individual differences in orientation have been found as young as 4 – 5 years old (Smiley & Dweck, 1994) with self-perceptions of efficacy, ability and effort being key to student engagement and achievement behaviours (Pintrich & Blumenfeld, 1985;

Linnenbrink & Pintrich, 2003). In fact self-efficacy has been found to be a fundamental motivational influence at all ages (Thoonen E. , Sleegers, Peetsma, & Oort, 2011). Actual ability and achievement often differs from self-perceptions of ability and competence to achieve and it is the self-perception that informs performance and behaviour (Spinath & Stiensmeier-Pelster, 2003). A mastery orientation, irrespective of self-perceptions of ablity will result in positive learning behaviours (Dweck, 1986) and an increase in intrinsic motivation levels (Elliot & Church, 1997). It is considered the most advantagous orientation with regards academic outcomes (Midgley, Kaplan, & Middleton, 2001). However, performance goals have been associated with positive academic outcomes in some circumstances (Midgley, Kaplan, & Middleton, 2001) but it is self-perceptions of ability and intellegence that separates the performance orientations exhibited. If confidence in ability is high an approach orientation can be generated with the associated positive learning outcomes but if confidence is low then an avoid orientation occurs, exhibited as challenge avoidance, perhaps learned helplessness behaviours or work avoidance (Dweck, 1986; Middleton & Midgley, 1997). So if students believe they can achieve they are better placed to achieve.

Goal orientation has been found to be consistent but is not a fixed construct, it is reliant on perceptions of self within a subject domain or learning setting. It is also possible to combine orientations or hold multiply orientations at once, specifically mastery and performance approach (Pintrich P., 2000c; Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002; Meece & Holt, 1993) to promote an optimal learning situation. Indeed it is possible to begin a task with a mixture of orientations but predominantly performance approach, where one's concern is to look competent in relation to peers or even with a hint of avoid, not wishing to appear incompetent in a new subject area. With growing

exposure to the lesson a student's confidence in their ability to tackle the new subject matter may grow and allow them to adjust their orientation towards performance approach and then mastery. The increased confidence and self-efficacy has been linked with positive learning and achievement outcomes and an increased sense of well-being. Conversely avoidant orientation behaviours, even when they are successful with regards satisfying the need for the behaviour, have been found to negatively impact enjoyment and well-being in the long run (Elliot A. , 2006).

2.7.1 Task Value, enjoyment and engagement

Goal orientation and the concept of self-efficacy may explain how a student might tackle a task but it is the value attached to the task that will inform their motivation for engaging with the activity (Eccles, et al., 1983; Plante, O'Keefe, & Théorêt, 2013). Children as young as first graders distinguish between their sense of competence for an activity and its value to them (Eccles, Wigfield, Harold, & Blumenfeld, 1993) suggesting both elements are important for motivating young children. As we have seen, if a student attaches no value to a task, such as homework, then they are unlikely to complete it irrespective of their feelings of competence. However, if the task meets a need its completion has a value and engaging with the task can generate intrinsic motivation to continue to engage while also increasing self-efficacy (Pintrich & De Groot, 1990). When considering homework then it is important to plan activities that are within the competency of the students and have a value attached to them to make it worthwhile completing. It is the determination of that value and how it can be attached to the task that becomes difficult and multi-faceted.

Expectancy-value theory (Eccles, et al., 1983) explains that a task may have a variety of values: its academic, attainment value or importance; its intrinsic or interest value; the usefulness of the task or its utility value and the cost. It has been found that children up to grade 4 (9 years old) differentiate task value into two areas, that of interest and utility / importance (Wigfield, 1994). Beyond grade 5 (10 – 11 years old) children begin to separate out utility and importance into two distinct areas, being able to see a task as having value in and of itself perhaps due to subject specific information but also being able to contribute to the individual's future plans (Eccles, et al., 1983) or current needs. Tied into this task value are considerable elements of self-perceptions such as self-efficacy, competence and worth. These also inform the element of cost associated with the task as part of the motivational package that results in the student's achievement behaviour (Plante, O'Keefe, & Théorêt, 2013). The cost of an activity is calculated in time that can be used on other activities, any financial implications that may be associated with it and any resources required to achieve task completion. If the cost outweighs the value of the task, completion is unlikely.

One way to increase task value is to increase the interest or intrinsic value it can offer; this is not a straight-forward process but happens in stages as Hidi and Renninger (2006) explain. Initially situational interest is sparked by doing a task or activity which can be encouraged by attached extrinsic rewards until the student begins to generate a personal interest in the activity developing positive feelings for it and valuing the task as a generator of those feelings. It is at this point that the task is beginning to be intrinsically motivating in and of itself.

Intrinsic motivation for undertaking a task coupled with enjoyment of the task or the enjoyment resulting from completing a task contributes to the academic achievement of the student and indeed their motivation to achieve (Durik & Harackiewicz, 2003). If the student is successful in this process, a positive feedback loop can be established which feeds the motivation for the task again. A sense of self-competence, worth and efficacy can also be supported which will build resilience in times of difficulty and challenge, these are significant elements of a growth mindset.

2.8 Mindsets

Rewards can be used to alter motivational mindsets, by praising effort, persistence and the acceptance of challenge it is possible to move children towards a growth mindset and away from a fixed mindset (Dweck, 2006). The change can be reflected in behaviours associated with goal orientation theory, that is mastery or performance orientations which will in turn impact pupil achievement, resilience, persistence and well-being. Teaching children to develop a growth mindset, even at an early age, was found to improve learning so dramatically that previously low performing students raised their academic achievement to rival pupils in significantly more affluent schools (Dweck, 2017; Claro, Paunesku, & Dweck, 2016).

2.8.1 Mindsets and Goal Orientations

There are two mindsets that people can hold: the fixed mindset or the growth mindset (Dweck 2006; 1986; 2012). The fixed mindset holds that intelligence and human abilities such as talent are immutable, fixed at birth and remain unchanged through life. A person is either good at something or they are not, and they can do little to change the situation. The growth mindset believes the opposite, that intelligence and abilities

are something that can change and grow with effort and persistence; they believe a person might not be good at something … yet but with effort, education and good teaching the abilities will develop. Mindsets play a significant role in achievement (Dweck, 2015; Claro, Paunesku, & Dweck, 2016) and bear some resemblance to goal orientations (Dweck, 1986; Elliott & Dweck, 1988) discussed earlier. The growth mindset is associated with learning goals, mastery orientation and challenge seeking behaviour while the fixed mindset is associated with performance goals, seeking favourable judgements of competence and challenge avoidance behaviours (Elliott & Dweck, 1988; Dweck, 1986). If self-confidence is high then performance approach behaviours are more likely but if self-confidence is low behaviours such as helplessness, giving up easily and work avoidance can occur (Dweck, 1986; Elliott & Dweck, 1988). It is possible to hold different mindsets in different situations, believing some abilities are fixed and some are not (Dweck, 2015) and it is also possible to change mindsets just as it is possible to change the orientation behaviour associated with a specific situation or domain. This change can be brought about by the student's independent efforts or by the teacher's task phrasing and use of rewards (Dweck, 2012; Droe, 2012; Mueller & Dweck, 1998).

2.8.2 Rewarding Mindsets and ClassDojo

It has been found that supporting children to develop a growth mindset by praising effort, attitude and perseverance has been positively associated with pupils selecting a learning goal approach to academic tasks while rewarding ability or talent encouraged them to adopt performance goals (Droe, 2012). ClassDojo (see section 4.10) is a classroom behaviour management tool (Robacker, Rivera, & Warren, 2016; da Rocha Seixas, Gomes, & de Melo Filho, 2016) based on Dweck's mindset research which is

designed to praise growth mindset characteristics in real time. The tool allows the teacher to acknowledge desirable behaviours by awarding a positive dojo point at the moment the pupil displays the desirable characteristic. The praise is further reinforced as the tool records the points and can display them on the interactive whiteboard. This form of immediate, public praise not only helps young children associate their behaviour with desirable behaviours but helps them align what they do with other children in the class. That is seeing others achieve can inform everyone's behaviour and goals (Dweck, 2006).

Although ClassDojo is based on Carol Dweck's mindset theory, and claims to be extensively used across the world (Vaughan, 2016; Robacker, Rivera, & Warren, 2016; da Rocha Seixas, Gomes, & de Melo Filho, 2016) to create 'happy classrooms' and promote growth mindset orientations, the customisability of the program and its interconnectivity allows this tool to be potentially used to 'shame' children in front of their peers and parents (Krach, McCreery, & Rimel, 2017). This shaming may create a level of fear (see section 2.6) in the classroom and in the home, increasing pupil anxiety while reducing their ability and motivation to engage with academic tasks. Instead of motivating the child to do better shaming them could support performance avoiding behaviour (Jackson, 2010) and strengthen a fixed mindset orientation. The ClassDojo tool is a powerful communication app, which records all points awarded, when they were awarded and for what behaviour. The information can be displayed and shared in a variety of ways, either for individual children, groups or the whole class and over customisable time periods. The data are displayed as graphs (figure 4.3), which can be used as a discussion point to celebrate positive behaviours and understand how they contribute to creating a better learning environment but can also explore any negative

behaviours and who demonstrated them. Allowing teachers and parents unfettered access to this level of data puts an onus on them to understand the motivational implications of using it to reprimand children.

Simply using ClassDojo in the classroom to collect and display dojo points, does not guarantee the teaching approach will automatically support a growth mindset and positive learning goal orientation for pupils; much depends on the teacher's ability to maximise the tool's potential to fit the needs of the class. Using the growing bank of resource videos to initiate discussion around growth mindset characteristics supports the learning intentions of the tool and can keep the class focused on the desired behaviours. However, displaying numerical values next to children's names (see figure 4.1) can provide children with data-based evidence of their contribution and worth to the class which may inform their concepts of self (Dweck, 1986) (also see section 2.5). These values also highlight who receives the most praise/punishment and for what and who contributes very little to the class learning environment, evidencing underlying behaviour patterns that might go unnoticed without this tracking capability.

2.9 Behaviour, Motivation and Needs

The motivational theories discussed so far have established the importance of intrinsic motivation, the importance of self, the constructs of autonomy, competence, capability, choice, interest, relatedness, emotional well-being and mindsets on the academic achievement of primary aged children. These terms occur in other texts as basic needs (Nie & Lau, 2009; Maslow A. , 1954; Maslow A. , 1970; Shrogren, Faggella-Luby, & Bae, 2004; Miller & Meece, 1999; Hart R. , 2010) that underpin pupil motivation and behaviour. Miller and Meece (1999) would add challenge and feeling creative to this

list while King and Watkins (2012) highlight the neglect of the social element of pupil motivation in so much as social goals are not evident or considered beyond the capability comparison with others of the performance orientation. It is also suggested that pupil social capital within the school setting should be considered as it too contributes to well-being and therefore impacts academic achievement (Morrow, 1999; Leonard, 2005).

Maslow (1954) believed that motivation for behaviour stemmed from a range of basic psychological needs which he organised into a hierarchy, often depicted as a pyramid of five to seven layers (figure 2.3). Maslow split his levels into two groups: those at the bottom that ensure survival and are engaged in to satisfy those needs (a means to an end) and those further up the hierarchy, that promote self-actualisation which are intrinsically satisfying and engaged in for their own sake (Gross, 2005). It is commonly understood that lower level needs in Maslow's hierarchy must be met before higher ones can be attended to, suggesting that meaningful learning cannot take place until the physiological, safety, belongingness and esteem needs of the student are met, however this is not always the case. Maslow himself suggested that in some cases lower level needs could be partially met while higher needs were being attended to. He also believed that thwarting the basic needs of an individual lead to illness for example not meeting Esteem needs could lead to severe traumatic neurosis (1970, p. 45) and frustrating Cognition needs could lead to Bohemianism, chronic rebellion and neurosis (p. 49). The implication being that a well-balanced, healthy person would demonstrate a positive capacity for learning, growing and social interaction because they attend to gratifying their needs on all levels.

To complicate matters further, needs lower down in the hierarchy can only be sated for a finite time before they need attending to again. Activities such as learning can occur while a student is hungry or needs a toilet break but it will be less effective than if the lower level needs are satisfied. So, while the hierarchy of needs stands it must be remembered that movement between the levels is constant, cyclic, experienced in degrees and that a student can be influenced by a mix of needs from several levels at the same time.

Maslow's hierarchy of needs (figure 2.3) is usually depicted as a pyramid or triangle split into several levels, each representing a stratum of needs important to human well-being. Each level of the triangle or pyramid is slightly smaller than the one it sits on not only suggesting the lower levels exert more influence or have more importance to the individual's survival than the levels further up the pyramid but also suggesting a step like progression exists, moving up to a pinnacle of achievement. Indeed, some representations of Maslow's hierarchy have a haloed 'transcendence' level at the top of the pyramid suggesting we, as humans, follow a path during our lifetime from attending to the physical needs of the body through social interaction with others to a form of spiritual enlightenment only attainable with age and experience. Although Maslow regularly refers to movement up the hierarchy as being dependent on the gratification of lower level needs prior to higher ones (this process being age and experience related) and claims self-actualization has only been found in older people (Maslow A. , 2012, p. 45) he does say that children demonstrate an enjoyment of growing, gaining new skills as well as aesthetic need gratification (Maslow A. , 1970, p. 51) which are all towards the top of his pyramid of needs. Indeed, he claims the need to know and understand is

often seen in late infancy (Maslow A. , 1970, p. 50) before the concepts of esteem, sense of competence and self-respect have even developed. It is this inconsistency, particularly when thinking about children, and the need to reconcile this seminal work with elements of Goal Orientation Theory that has led me to reinterpret Maslow's hierarchy of needs and develop a motivational model (Figure 3.1) that brings things together.

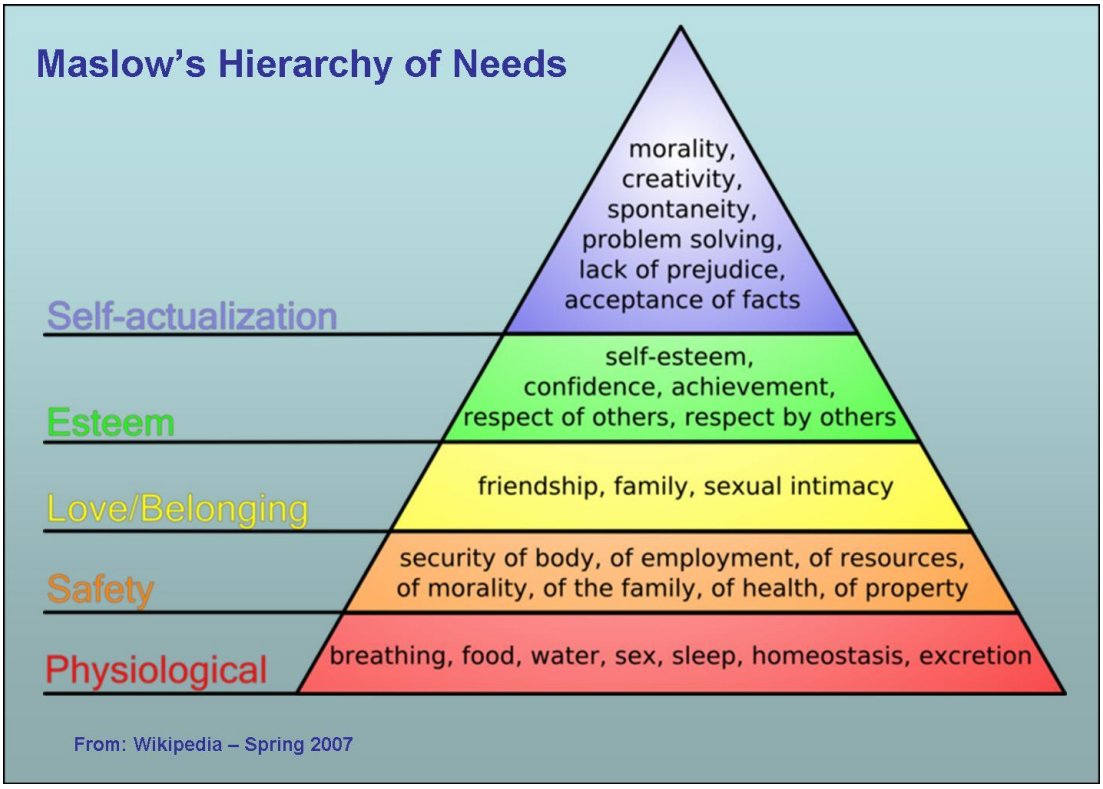

Figure 2.3 Maslow's Hierarchy of Needs.

Chapter 3 Exploring the motivational model

Bringing together Maslow's hierarchy of needs and goal orientation theory, the motivational model (figure 3.1) offers a humanistic perspective to the cognitive-behaviourist approach to teaching and learning used in this study when implementing ClassDojo. Teaching in the primary school is predominantly grounded in the behaviourist concept that learning is a gradual and continuous process, influenced by the learning environment and the praise / punishments of the teacher, a point echoed by Dweck's growth mindset theory (see section 2.8.2). Children are considered as active participants in the process, learning through dialogue and communication with the teacher and peers (Vygotsky, 1962), their skills maturing as they move through stages of age related development (Piaget, 1926). Interestingly, not all students share this approach to learning. Dweck found around 42% of students hold the growth mindset and 42% the fixed mindset, the rest were in the middle. The fixed mindset students believe their abilities are set at birth and expending effort to change things is fruitless. While both mindsets have been associated with academic success, a difference appears in behaviour when students are faced with challenges, obstacles or changes to teaching approaches it is then that a growth mindset facilitates students' performance.

3.1 Theoretical Standpoint

Dweck's growth mindset has been correlated with positive learning orientations while a fixed mindset can support more negative orientations, the most influential element being the pupils' perceptions of competence, ability and self-esteem; needs that lie at the heart of a humanistic pedagogy and the motivational model used in this study. The humanistic concepts of self are fundamental to most motivational theories and learning

orientation theories (see section 2.7) influencing the level of intrinsic motivation the student brings to the learning task. The level of perceived competence and self-esteem can be influenced by environmental events and feedback on performance; teacher praise, receiving rewards as well as punishments and reprimands are used as behavioural feedback mechanisms. This behaviourist interpretation of classroom management is reflected in the dynamic movement of the motivational profile graphic (figure 3.3) where positive events or behaviour reinforcement increases the motivational profile bars and support intrinsic motivation generation, while negative events or punishments achieve the opposite. Although it is important that everyone feels secure and valued in the classroom and is given an opportunity to experience positive self-belief (Hart, 2010) pupils need to experience success and failure to form a link between their actions and the consequences (Porter, 2000). This feedback process can be utilised as the foundation for teacher-pupil communication to facilitate student understanding of specific situations. In this study, pupil actions and consequences were clearly discussed and formalised by establishing expected behaviours and allocating dojo point values to each. The children were party to the creation of expected behaviours and their points value as well as instrumental in the continued appraisal and modification of the system to keep it fit for purpose. This level of ownership of the classroom behaviour management strategy encourages children to choose the behaviour that meets their personal needs and situation, cognisant of the outcome.

3.2 The model's structure

Although Maslow's basic arrangement of needs and their place in his hierarchy have not been significantly changed, they have been augmented with the needs of autonomy,

competence, capability, choice, interest, relatedness, challenge and creativity highlighted by the discussion of current motivational theories (section 2.9) and identified as important for intrinsic motivation and academic engagement. The triangular hierarchy model is replaced with a rectangular table consisting of 7 levels which have been grouped into three classes 'Physical', 'Social' and 'Psychological'. The Physical class of needs sits at the bottom of the model and is split into two levels, the bottom one dealing with the functioning of the body and the level above with the safety requirements. Together these two levels represent the needs related to keeping a body alive, well and free from physical and emotional harm, Maslow described these needs as those essential for survival. The next two levels are closely connected and focus on the individual as a social being which is why these levels are collectively called the Social class of needs. Maslow identified these levels as 'Belonging' (now Relatedness) and 'Esteem' (now Self), claiming they are important for an individual to be a functioning member of society. The Relatedness level of needs deals with the individual being part of a group, having other individuals on which they can rely, being part of a collective. The Social Self level of needs focuses on the worth of the individual to the group, the value they have relative to the other individuals, their status within the group and their feelings of value to the group. The top three levels of the model deal with the psychological needs of an individual. They are split into 'Understanding' which focuses on knowledge acquisition, 'Aesthetics' which deals with beauty, art and music while 'Governance' involves the individual's control and autonomy over their actions, behaviour and life choices. The 'punishments/negative events' and 'rewards/positive events' triangles (see section 3.4) represent the relative strength of impact addressing needs on each level has on intrinsic motivation.

Figures 3.2 and 3.3 tabulate the model, placing each need on its own line, creating a hierarchy across each level and class of need. However, the position of the individual needs within the level is not salient, it is the structure of the Class-Levels that is used when calculating the impact of the motivational profile (see section 6.2) on behaviour and intrinsic motivation levels (see section 6.2.2). That is to say, how an individual is addressing their needs of realising potential, autonomy, control, choice and progress are reflected in the length of the bars on figure 3.3 but it is their collective value that indicates to what extent Governance is being addressed and it is this summative value that is used to calculate part of the motivational profile of a person and the contribution these needs are collectively making to the intrinsic motivation level the individual brings to the situation.

It is important for a person to attend to and gratify needs on all levels of the motivational model to remain healthy in body and mind; not doing so Maslow believed leads to various illnesses, neuroses and behavioural issues. So, maintaining a well-balanced motivational profile (figure 3.3 with the bars as long as possible) creates a well-balanced, socially functioning individual.

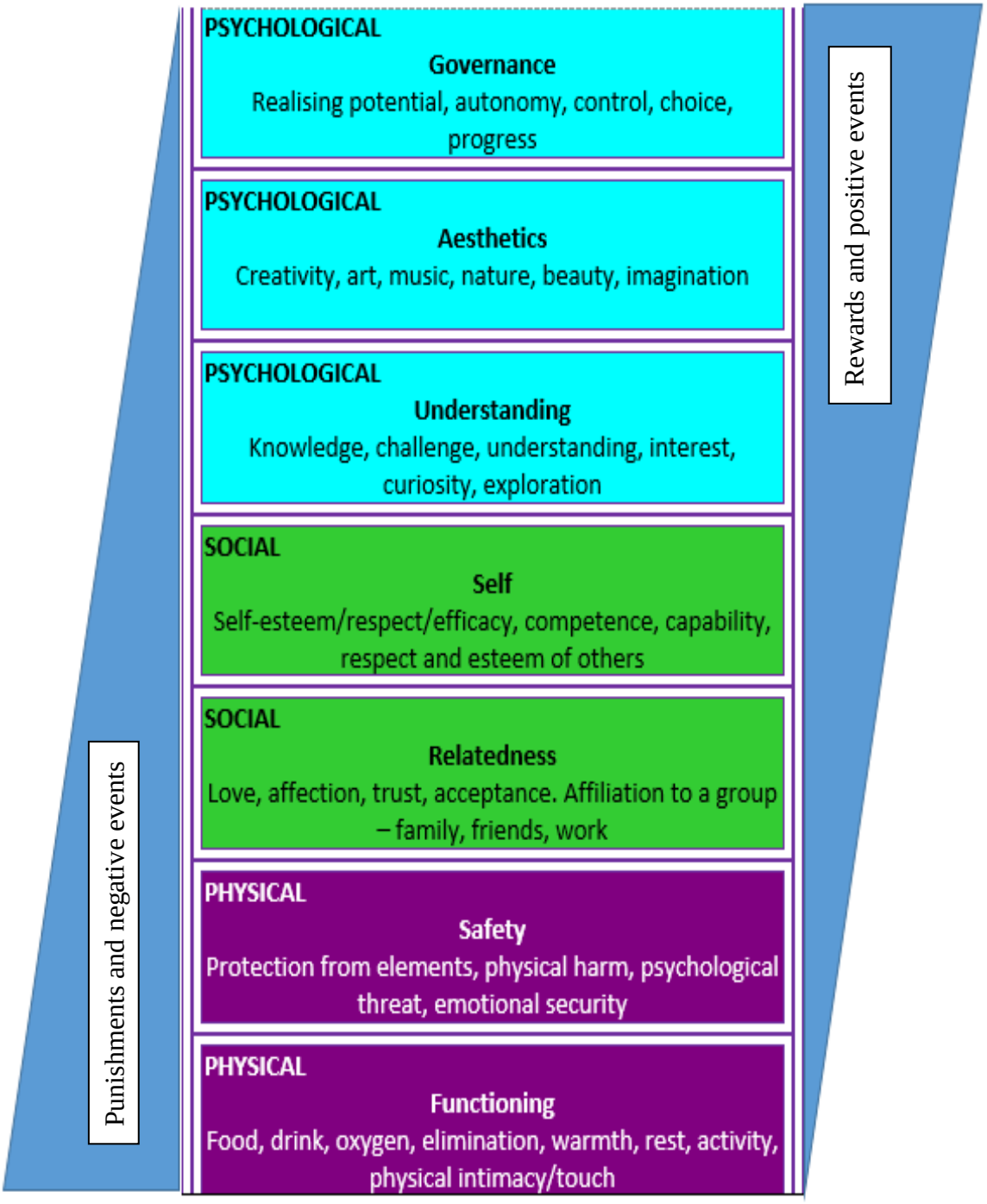

Figure 3.1 Motivational needs model.

Class	Level	Need	Motivational Profile low high
PSYCHOLOGICAL	Governance	realising potential	
		autonomy	
		control	
		choice	
		progress	
	Aesthetics	creativity	
		art	
		music	
		nature	
		beauty	
		imagination	
	Understanding	knowledge	
		challenge	
		understanding	
		interest	
		curiosity	
		exploration	
SOCIAL	Self	self-esteem	
		self- respect	
		self- efficacy	
		competence	
		capability	
		respect of others	
		esteem of others	
	Relatedness	love	
		affection	
		trust	
		acceptance	
		affiliation to family	
		affiliation to friends	
		affiliation to work	
PHYSICAL	Safety	protection from elements	
		protect from physical harm	
		protection from mental threat	
		emotional security	
	Functioning	food	
		drink	
		oxygen	
		elimination	
		warmth	
		rest	
		activity	
		physical intimacy/touch	

Figure 3.2 Tabulated format of the motivational needs model.

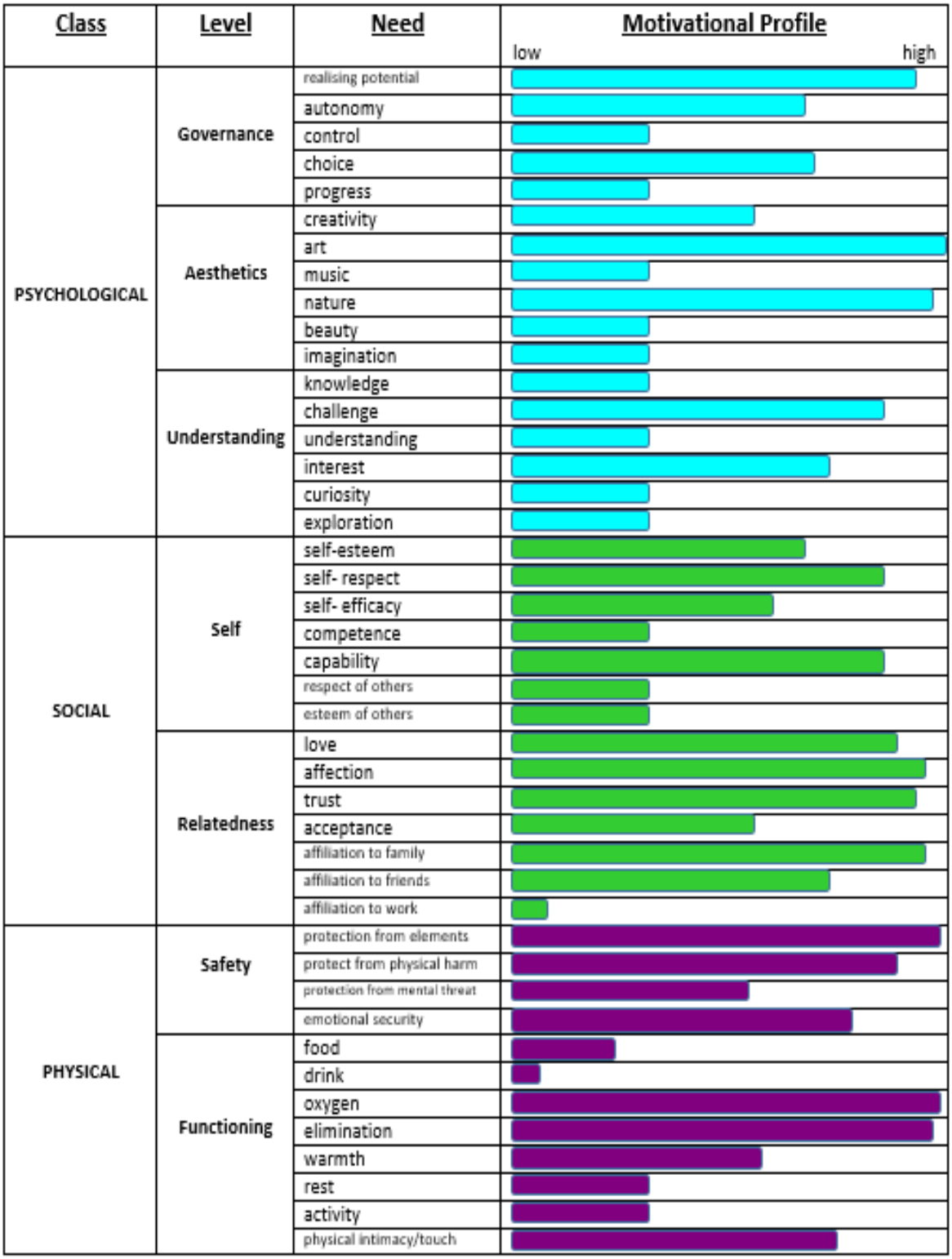

Figure 3.3 Tabulated format of the motivational needs model with the motivational profile filled in.

3.3 Rewards and Punishments

The motivational profile, represented as the graphic on figure 3.3, is a dynamic, situationally responsive reflection of an individual at a specific moment in time. As a person moves from one setting to another, their profile will change and is dependent on how they experience each situation and evaluate their place in it. The length of the coloured bars indicates the extent to which each individual need listed is being addressed. Looking at the Physical-Functioning Class-Level on figure 3.3 we might suppose the individual is thirsty as the ‘drink’ need is very low, they are becoming hungry as the ‘food’ bar is quite low, they are breathing easily, don’t need the toilet and are reasonably warm. The ‘rest’ and ‘activity’ bars are towards the low end of the scale possibly suggesting they are tired and could benefit from a break from the activity they are doing and have a little exercise. Perhaps this individual is in need of a lunch break, after which we might assume the bars will be much longer as they will have met their needs for food, drink, rest from the current activity and a little exercise.

In this model, rewards are seen as any event that meets a need and is represented by the graphics bar moving to the right or remaining at the higher end of the scale. At the Functioning level this could be consuming food when hungry, having a sleep or going to the toilet. A punishment is an event that negatively impacts a need and is represented as a movement towards the left, lower end of the scale. The size of the reward, either positive or negative is interpreted by the individual and filtered through their experience, feelings and current level of their motivational profile.

It is nigh on impossible to measure the level each individual need is currently being met for every child in a class which is why the questionnaire instruments used in this study have five questions relevant to each level and amalgamate the results to produce an average value for the Class-Level. This value can only suggest the contribution each need is making to the overall motivational profile of the child at a particular point in time. However, separating out the needs does provide a tick-list against which pedagogical practice can be checked. Educational activities, behaviour management strategies and social interactions can be informed by considering the extent to which they might reward or punish the listed needs and in turn the pupils' motivational profiles. It might also highlight practices that do not allow opportunities to meet some of the pupil needs or that are perhaps more negatively biased than previously thought. Despite the individualistic nature of motivational profiles and responses to situational events, taking group or class averages might potentially reveal the impact or influence different learning environments or behaviour management strategies are having on pupil behaviour. It is thought to be important to keep the profiles as high as possible to support pupil well-being (Maslow A. , 1970) as high profiles can withstand an element of punishment (movement to the left) before the need is significantly impacted and affects intrinsic motivation levels. Dweck (2017) described this as cushioning the detrimental effects of negative events. A high profile is also thought to support mental stability, can alleviate stress, promote an intrinsic motivation to undertake activities for their own sake, encourage learning (Dweck, 2006; Lepper & Henderlong, 2000) and meaningful social interactions. If a person has been made to feel secure and strong early in life, then they are better placed to deal with knock-backs later. Maslow (1970) discussed this as 'frustration tolerance' (p53) and Dweck as hardiness in the face of failure, both positions can only be achieved if children have a robust motivational

profile that is consistently high enough to tolerate negative impacts but still allows them to be positively orientated.

This suggests the level to which needs are addressed influences behaviour. Indeed, much of Dweck's work on mindsets focuses on pupils' perceived sense of competence and capability as being a significant factor in how children respond to learning situations. A high motivational profile supports positive learning behaviours and a lower one more negative orientations. If Maslow's idea that physical and psychological illness are also a result of not adequately meeting personal needs it might follow that a student with a low motivational profile may develop a negative learning orientation and possibly be in danger of developing further problems.

3.4 Intrinsic Motivation

In addition to the learning orientation a pupil might exhibit, the motivational profile can also indicate the level of intrinsic motivation the student has for the task in hand. Many of the needs listed on figure 3.2 have been specifically included because they have been identified as fundamental to motivation theories and intrinsic motivation generation (for example Self-Determination Theory identifies Relatedness, competence and autonomy (Deci, Ryan, & Williams, 1996). The needs identified as being most intrinsically motivating are at the top of the list, decreasing in strength towards the bottom. This suggests that the higher the motivational profile, the more intrinsically motivated the student is likely to become and according to Goal Orientation Theory (section 2.7) the more likely they are to develop a mastery approach towards the task. However, the

model hierarchy also supposes needs further up the list contribute more towards intrinsic motivation generation than meeting needs at the lower levels. This strength of influence is represented in the model (figure 3.1) by the long blue triangle on the right of the tabulated levels. This is an indicative measure only, representing the relative contribution to intrinsic motivation that each level of needs has been suggested from the literature to generate. Again, although the blue triangle suggests a hierarchy of influence within the Class-Level, when calculating a numerical value for the motivational profile or the level of intrinsic motivation generated (IMQ see section 6.22) each need contributes equally within the level. However, the impact of each Class-Level does differ in the contribution to overall intrinsic motivation generation, being greater at the top than the bottom of the table.

Needs such as autonomy, interest and competence have been identified as significant contributors to intrinsic motivation development (Ryan & Deci , 2000); they sit with associated needs that due to their similarity to the identified needs, also contribute to intrinsic motivation. There are more needs of a similar nature in the upper levels of the model (autonomy, control and choice for instance) than there are in the middle Class-Level of Social-Self. Competence and capability are similar but different to self-respect and esteem therefore the impact on intrinsic motivation is stronger at the top of the table, where the needs work together. Relatedness is also considered important for intrinsic motivation (Ryan & Deci , 2000) but on the model, this is a level, consisting of 7 needs. To satisfy the individual's requirement for relatedness, 7 separate needs must be gratified meaning each one is less impactful on the overall intrinsic motivation development than the needs further up the model. The social self is central to the motivational model and in the middle of that, are the needs of competence and self-

efficacy which have been found to be fundamental to motivation. Indeed, pupil behaviour has been shown by Dweck to piviot on levels of these needs. On the model, rewards and punishments have equal impact on the intrinsic motivation of the individual at the Social-Self level reflecting this important area of the model and perhaps the debated findings of Deci et al (1999) and Cameron, Pierce (1994).

In contrast to rewards generating intrinsic motivation, the model proposes the impact of punishments and negative events to be inhibitory to that generation; the overall intrinsic motivation generated in any particular setting is the sum of the positive and negative events (see IMQ calculations section 6.2.2). As the triangle on the left of the model (figure 3.1) suggests, not meeting needs at the lowest levels is more inhibitory to intrinstic motivation generation than those at the top of the list. Having a well-fed, rested and comfortable class does not automatically make them intrinsically motivated to engage with learning activities but, it means this part of the class' motivational profiles will not inhibit the learning process. However, hungry, tired, uncomfortable children are likely to find task engagment difficult and exhibit behaviour focused on meeting their lower level needs rather than demonstrating any intrinsic motivation to engage with a learning task. This is not to say no learning will take place, just that the level of intrinsic motivation to do so will be inhibited by the students' motivational profile level and other reward systems will need to be in place to compensate and encourage engagement.

Another area found in the literature to be inhibitory to learning is the existence of fear in the classroom (section 2.6). On the model this predominantly relates to the Physical-Safety class-level which includes the specific needs associated with protection from

harm: physical, emotional and mental. The punishments triangle is correspondingly wider on this class-level than those further up the table. However, fear in education is not constrained to areas associated with the Physical-Safety class-level. Jackson (2015; 2010) discusses the detrimental effects psychological threat and the fear culture (Yilmaz & Göçen, 2015) can have on student engagement and the defensive behaviours that can arise (Thompson & Perry, 2005), including those arising in the home. Relatedness, as a level can contribute to intrinsic motivation but punishments and negative events such as pressure from home to achieve (Jackson, 2010) – related to the needs on this level have also been attributed to fear in education. Pupils dealing with fear in the classroom have been found to exhibit avoidance behaviours that can be interpreted as a form of self protection but are also associated with a reduction of intrinsic motivation. Therefore, punishments at the lower levels of the model are posited as more detrimental to intrinsic motivation than punishments related to levels further up the model.

3.5 Benefits of maintaining a high motivational profile

Being aware of the needs set out in the motivational model (figure 3.1) and using it to inform pedagogic practices may achieve more than Maslow's well-balanced, socially functioning students who demonstrate Dweck's positive, resilient learning orientations and growth mindsets. It could also support pupils' generation of intrinsic motivation to engage with learning tasks in and out of the classroom which has been found by Gottfried et al (2017) to be a psychological trait developed in childhood and carried through to adulthood influencing not only life-long academic achievement but employment success too.

In the classroom, pupils with high motivational profiles are thought to be generating intrinsic motivation to engage with learning, which means the learning environment could be more productive in terms of pupil progress. Intrinsically engaged students also require less in the way of overt rewards and threats of punishments, meaning more teaching time could be used in task engagement and less expended on classroom behaviour management issues and pupil behavioural control.

3.6 Conclusion

Finally, we can return to the primary classroom and view the situation from a new perspective. Instead of a battleground of individuals fighting to meet their personal needs there is the opportunity to employ behaviour management strategies and motivational techniques that actively support everyone's needs and move their motivational profiles to the right, encouraging a growth mindset and a mastery approach to teaching and learning. If teachers are mindful to plan lessons and employ behaviour management techniques focused on needs in the motivational model they can support students in becoming self-motivated, mature learners responsible for their own learning behaviours who thrive as a valued part of the class. This in turn will increase the motivational profile of the teacher, positively impacting the collective academic achievement and well-being of the entire class.

Chapter 4 Research Design and Method

This chapter sets out the practical requirements of the study, including the researcher's role in this project and how the data were generated. It explains how the study was executed with a weekly layout of activities undertaken. The selection of participants, pupils and their general demographic is discussed as is the generalisability of the findings and the bias that impact them. The data analysis strategies are explained as are the project's strengths and limitations regarding how the study was carried out. A discussion of what ClassDojo is and how it works offers an understanding of the children's experience in the classroom. The chapter ends with a consideration of the ethics involved in the data generation and storage processes with regards the consent agreement with the school that took part.

4.1 Introduction

This study set out to find classroom motivational practices that could be used to increase homework turn-in rates. The established school practice was evaluated as a baseline of behaviour then, the value of completing homework was changed via the reward system and classroom practice. Twin classes of Year 3 (7 years old) pupils from the same school were involved in this study, one as a comparison, one as the focus class. It was the head teacher and class teachers' decision as to which class was which. They chose the poorest performing class in the school, based on Year 2 results, to be the focus class prior to the study beginning. The project ran over two school terms with both classes receiving the same homework each week and both classes being tested on the learning associated with the homework tasks each week. For term 1 both classes followed the school behaviour management policy and were rewarded with house points for completed

homework and had their classroom behaviour monitored with the zone board system. In term 2 the Comparison class continued as in term 1 while the Focus class used ClassDojo to reward homework completion and as a classroom behaviour management strategy. House points were an integral part of the whole school policy, so at the end of each week Dojo points were converted to house points so the Focus class could contribute to the whole school celebration assembly.

4.2 The Researcher's Role

Throughout the project I set, marked and rewarded the homework and associated tests for both classes. Due to the catchment area and reported lack of parental support and engagement I set tasks with pupil autonomy in mind, tasks the children could do that did not require adult supervision or assistance to complete. I also worked in the Focus class as a supply teacher for two days a week which gave me enough class time to assess pupil ability and keep the homework tasks appropriately levelled. It also facilitated a degree of continuity of intervention delivery allowing me to incorporate homework, classwork and classroom behaviour into the one classroom behaviour management reward system. It was clearly established that the class teacher was responsible for the planning of the curriculum, resourcing lessons, classroom layout and the general running of the classroom, I simply followed their instructions, keeping my teaching style and approach to a minimum. I introduced ClassDojo on the last day of term 1 and used it in term 2 on the days I taught, the normal class teacher did not use ClassDojo, nor did the Comparison class teachers. Apart from interventions related to the research project, I endeavoured to maintain all other aspects of the classroom environment as the class teacher required them. Even though both classes had one class teacher it was normal school practice to regularly have supply staff in to cover planning time and days

when the teacher was sick or unavailable to teach. This was a weekly occurrence during the length of this study for both classes, which means my presence was not as disruptive as it might have been in a more stable school environment.

4.3 Data Generation Procedures

Each week homework was set and tests of the previous week's homework were carried out. The test results were recorded for each pupil in both classes as were the homework completion rates.

The homework completion rate is the dependent variable in the study with its quality, quantity and if it is handed in on time or late being recorded. The reward for homework completion is the independent variable as this was changed in the Focus class to affect a change in completion rate for the second term. The incidental variable associated with homework completion rate is the test scores. If homework is being completed, then test scores may rise in response to the effort. The comparison in this study is the twin class. In the first term, the baseline turn-in rates and test performances are established for both classes along with any class differences resulting from the confounding variables of pupil ability, temperament, class teacher influence and family commitments and constraints. The second term of the study highlights the effect of using ClassDojo and the altered value of homework in the Focus class as a change in the behaviour patterns of the Focus pupils along a divergent pattern to the Comparison class and the first term's behaviour. Any normal drop-off in homework completion rate running up to Christmas, as was observed in the background data (figure 1.1), will also be evident.

In addition to the weekly data generation of homework turn-in rates and test scores, questionnaires were completed towards the beginning and the end of the study to assess the motivational profile of each pupil. There was also a closing interview or questionnaire for pupils in the Focus class in which they could express their feelings and experiences of using ClassDojo.

4.3.1 Questionnaire Design

The homework and ClassDojo questionnaires (Appendix 1.4 and 1.5) were predominantly open-ended instruments aimed at eliciting genuine pupil reactions to these focused elements of the study. The papers were read to the children as they were filled in so that all abilities could contribute their feelings and experiences to the results. The mindset questionnaire (Appendix 1.3) items came directly from Dweck's statements relating to growth and fixed mindset characteristics as expressed in ClassDojo resources and readily found as posters on the internet. The statements were read to the class and pupils recorded their answers on the 'faces' response sheet (figure AP 1.3). These sheets allowed for a degree of agreement or disagreement to be expressed.

The motivational profile questionnaires (Appendix 1.1, 1.2 and 1.6) were based on the work of Lester (1990) and his Need Satisfaction Inventory that aims to measure how well Maslow's hierarchy of needs are being met in the lives of American college students. As pointed out in Lester's work, the items on the questionnaire need to be contextualised in relation to the lives of the intended participants which is why I not only simplified the language used in the statements, I also reduced the number of items from 50 to 35, so making the instrument accessible to young children.

Notwithstanding these changes, my questionnaire consisted of approximately 70% of Lester's items and 30% similar elements relating to levels of need identified on the motivational model (figure 3.1) not explicitly included on Lester's list. In line with Lester's model, some of the statements are inverted or expressed in a negative form to identify participants that are genuinely engaging with the instrument and not just answering in the same column of each item. In addition to this, I presented my questionnaires in various ways to encourage the engagement of the children and keep the activity fresh.

4.4 Study Design

The initial study was designed to take place over two terms at the beginning of the school year. The children involved were Year 3 pupils, working in twin classes. The classes worked in tandem delivering the same curriculum with no crossover of teacher or pupil.

In term 1, before the project started, both classes were treated the same with a baseline spelling test being administered in the first school week, to establish current ability of pupils and where to place them on a spelling homework programme. Both classes also completed a questionnaire to provide a baseline motivational profile of each student (Appendix One AP 1.2).

In the second school week, both classes received a differentiated spelling homework sheet and another for the 2 times table. Towards the end of this week both classes were given another questionnaire about their motivational profile, however only the Focus class completed them (Appendix 1.2).

In week 1 of the project (the third school week), the previous week's homework was taken in and marked. A house point was given for each completed piece given in on time. House points were displayed against each child's name on charts in each classroom as per school policy (figure 2.2). These house points are collect up weekly by Year 6 House Captains and go towards the House totals which are shared at Friday's celebration assembly. A spelling and tables test were also carried out to test learning of the homework. The scores for each test were recorded and a further house point was awarded for achieving full marks (or one away) on each test. The spelling requirement was differentiated to the child's ability. New homework was also given out; another set of spellings on a worksheet and the 5 and 10 times table sheet.

In week 2 of the project, like week 1, homework sheets were taken in and marked, house points awarded for completed work given in on time. Late work was marked and recorded but no house point was awarded. More spellings were set as well as a revision exercise for the 5 and 10 times tables.

In week 3, the spellings were tested and rewarded as above while the tables were tested with a school wide Challenge test. This is a timed test with a certificate for 100% achievement. Further spelling and tables homework were also set.

Week 4 and 5 followed the practice of setting, marking and testing a spelling list and worksheet as well as a multiplication table and worksheet. Late homework was accepted at any time, marked but no house point awarded irrespective of the quality of the work. New homework was set to be done over the half term break.

On the last day of term 1, before the half term break, the Focus class were introduced to ClassDojo. It was trialled in class and the criteria for positive and negative points were negotiated with the children. Various classroom behaviours were agreed upon and given a value of plus or minus a point. Homework was split up into spellings and tables with 2 positive points awarded for each completed piece of work given in on time, one point for each completed but late piece of work and a negative point for each piece not given in or given in but not done.

With regards homework setting and testing for both classes, weeks 6 – 10 ran to the same format as week 1 – 5 of the project. This gave five weeks of homework before ClassDojo was introduced and five after, with a single spelling homework in the middle of each term as the tables homework set was to revise for a school wide Tables Challenge test.

In week 8 of the project, the Focus class completed a questionnaire about mindsets (Appendix 1.3), in week 9 they did one about homework issues (Appendix 1.4) and week 10 they answered questions about using ClassDojo (Appendix 1.5) and another questionnaire about their motivational profiles (Appendix 1.6). In week 11 of the project, after the data generation had concluded, both classes were re-administered the original motivational profile questions to see if anything had changed (Appendix 1.6).

4.5 Selection of Participants

The background study for this project took place in a small, rural, Ofsted rated 'good' school with well engaged parents and a track record of above average academic

achievement as measured against the national average. To see how effective the intervention using ClassDojo could be I wanted to implement it in a different, more challenging setting.

4.5.1 The School

The school that took part in this study was a UK, two form entry primary school set in a small town. The school population was predominantly white British, evenly split by gender, with English as the first language; there were lower than the national average Special Educational Needs pupils on role but a third of students (higher than the national average) who qualified for free school meals. The school was undergoing academisation during this project as a direct result of Ofsted reports identifying the school as having serious weaknesses.

The school was a larger than average primary school with 55 staff members of which three were non-teaching senior managers, 14 were full-time class teachers and 18 were teaching assistants. The head teacher was new to the school, having taken over to address the Ofsted issues and reported a significant issue with staff retention. They had appointed over 60 new staff members in the first two years of their headship, equating to a churn of about 116% in that time: this averages to one person a week being replaced. While doing this study I witnessed the regular turn-over of staff, noting the unannounced, sudden departures of people throughout the term and the equally sudden and unannounced appearance of new people. Beyond the management team there seemed to be no stability in the staff structure and a significant reliance on supply teachers to fill teaching shortages. There also appears to be a school policy of teachers

changing year groups every year too, often moving across key stages and invariably separating the year group teams. This means teachers are constantly having to adjust to new work partners and new year group curriculum requirements which leads to higher levels of stress and pressures on self-efficacy.

This constant change of adults and school structure may well have contributed to the evident parental disengagement reported by the Focus class teacher and personally experienced by myself when attending evening events put on by the school for parents to attend. It is hard to build and maintain relationships when people disappear so readily. This also impacts the behaviour policy and how it is implemented in the classroom. The presentation of the behaviour policy in the classroom (figure 2.2) focuses on managing poor behaviour, this is what new people to the classroom are exposed to and expected to enforce. Building relationships with children and parents and using those to manage behaviour takes time so a more controlling, assertive form of discipline is often employed in the first instance to maintain order (Kyriacou, 2009). This can create a tense learning environment for the children, focused on rules and threatened punishments and constantly new adults to deal with; potentially counterproductive to a positive learning experience that actively promotes academic engagement and achievement. This may well be one of the contributing factors to the academic underachievement reported for this school in respect to national averages (GOV.UK school performance service).

4.5.2 Age of Pupils

48 Year 3 pupils, from one school took part in this project. This meant one Year 3 class could be the Focus class with whom ClassDojo was used and the second class could be the comparison group.

Children from Key Stage 1 (Year 1 and 2) were deemed too young to participant in this study for several reasons: firstly, being so young they are generally incapable of undertaking homework tasks at home independently of their parents, so any homework completion rates would significantly reflect the parental behaviour, effort and engagement and not reliably that of the pupils. They are also considered to be too young to engage in the questionnaire process; their language skills being inadequate to access the content of the questionnaires and incapable of expressing feelings much beyond simple happy / sad dichotomies. Lastly, the process of doing homework, that is organising a time and place at home to do it, fully completing it and returning it on time to the teacher is significantly adult orientated behaviour at Key Stage 1. In lower Key Stage 2 (Year 3 and 4) this responsibility is slowly transferred to the child with them being predominantly autonomous for the behaviour by the end of Key Stage 2 (Year 6) and beginning of Key Stage 3 (Year 7).

Year 5 or 6 pupils would be best placed to undertake this study, being that they are considered able to be autonomous for their homework completion behaviour and equipped with the language skills to engage meaningfully with the questionnaire aspects of the data generation but when external factors relating to their secondary school choices and the influences this might have on their behaviours were considered it was deemed to present a confounding variable of potentially significant proportion. In the

area of the UK where this study took place there are a variety of secondary school options: selective grammar schools, comprehensives, faith schools, academies and colleges - many with entry tests and academic achievement requirements. Many primary schools become focused in Year 5 and 6 on collecting enough academic evidence to support entry requirements and many families become focused on training pupils for entry tests to their preferred school. This behaviour was deemed to potentially influence homework turn-in rates in line with pupil ability, family pressures and future aspirations rather than be evidence of classroom motivational strategies employed by the teacher. The results of a study carried out with Year 5 or 6 pupils may well reflect findings of a study carried out with younger Key Stage 2 (Year 3 or 4) pupils but separating the effects of the confounding variables from those of the dependent ones could prove difficult and put the significance of any findings at risk.

The schools consenting to take part in the study were therefore asked for Year 3 or 4 pupils to work with, preferably the worst performing group available so that any effect of the intervention could be easily measured. The selected class had the worst completion rate recorded at the school for some years with an average of about a third to a half of pupils regularly completing and giving in homework in Year 2.

The year group and the class that took part in the project were selected by the head teacher and the teaching staff, as were the days I was invited in to work with the class.

4.5.2 Pupil Demographic

The school draws from a wide socio-economic demographic from the lower end of the national range. The children were mostly white British, evenly split by gender, broadly

homogeneous regarding culture and faith orientation and spoke English as their first language. Within the year group there was a full range of ability represented in both classes from P scale students (working below National Curriculum expectations for 4-year olds) to those performing at the top end of age expected achievement. However, according to the published Department of Education records, overall pupil achievement for the school was well below the national average in all areas of the curriculum.

4.6 Generalizability

The school and the classes within it were not chosen for their specific demographic qualities, the school was chosen from the schools available to the researcher and although at the lower end of academic achievement it is reasonably representative of the wider area. The ethos and engagement of the parental body and the academic attitudes of the pupils may differ from some schools in the surrounding areas but this school is not outside the norms of the whole country. I believe the results found in this study are safe to be generalized to a wider community however, the specifics regarding what is valued by the pupils will not be the same for all schools, or year groups.

4.7 Bias

There are a couple elements of bias in this project that need to be acknowledged. Firstly, the involvement of the researcher as an active element of the intervention was necessary to ensure it was delivered as the project required. Being only one person and unable to teach both classes at the same time, in the same manner it was necessary to employ other teachers which introduced uncontrollable variables. However, my involvement was kept to a minimum and where possible applied equally to both classes. Across the two terms of the project, both classes experienced considerable disturbance regarding

teaching cover with many adults taking the teaching role each week. Because of this I feel my involvement was less impactful than it might have been in a more stable teaching environment.

There was also the issue of class size, which was small. However, the use of two classes, one as the focus class and one as comparison, that work as twin classes from the same family demographic, follow the same lesson planning and school behaviour policies was useful in isolating the impact of the intervention. The classes were as similar as practically possible. The use of homework turn-in as the assessment variable eliminated, to a great extent, the impact of individual teachers and their practice as homework is undertaken outside the realms of the classroom and beyond the teachers' direct influence.

4.8 Data Analysis Strategies

The data were generated in a variety of ways. Quantitative data from test scores, homework completion rates and the quality of the homework were initially recorded manually in a mark book, this was later converted to a variety of digital records and stored in a secure archive. Qualitative data from questionnaires received digitally were recorded digitally and stored in a secure archive while the children's written responses to their questionnaires were stored on the paperwork they completed but again in a secure file. Each data type was analysed according to their nature.

4.8.1 Quantitative data

The quantitative data from the teacher's mark book, relating to homework turn-in rates, test scores and quality of homework were analysed using Excel. Graphs and tables were

generated by the software program to visually display the results and regression analysis was used to identify correlations.

These data were cross referenced with qualitative data from surveys to explore the homework behaviour trends with relation to pupil motivational profiles.

4.8.2 Qualitative data

Qualitative data from questionnaires were analysed manually to group and highlight commonality and trends. Graphs were generated to identify the shift in language used to describe feelings and experiences; percentage tables were used to group responses giving an overview of the class responses.

4.8.3 Approach to analysis

All data analysis in this study is set in the situational context of comparing one class identified by the school as representative of a normal class and another that was the worst they have seen in 5 years with regards homework completion and turn-in. In all other senses the classes were considered homogeneous by the school. However, neither class can be considered as representative of a normal UK school population only as wholly representative of the students in the study. There are no assumptions that the data in this study conform to national norms, but the behaviour of the Comparison class is used as an indication of the behaviour that might be expected of the Focus class if the intervention was not used in term 2. Although the data were nonparametric in nature a mixture of parametric and nonparametric statistical tests were used to explore the impact of the intervention on pupil homework turn-in behaviour while predominantly

nonparametric comparisons were employed to compare motivational profile data as the data sets were very small.

When comparing homework turn-in behaviour, all pupils in both classes produced a full data set so descriptive statistics were used to reveal the nuances of what was happening across the whole data set available for this study. The data were analysed at a termly average level to highlight any overall impact of using ClassDojo in term 2, at a weekly level to compare the impact of the homework tasks on both classes' turn-in rates combined with the effect from the intervention and at a pupil level to understand how individual children behaved across the project. This level of analysis and comparison was compared with the background data (figure 1.1) for corroboration of what might be expected from children in a different setting, suggesting what might be normal behaviour throughout a school year. Any differences from this norm could be investigated as being a result of the intervention used in term 2.

Homework turn-in rates were also compared at subject level and in relation to test scores to find any correlation between task engagement and academic achievement. This information was also compared between the classes to understand the influence the intervention may have had in raising the results of the poorer class. Using class averages alone did not reveal the detail of what impact the intervention was having which is why homework turn-in and test score data were analysed on all levels down to the impact on individual pupils. In contrast to the homework data sets, the size of the motivational profile data set was too small to offer any reliable comparisons at individual level between the classes. Because of this class comparisons using motivational profiles were

analysed at class average level to indicate any trends that may be attributed to the intervention and to using the school policy.

In addition to comparing the classes, individual pupils in the Focus class were track across the project and those providing enough motivational profile data alongside their homework and test score data were analysed to identify any trends or correlations that might suggest how individuals were experiencing and reacting to the use of ClassDojo.

4.9 Project Strengths and Limitations

Although this project was a small-scale case study, one strength was the use of twin classes. Having a comparison class, subjected to as similar a situation as possible does allow for some controlling of variables and an opportunity to alter just one element of the intervention and reliably track its impact. Any external influences due to school calendar, environmental factors or external issues are controlled for as much as is reasonably possible in real classroom situations.

There are however some limitations that should be acknowledged, firstly the pupil demographic was rather homogeneous regarding ethnicity, first language, socio-economic background and culture. Although not representative of many areas of the UK such as inner cities, it is representative of the wider area in which the school sits and perhaps many semi-urban areas of the country.

Next, the project only involved one year group. Different year groups are likely to respond in different ways to the specific intervention used in this study. This study was

not intended to assess the effectiveness of using ClassDojo as a specific intervention but more to change the value of a desired behaviour, as such pupils from other schools and other year groups may respond better to other interventions that raise the value of the desired behaviour.

Another limitation to this study is the length of the intervention. The project ran for 10 weeks with half of that subject to the intervention. The first five weeks were required to establish a baseline of behaviour and the second five weeks to identify the impact of the intervention. A five-week intervention can only suggest an impact, there is no evidence that the behaviour would continue to improve or be maintained over a longer time frame should the project be extended. However, the makers of ClassDojo suggest changing the behaviour criteria regularly, perhaps termly, implying the intervention would become less impactful the longer it is used without changing elements to keep it fresh and engaging. If the project was longer these changes to the intervention may have introduced unpredictable variables to the data, making the results less reliable. There are no studies or anecdotal evidence available to show teachers using ClassDojo in the way it is used in this project for longer periods of time or the impact on behaviour and homework completion this would have. The project was limited to two terms because that was the agreed time period the school could accommodate and the length of time suggested by the makers of ClassDojo to see a difference in behaviour.

The last limitation was the amount of data generated by the motivational profile questionnaires. Both the Focus and Control classes yielded about a 50% return on the questionnaires meaning the conclusions drawn from the data set are suggestive rather than conclusive in nature. All pupils were given the questionnaires, a clear explanation

of how to fill in the answers and had the paper read to them but still there was a significant volume of spoilt papers. Despite efforts to make the material accessible to all children it was found that pupil ability and the academic engagement they display towards classwork influenced their ability to complete the questionnaires. The lower ability range in both classes demonstrated issues responding to questions and giving meaningful answers. School imposed time constraints and personnel restrictions eliminated the possibility of employing 1-1 support to complete the paperwork.

4.10 ClassDojo

ClassDojo is simple to use, engaging and interactive. It offers features that were not used in this project such as a Class Story which is a way to create a blog of what is happening in the classroom for parents to share; individual student stories which can be shared with their parents and parents can leave comments for the children or teacher too. There is a message board for home-school communication and a growing resource bank of social and emotional learning videos. The simplest way to use the program is to assign an avatar to each child in the class (figure 4.1), next to the monster would be the child's first name and in the corner of their plaque is a bubble with their running total of points, the colour recording green for good and red for a negative situation.

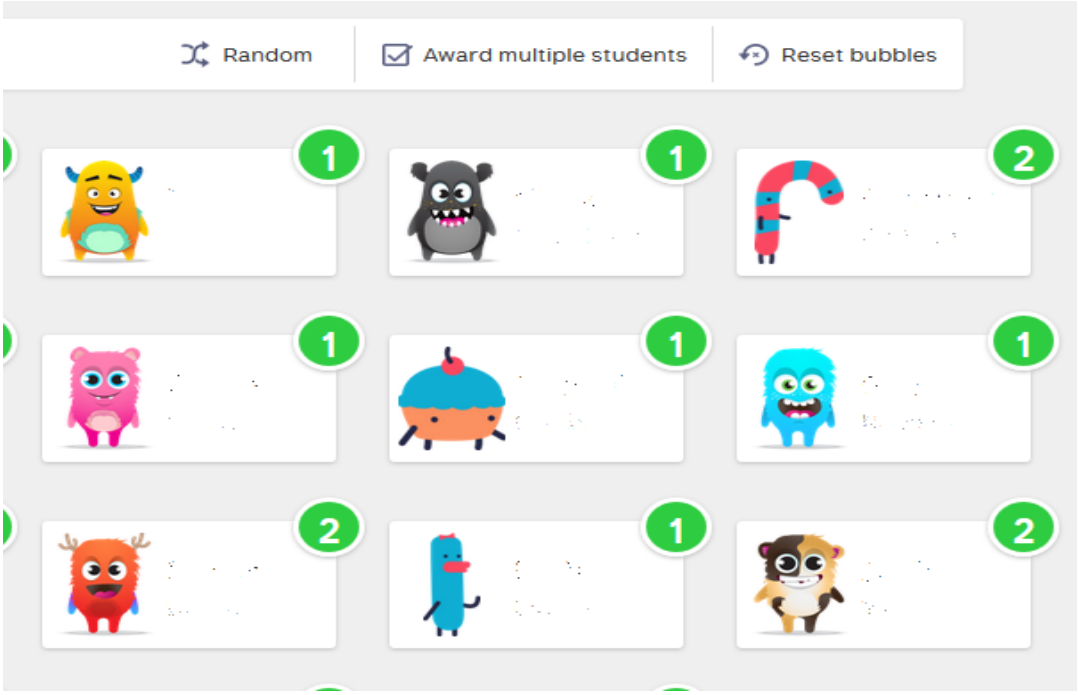

Figure 4.1 A section of the class avatar monsters that are displayed on an interactive whiteboard.

A click on a child or group of children can quickly allocate them feedback from the option boards (figure 4.2), and to publicise the feedback a dialogue box appears on the interactive whiteboard with an appropriate sounding audible fanfare announcing to the class that 'Fred is working hard' or 'Susan is playing with toys' or ‘14 students are participating’. At the end of an agreed time period, a week in the case of this study, the bubbles are reset to zero so everyone can begin a new week from the same starting point.

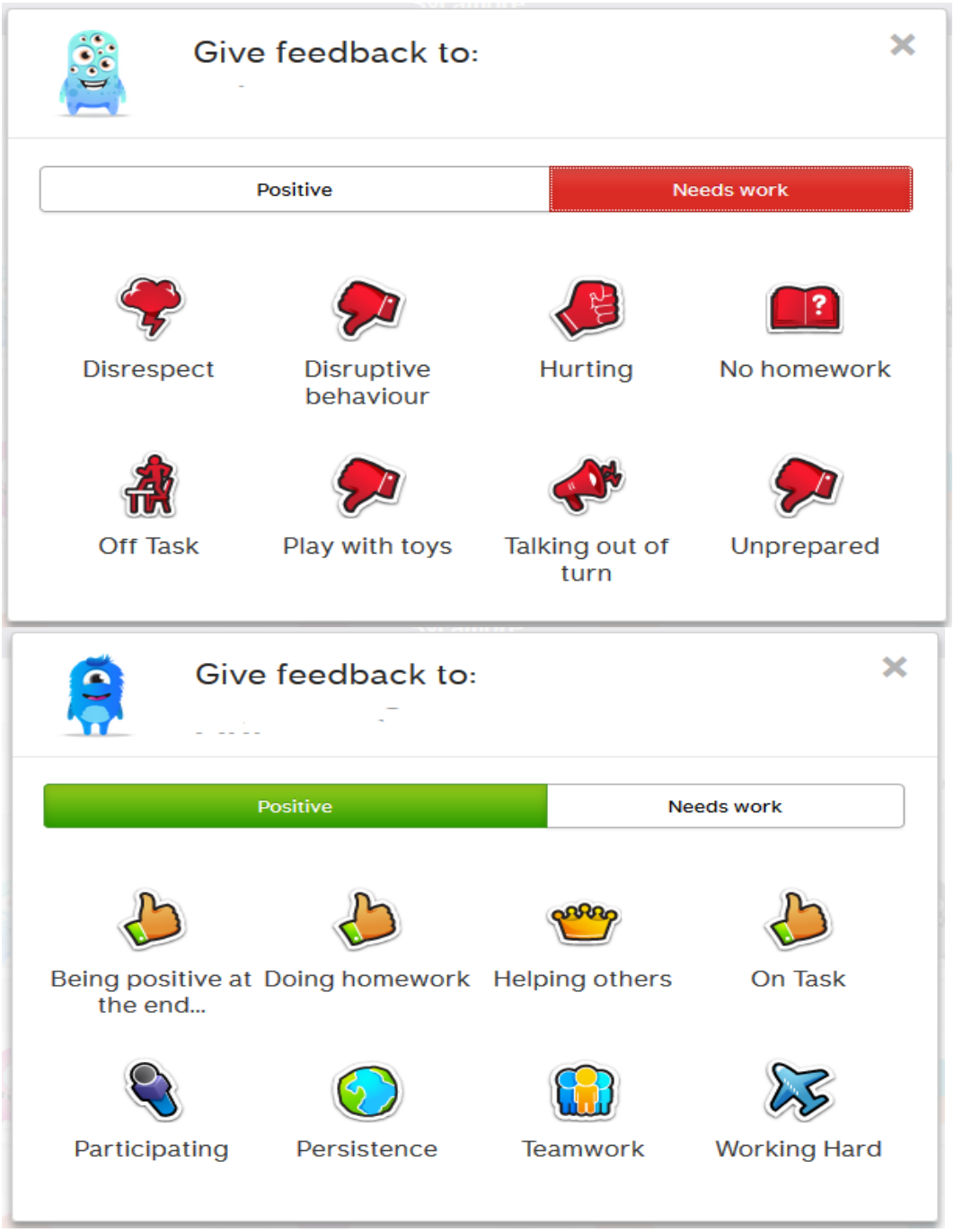

Figure 4.2 The feedback option boards.

Resetting of the bubbles may seem tough on the children who work hard to collect lots of points but it is important that the less well behaved or those who have had a bad week get the opportunity to start fresh and change their behaviour. If this system was not reset regularly there would become a wide spread of numbers with some children getting more and more negative which is not helpful or motivating. This issue was discussed

with the class and although they understood that their points were still on their record they requested to change green Dojo points into house points at the end of each week as this contributed to the school wide behaviour policy and large-scale awards.

Behind the avatar board, the program stores the data and can generate graphs for individual children or the whole class. A time frame can also be selected so behaviour can be compared one day or week with another, or an overall termly performance can be shown. The data are displayed as a ring, see figure 4.3. These rings are intended to be shared with the class and can be used to focus a discussion on what behaviours are good and what needs working on. Including homework in this ring situates the behaviour squarely among the other valued classroom behaviours (shown in green) and gives its completion a visibility equal to working hard in class, helping others and being on task, while revaluing its none completion as equal to poor classroom behaviour, hurting people and calling out in class (red behaviours).

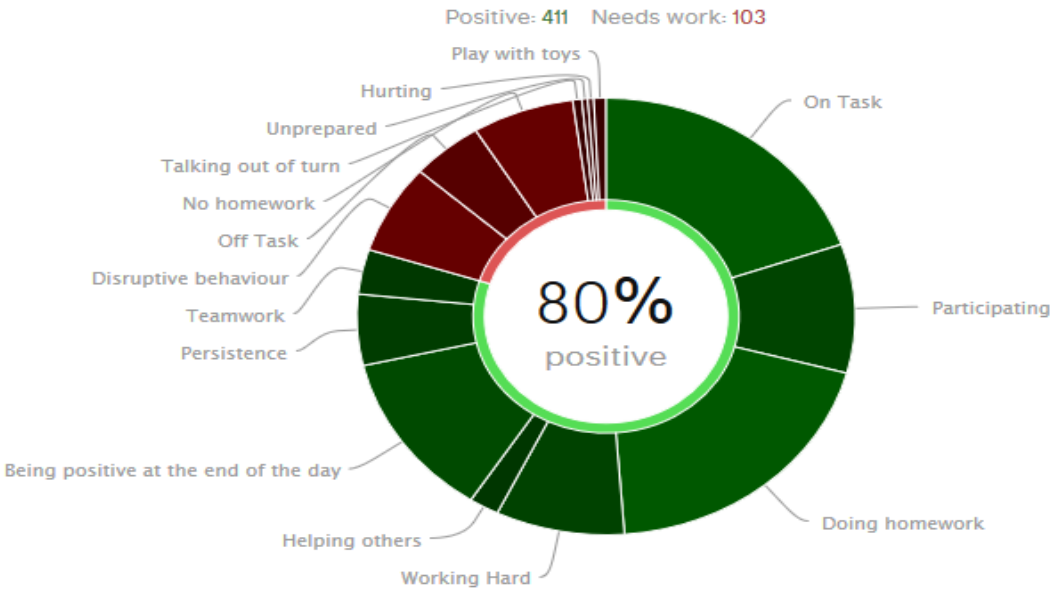

Figure 4.3 A ring graph or doughnut displaying ClassDojo data.

The use of ClassDojo in this project is an example of a gamification (da Rocha Seixas, Gomes, & de Melo Filho, 2016), blended system (Robacker, Rivera, & Warren, 2016) where all behaviour is considered and recorded in one place. Students are awarded for appropriate behaviours with a token, in this case a Dojo point, while inappropriate behaviours cost a point. The running total of the student's behaviour is displayed on the board in real time and compared with their peers. Robacker et al (2016) claim accumulating points is not always enough of an incentive for children and suggest there should be a choice board consisting of tangible and non-tangible rewards to support the motivational impact, a situation that went beyond the scope of this project. However, the children were rewarded with the opportunity to change their avatars from a selection offered in the program, when an agreed number of points were accumulated by the end of the week.

4.11 Ethics

Before this project began Lancaster University Ethical Board approval was obtained. This included the structure of the study design, the presentation of paperwork requesting participant involvement and the use and storage of data generated. Two classes of children took part in the study but at no point in the process was their educational provision negatively impacted. The cycle of homework setting, completion and marking that formed a significant data generation mechanism for this study is a normal part of the school curriculum provision. The use of ClassDojo was also familiar to the children as their class teachers have used it in the past. The Comparison class was unaffected by this study. They did the same homework as the Focus class because it was school policy. I set, collected and marked the homework again because it followed school policy.

The most important ethical consideration for this study was anonymity of the data. When consent was granted by the head teacher, their overriding concern was that at no point would the school, the children or the staff be identifiable from the project or any publications resulting from it. Therefore, considerable attention has been paid to the anonymity of the school, the staff and the children. All data used in the project have been coded with pseudonyms, generic terms or letters for individuals and where possible, averages and percentages have been calculated to explore the data patterns and trends to eliminate the possibility that individuals can be identified by their behaviour. Even the class teachers involved did not receive a copy of the raw data from my mark book for their records.

Informed consent was sought from the head teacher prior to any data generation and from all staff and children wishing to participate, in accord with the Ethical Board stipulation. Participants were reminded that they were taking part voluntarily and could stop at any time with no reasons required or sought. All data generated by this study will be stored securely and not shared in their raw form. All data will be destroyed when no longer required and in accordance with Lancaster University rules. The ClassDojo data generated by this study are held in a secure file by the program itself. This is password protected and holds no personal information beyond pupil names. These data will be deleted when no longer required.

Formal interviews were planned as part of this project but only two children produced signed consent forms from their parents. Before both interviews took place, the children were reminded of their right to withdraw, an option both exercised. In accordance with the ethical position explained above, no reasons were required or sought from the

children as I had no intention of making them feel they had done something wrong or were in trouble for changing their minds. The teacher also refused to be formally interviewed, preferring instead to respond to a written set of questions. All pupils responded to written questionnaires, which are held in a secure file, the information from them has been coded and anonymised prior to use in this project.

No personal information beyond that specifically collected for this project will be used in this or any future written material. All information regarding the school, the children and the staff obtained while carrying out my teaching role in the school, will remain confidential and anything not connected to this project will be destroyed forthwith.

Chapter 5 Homework: Results, Analysis and Discussion

This chapter offers a detailed analysis of the homework and test score data generated during this project. It discusses the findings in relation to the literature to offer an answer to the research questions 'Can children who habitually refuse to do their homework be motivated to hand it in?' and 'What are the perceived benefits and drawbacks of reward / punishment classroom management practices?' Initially, the overall class data are presented, along with teacher interviews that place the data in a situational context and analysed for impact of the intervention, this offers an answer to the first research question. The next section takes a closer look at individual pupils and their performance regarding homework turn-in and test scores to see if the classroom management technique has any perceived benefits or drawbacks in relation to learning and performance not initially evident in the overall data.

5.1 Introduction

This project involved a pair of Year 3 classes of comparable size, make up and demographic; one was the Focus class and experienced the ClassDojo intervention while the Comparison class did not. In all other respects, as far as was possible, the classes were treated the same and were subject to the same expectations, curriculum, homework schedule and school environment. Data from each child, in both classes, were collected weekly and recorded in a paper-based mark book. Each piece of homework returned was recorded for quality and completion; whether it was handed in on time or late and the associated individual test scores for spelling and tables were also recorded weekly. The researcher set, prepared and marked all the homework and tests for both classes and administered the test to the Focus class. The Comparison class tests

were administered by their class teacher. The researcher also awarded, on the classes' wall charts (figure 2.2), the house points earned by each child throughout the project.

5.2 Can Classroom behaviour management techniques change homework behaviour?

This project took place at the beginning of the school year, when the children started in Year 3. However, it was the second year the Focus class teacher had taught this group of children so they were able to speak with some authority about the behaviour of this class. The perception regarding homework completion was:

> *'Generally, about or less than half the class would complete the homework on a regular basis. This is the worst completion of homework in the 5 years I've been at the school.'*
>
> *(Focus class teacher)*

The teacher who had taught the Comparison class when they were Year 2 no longer worked at the school, so their previous completion rates were unknown. However, table 5.1 which shows the average percentage of homework completed for each class during the 10 weeks of this project does not appear to fully support the Focus class teacher's perceptions. Table 5.1 shows the average percentage of completed homework handed in across the project duration, weeks 1 – 5 were in term 1 and weeks 6 – 10 were term 2; there was a week's holiday between the terms and two weeks before and after the project as the school terms were seven weeks long. The percentages were generated by giving the homework turned-in a numerical value: 2 for complete and in on time or late, 1 for slightly incomplete work (only 1 or 2 answers missing) and 0 was awarded for homework not returned or homework returned but significantly incomplete (only 1 or

2 answers completed). The homework tasks were differentiated to meet pupil ability so the expectations of each child were not the same but appropriate to their level of achievement.

Taken across the whole project both classes showed the same turn-in rate percentage (Focus class 65%, sd = 9.61: Comparison class 65%, sd = 6.51) initially suggesting there was no difference in the classes' behaviours and the ClassDojo intervention had no impact. However, when the data from table 5.1 are represented graphically (figure 5.1) a different story is revealed that warrants a closer analysis.

	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10
Focus	76	69	72	59	47	51	70	65	69	72
Comparison	73	64	72	67	69	65	66	54	54	63

Table 5.1 The average percentage homework completed and handed in each week.

5.2.1 Overall homework turn-in for the Comparison class and the Focus class.

Figure 5.1 graphically represents the overall average percentage of homework turned in for each class each week, with the addition of a trend line to indicate the underlying statistical behaviour of each class.

The solid orange graph line of the Comparison class's turn-in rate (figure 5.1) shows a slightly fluctuating but steady downward trend from the beginning of term 1 towards the end of term 2, there is no discernible change in the behaviour or obvious indication when the end of term 1 and the beginning of term 2 occurred. The Focus class data (the solid blue line) produces a visibly different line to that of the Comparison class. The graph forms a defined V, with the lowest point coinciding with the end of term 1 and the holiday period. The Focus class behaviour appears quite different to the Comparison class' and quite different from term 1 to term 2.

If we consider the Comparison class' trend line ($r^2 = 0.5266$), it suggests a steady decline in homework turn-in rate. The Focus class trend line ($r^2 = 0.0042$) is much flatter than that of the Comparison class suggesting there is no statistical correlation between time and turn-in rates across the length of the project. The overall, averaged behaviour change from term 1 to term 2 remains broadly unchanged. However, the shape of the Focus class graph suggests a closer look at what happened in term 1 and term 2 is required.

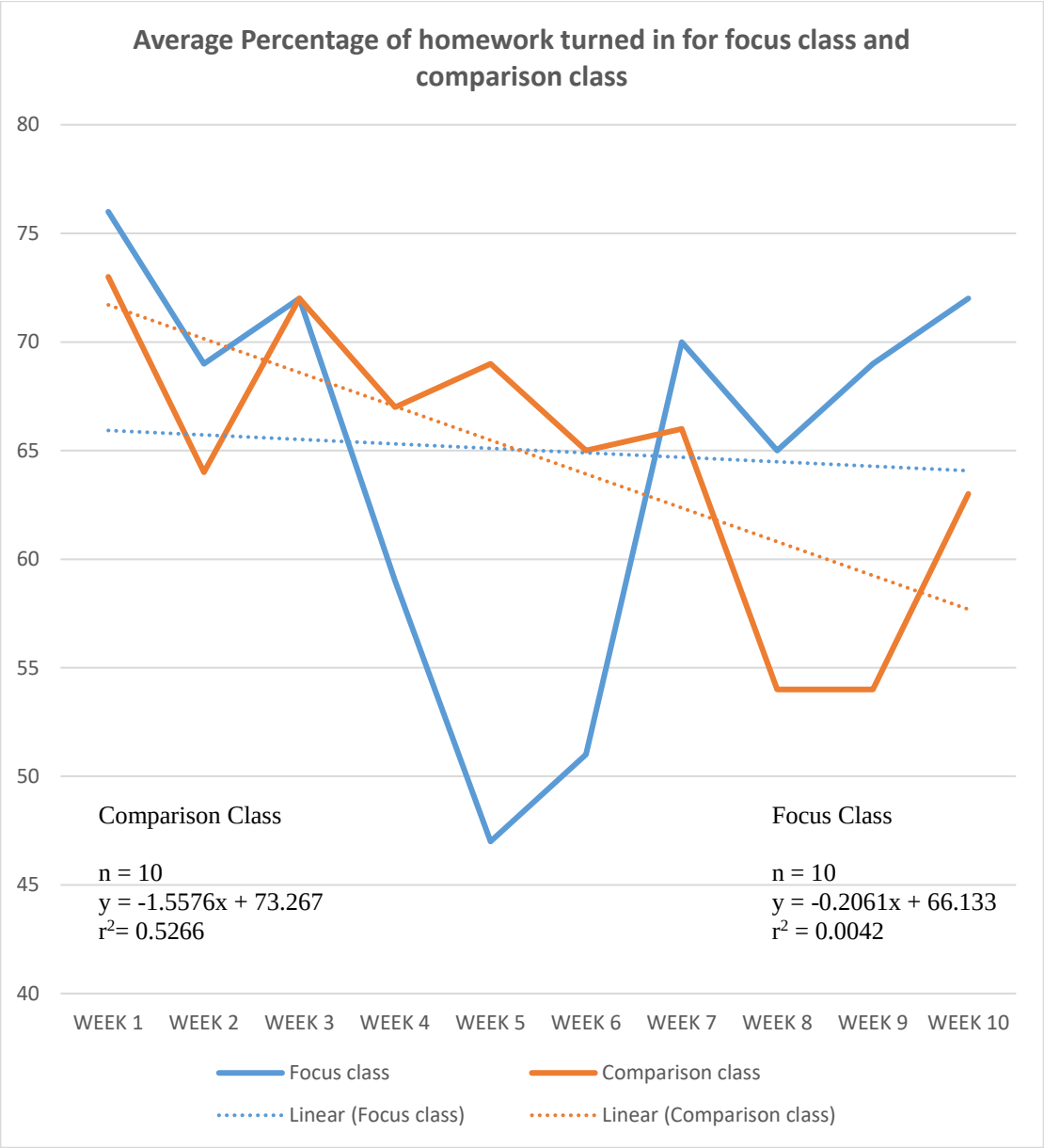

Figure 5.1 The average percentage homework completed and turned-in each week for the Focus and Comparison class. Trend lines are included for overall direction of behaviour.

5.2.2 Homework turn-in rates for Term 1 and Term 2

If we now consider the homework turn-in behaviour for each term individually, the data suggest not only that there was a positive impact resulting from ClassDojo but that both classes were behaving differently in term 1 too.

Figure 5.2 (term 1) shows the Comparison class (mean 69%, sd 5.79, r^2 = 0.0463) maintained their homework turn-in rate at a consistent level across the term. The Focus class (mean 65%, sd = 11.68, r^2 = 0.8481) compared favourably with the Comparison class for the first 3 weeks of term before performance fell to the levels the class teacher would have been familiar with. The initial enthusiasm for homework completion is not unusual at the beginning of a school year (figure 1.1) as parents and children are often keen to create a good impression. The homework tasks required are also generally easier in the first few weeks too, as the teachers ease the children into the process.

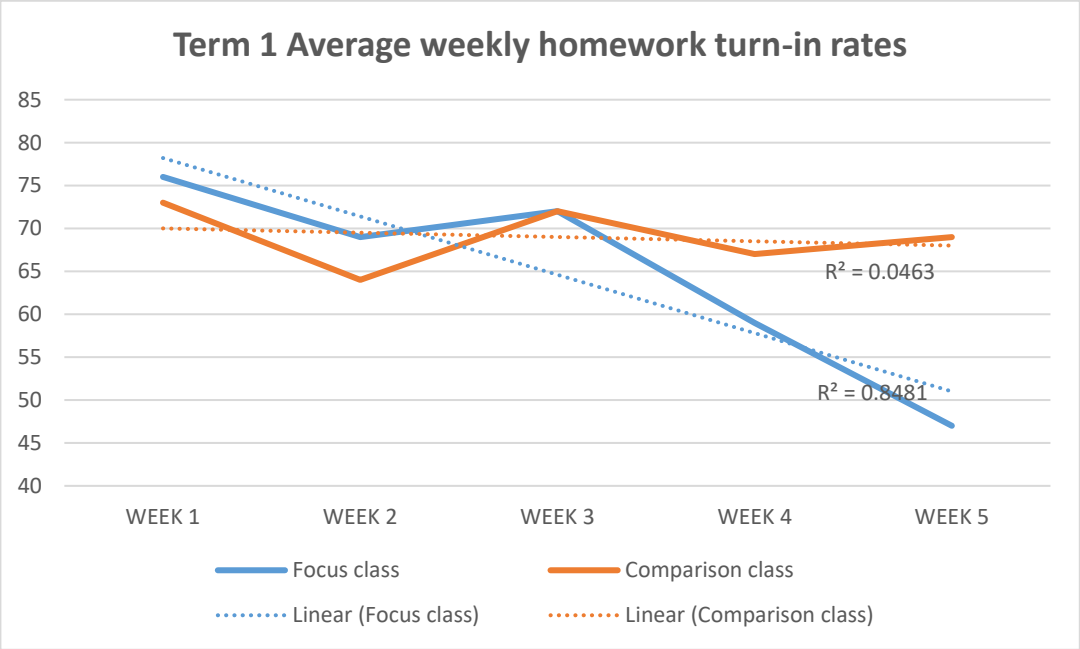

Figure 5.2 The average percentage homework turn-in rates for term 1.

Figure 5.3 shows term 2 homework behaviour in which the Comparison class (mean 60%, sd = 7.86, r^2 0.1813) demonstrates a drop in turn-in rate. The Focus class (mean 65%, sd = 8.46, r^2 = 0.5894) developed a strong positive up-turn in behaviour and from week 7 onwards produced more homework than the Comparison class.

Taken together, figure 5.2 and 5.3 provides strong support that the introduction of ClassDojo had a positive impact on homework completion. However, the up-turn in the Focus class' behaviour could be a result of the Hawthorne effect, where individuals behave differently because they know they are part of an experiment (Colman, 2015). In this case the Focus class were not told using ClassDojo was part of an experiment, it was simply introduced as a method to reward homework and classroom behaviours. The computer program was familiar to the class as the class teacher had used it with them before, with limited results. The evidence supports the conclusion that the introducation of ClassDojo had a positive effect on homework completion rates. Why this occurred may better be explained using the motivational theories explored in chapter 2 and the motivational model (figure 3.1) than simply ascribing it as due to the Hawthorne effect. However, the newness of the project did arouse some excitement in the class and this initial engagement may have contributed to the success of the intervention. If ClassDojo were to be used longer term the teacher would need to capitalise on this newness and keep the system fresh and exciting by changing elements on a regular basis.

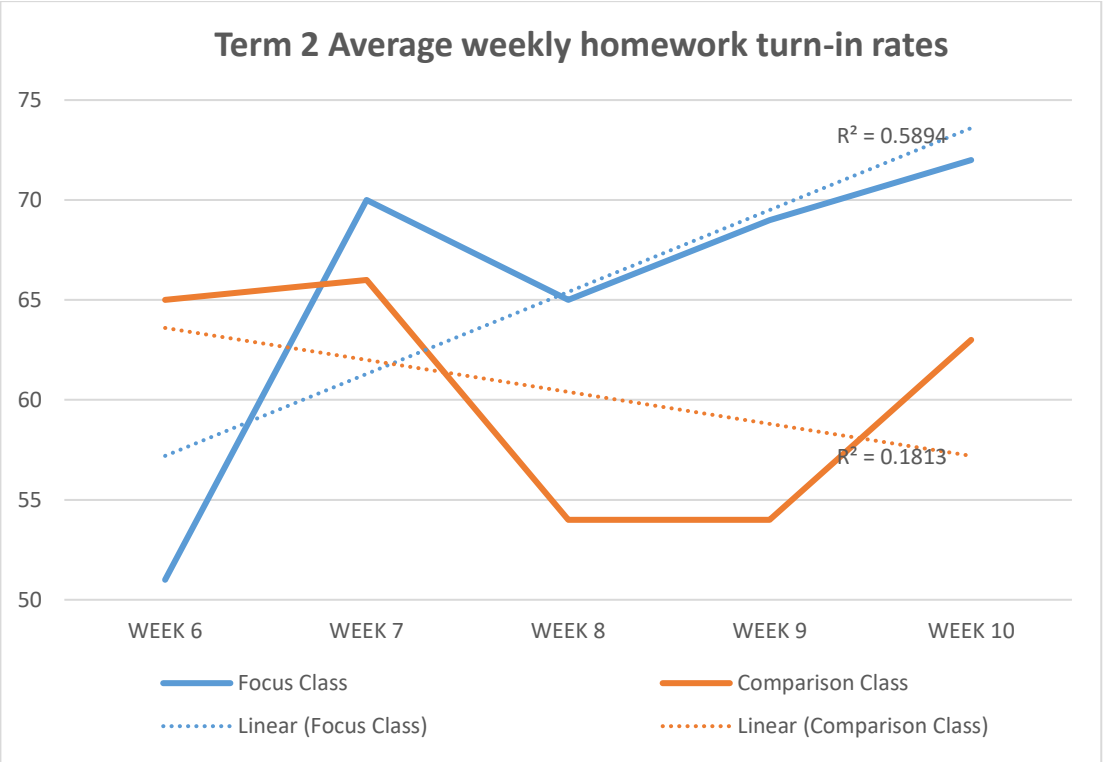

Figure 5.3 The average percentage homework turn-in rates for term 2.

To explore further what impact ClassDojo had on homework completion rates section 5.2.3 looks at the effect on the separated homework tasks and section 5.2.4 explores how individual pupils behaved.

5.2.3 Task specific homework turn-in rates

Table 5.2 separates out the weekly homework tasks into maths and spelling for each class, showing the average turn-in rates per week for each subject. The same scoring system used in table 5.1 was used to calculate the percentages. The empty cells in weeks 3 and 8 indicate that there was no homework sheet for maths set or to mark because for those weeks the children were asked to revise for the school wide tables challenge test. Considering all the data together, there is little to separate the performance of each class with relation to the different homework tasks. For maths the Focus class achieved a

mean 59% (sd = 13.31) turn-in rate and the Comparison class a mean of 60% (sd = 9.17) suggesting the Comparison class was a little more consistent than the Focus class in handing in completed maths homework. There is even less difference for the spelling homework as both classes achieved a mean 69% turn-in rate (Focus sd = 8.08; Comparison sd = 6.20), it is not until the data are graphed (figure 5.4) that more information is revealed.

	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10
Focus maths	78	63		50	37	48	61		61	72
Focus spellings	74	74	72	67	57	54	78	65	76	72
Comparison maths	74	52		62	68	62	60		44	60
Comparison spellings	72	76	72	72	70	68	72	54	64	66

Table 5.2 The average percentage of subject specific homework completed and handed in each week.

The overall numerical data is very similar for both classes but the graph (figure 5.4) suggests that something around week 5 influenced the Focus class' behaviour as both the maths and spelling lines create a pronounced V around this point. The Comparison class does not respond in a similar way so we might conclude this is a result of introducing ClassDojo. For a closer analysis, the terms are separated and shown on figure 5.5 (term 1) and 5.6 (term 2).

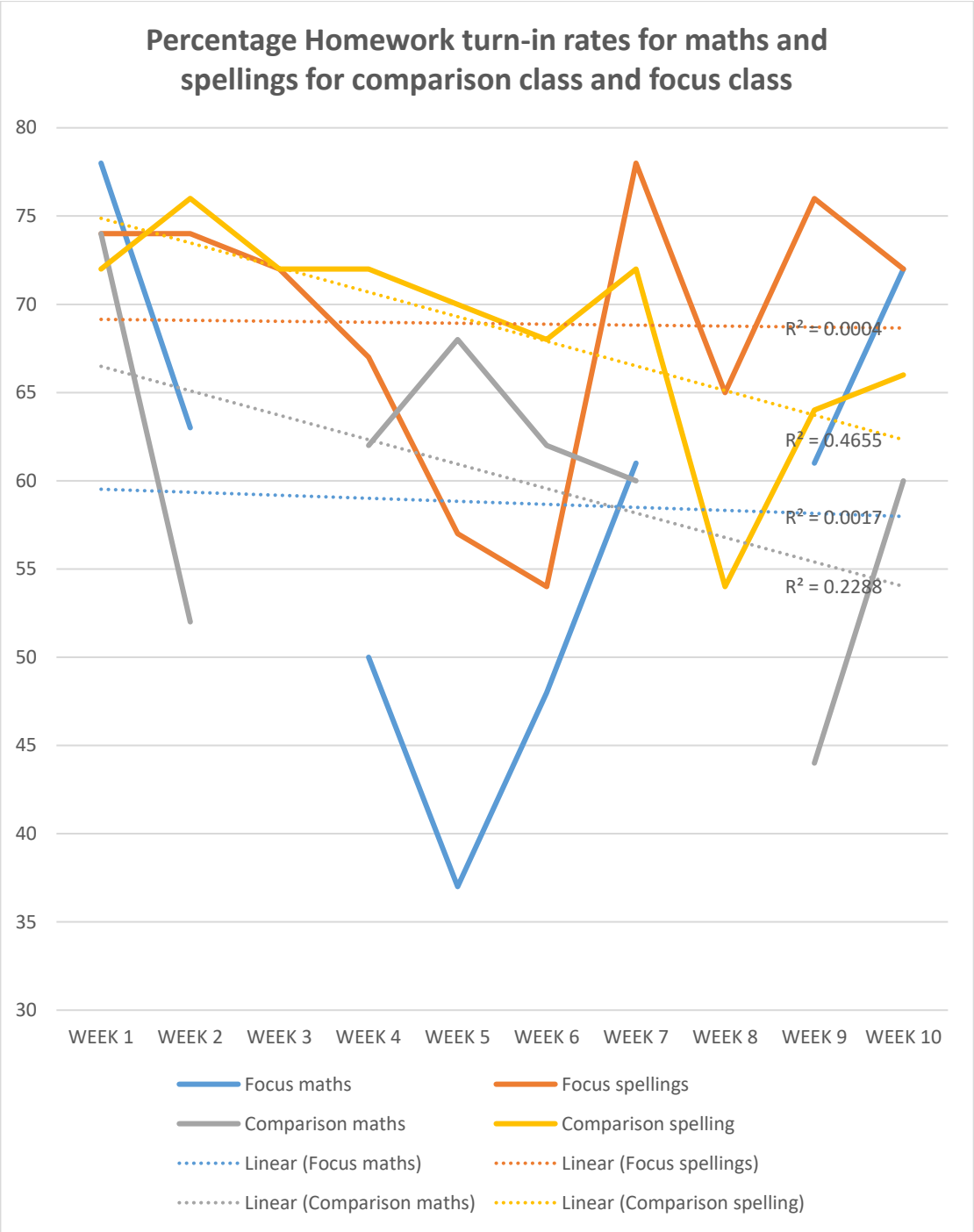

Figure 5.4 Percentage of maths and spelling homework completed and turned in each week for the Focus and Comparison classes. Trendlines added for overall direction of behaviour.

In Term 1 (figure 5.5) the Focus class showed a strong drop-off in homework turn-in rate for both maths (mean 57%, sd = 17.57, $r^2 = 0.9746$) and spelling (mean 69%, sd = 7.19, $r^2 = 0.8129$). The Comparison class produced a slightly higher average turn-in rate

for maths (mean 64%, sd = 9.38, r^2 = 0.0015) and spelling (mean 72%, sd = 2.24, r^2 = 0.333), but were more consistent across the term. If this behaviour is a reflection of parental involvement and influence in the homework process (see section 2.3; Wingard and Forsberg, 2009; Cooper et al 2001; Thirumurthy, 2014; Şad & Gürbüztürk, 2013) this would support the class teacher's observation that her class' parents were more 'obstructive' and 'unsupportive' in nature than those of the Comparison class. Both classes contained a similar mix of pupil ability and the homework tasks were differentiated to accommodate the different levels of capability so that the activities could be done with the minimum of parental involvement. The resulting homework turn-in rates were not then due to pupil ability to do the tasks but a measure of their engagement and motivation to produce the work.

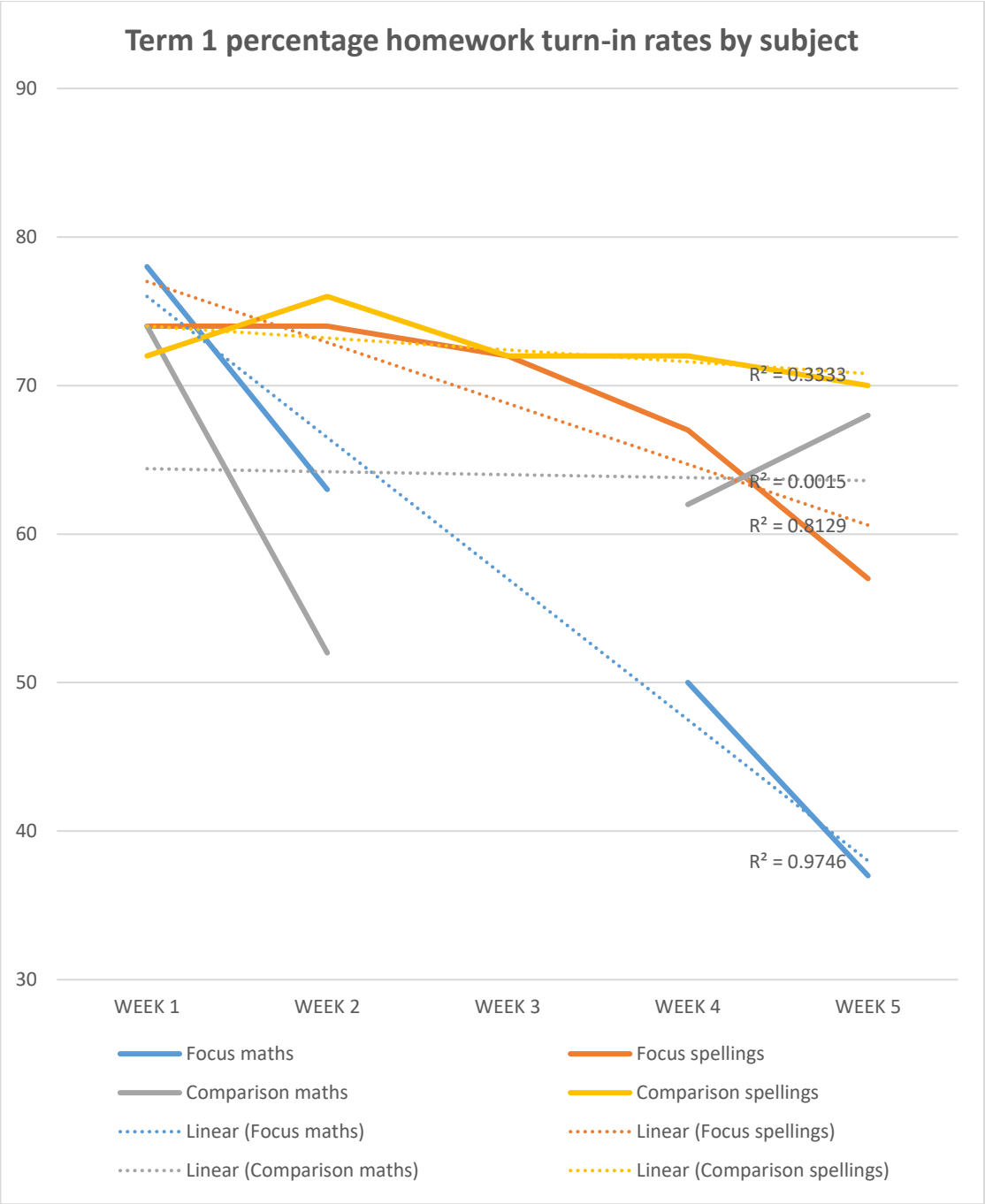

Figure 5.5 Homework turn-in rate for term 1, by subject, for the Focus and Comparison classes.

In Term 2 (figure 5.6) after ClassDojo was introduced to the Focus class, some interesting changes occurred. The first thing to notice is, like term 1 (figure 5.5) the overall shapes of the data lines are similar, so the Comparison spelling lines are similarly shaped to the Focus spelling lines and the same with the maths. This might

reflect the content difficulty of the task or some environmental issue, however the effect seems to be the same for both classes and cannot be attributed to ClassDojo. The second thing to notice is the Focus class' lines are now higher than the Comparison class' meaning they are now handing in more homework each week.

The Comparison class demonstrated a lower homework turn-in rates for maths (mean 57%, sd = 8.41, $r^2 = 0.1896$) and spelling (mean 65%, sd = 6.72, $r^2 = 0.0796$) in term 2 than they did in term 1; dropping an average of 7% in both subjects. This decrease in homework turn-in rate is consistent with the general findings of the background data (figure 1.1) and can therefore be considered normal behaviour.

The Focus class behaved quite differently. They improved their average percentage homework turn-in rate for maths (mean 61%, sd = 9.69, $r^2 = 0.7972$) by 4% and kept their spelling average the same (mean 69%, sd = 9.75, $r^2 = 0.3042$). This also equates to an average 11% increase in maths and a 10% increase in spelling homework relative to the Comparison class, which supports the positive effects of using ClassDojo. However, the graph (figure 5.4) forms a V shape for both subjects suggesting the use of ClassDojo engaged and motivated pupils to change their behaviour. If we can suggest the Focus class' homework turn-in rates measured to some extent parental influence and involvement in term 1, and we might reasonably assume nothing much changed based on the evidence and experience of the class teacher and the head teacher, we can conclude that not only did the use of ClassDojo have a positive effect on homework turn-in rates it also went some way to mitigating the negative influences of the home environment. The extent to which individuals changed their behaviour is examined in section 5.2.4.

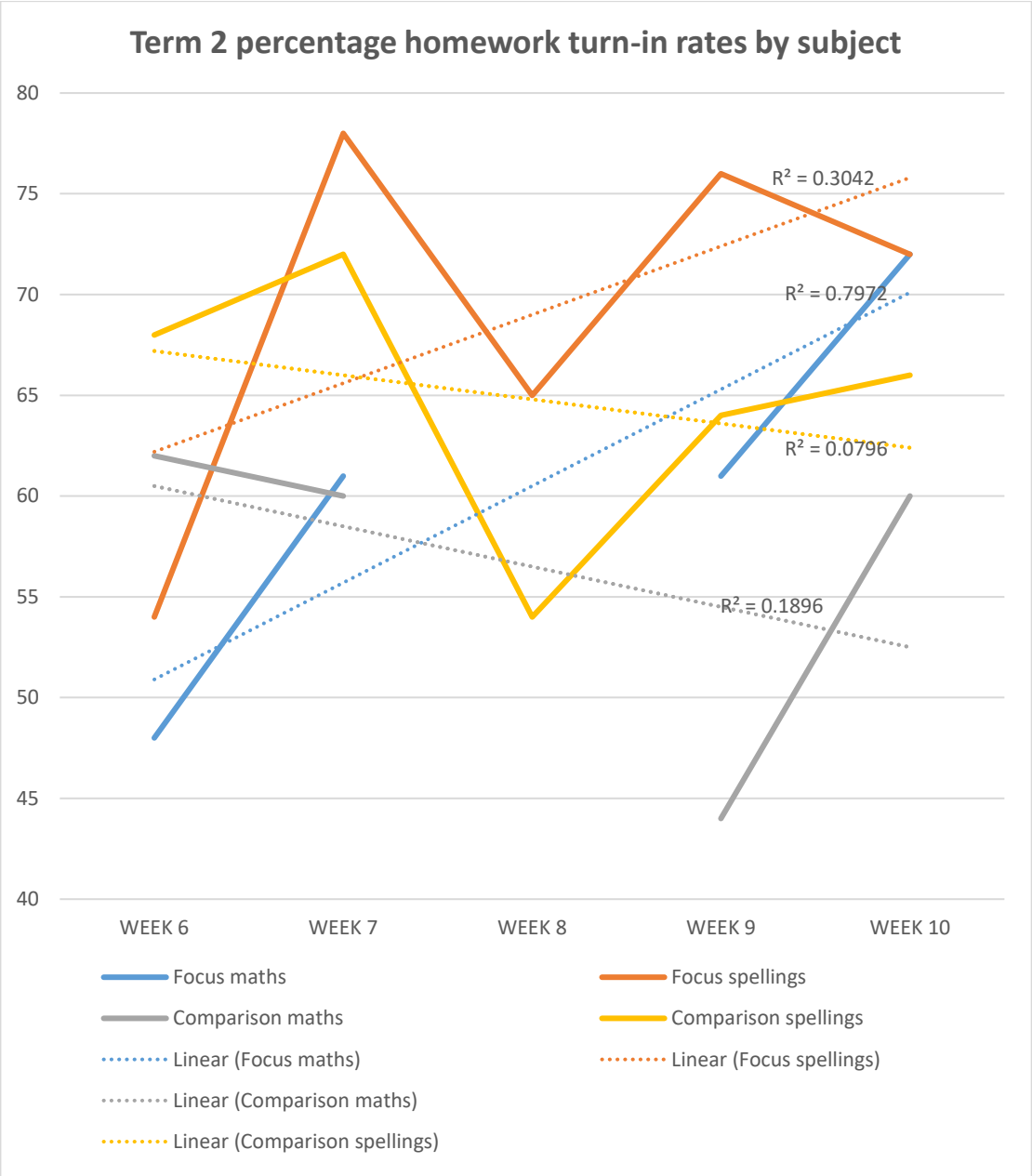

Figure 5.6 Homework turn-in rate for term 2, by subject, for the Focus and Comparison classes.

5.2.4. Individual pupil homework turn-in rates

A closer look at individuals

The average behaviour changes across the two classes, masks the individuals' stories and their contribution to the whole. Table 5.3, which shows the average percentage of homework completed and turned-in in each term for each pupil, tells us that 4 pupils

(17%) of the Focus class and 7 pupils (28%) of the Comparison class did not change their homework turn-in behaviour; 52% of the Focus and 20% of the Comparison class improved their behaviour while 30% of the Focus class and 52% of the Comparison class decreased their homework output in term 2. Of the children that did not change their behaviour all 4 of the Focus class and 20% of the Comparison class couldn't as they were already completing 100% or there abouts as it was. This left 8% of the Comparison class who refused to change their behaviour or had no need that increased homework completion would address.

Decreasing behaviour

The statement that 30% of the Focus class decreased their homework completion rate in term 2 is not, on the face of it, a good finding but a closer look at what exactly happened reveals some interesting dynamics. Two children decreased their output by just 6%, which equates to one piece of homework partially completed; one child doubled that with a 12% decrease which equates to one whole piece of homework missing, over the length of a term. This is not an important behaviour change and could be a result of the task difficulty or family circumstances rather than a reflection of actual behaviour change. Two further children had a 22% decrease which equates to two whole pieces of homework missing. This could be one bad week, since two pieces of homework were set each week and this is exactly the case with child M. They did not return the first two pieces of homework of term 2, after the week's holiday. These were the only pieces of missing homework for this child over the whole project and M blamed themself entirely for the oversight.

Child H, on the other hand, may have decreased by only 22% but they only did 22% of the homework set in term 1 and this was made up of one late piece and two partially finished items in weeks 1 and 2. This behaviour suggests that parents were responsible for initiating homework engagement in the first two weeks of the new year and when their influence waned H's dislike of homework and their need to avoid it was satisfied by actively leaving homework sheets in school instead of taking them home. No amount of school support, informing parents, prizes or treats could induce or motivate this child to do homework during this project.

The worse performing children in the Focus class (G and J), however, showed negative behaviour changes with -34% and -61% respectively. Together, these two pupils are responsible for an average -4.13% change across the class, that is more than twice the overall class average improvement. If these two children had just maintained their term 1 turn-in rates the overall results of this project would have been rather more compelling. Interestingly, both these children strongly blamed their parents for the decreased homework (see section 6.3.1), a position J found increasingly distressing (Edgerton & Roberts, 2014; Dufur, Parcel, & Troutman, 2013) particularly as it publically cost them Dojo points (Robacker, Rivera, & Warren, 2016). J very strongly wanted parents informed weekly about missing homework (table 6.11) claiming the situation was beyond J's control, J also demonstrated very mixed feelings about using ClassDojo, claiming that getting red points was upsetting (section 6.1.1). This is a twist on the situation Hamovitch (1996) describes, where it is the school expecting the student to reject their home situation. In this case student J enjoyed the support of their parents in term 1 maintaining a satisfactory 71% turn-in rate, then the home situation changed and the parents withdrew their support for homework and engaged the child in extra-

curricular activities which ate into time available to do homework reducing the homework turn-in rate (11% in term 2).

Increasing Behaviour

52% of the Focus class children and 20% of the Comparison class increased their homework turn-in rates but a closer look at the amount of homework this represents suggests that for some pupils a minimal behaviour change occurred. For 4 pupils in each class their improvement was equivalent to one piece of work partially done, as with the decrease in behaviour, this cannot be seen as important over the period of this intervention. For one child in each class their improvement equated to one more piece of homework and one partially completed piece over the two terms, again not really solid evidence although for the Focus class child this was the difference from no homework in term 1 to some in term 2 suggesting a positive behaviour change. This could be more noteworthy than the Comparison child's improvement who went from producing some homework to producing a little bit more.

There were 3 Focus children that made only 11% improvement but that took them to a 100%, 100% and 94% turn-in rate for term 2, so although small this improvement could reflect a significant impact of the intervention, if they could have done more they may well have done. 17% of the Focus class made bigger improvements that can be comfortably credited to the intervention. These children also responded with very positive views about using ClassDojo and the elements of public reward for their work. This further supports the conclusion that the intervention had a positive effect on the

class and suggests that potentially many social needs such as esteem, capability, affiliation and trust were being addressed by using ClassDojo.

Comparison class Pupils	Term 1	Term 2	Term 2 – Term 1
A	67	22	-45
B	6	0	-6
C	28	22	-6
D	94	94	0
E	6	0	-6
F	0	0	0
G	94	72	-22
H	94	100	6
I	83	17	-66
J	94	100	6
K	89	83	-6
L	100	100	0
M	100	89	-11
N	100	100	0
O	72	78	6
P	100	89	-11
Q	83	89	6
R	100	100	0
S	100	100	0
T	22	39	17
U	89	83	-6
V	50	17	-33
W	100	89	-11
X	11	0	-11
Y	44	44	0
SUM	1726	1527	-199
MEAN	69	61	-7.96
Var. = 371 Sd of T1 – T2 = 19.26			

Focus class Pupils	Term 1	Term 2	Term 2 – Term 1
A	0	6	6
B	0	61	61
C	100	100	0
D	72	78	6
E	100	100	0
F	67	61	-6
G	56	22	-34
H	22	0	-22
I	56	78	22
J	72	11	-61
K	89	100	11
L	89	100	11
M	100	78	-22
N	0	17	17
O	56	44	-12
P	94	100	6
Q	94	94	0
R	89	83	-6
S	28	56	28
T	67	72	5
U	83	94	11
V	100	100	0
W	28	50	22
SUM	1462	1505	43
MEAN	63.56	65.43	1.87
Var. = 532 Sd of T1 – T2 = 23.07			

Table 5.3 Percentage of completed homework handed in by pupil in terms 1 and 2 for Comparison class and focus class.

5.2.5 An overview of behaviour changes.

The data support the finding that the Comparison class steadily declined in homework completion across the two terms, even those who did improve did not do so by large amounts. The analysis of this behaviour found the change from term 1 to term 2 reflected the background findings from figure 1.1 suggesting a downward trend in homework completion in the first two terms of the year is normal. If this behaviour is indicative of normal behaviour regarding homework completion in terms 1 and 2 for primary school children, then the behaviour of the Focus class can be considered anomalous in that it changed in term 2.

Table 5.1 shows the average turn-in rate for the last four weeks of term 2 was just under 70% for the Focus class and 60% for the Comparison class suggesting the new behaviour was triggered by using ClassDojo. This suggests, that the incentives used with the Focus class in term 2 did change homework behaviours.

The teacher interviews (section 5.2 and Appendix Three) offer further support for the conclusion that using ClassDojo was the reason for the behaviour change in the Focus class as before and after its use the Focus class substantially dropped their homework completion rates. The children's behaviour before and after the intervention was significantly different to their behaviour during the second term of the project. The fact their behaviour reverted so quickly also suggests that there was no residual effect of the intervention, that is doing homework did not become an intrinsically motivated activity as Hidi and Harackiewicz's (2000) interest theory suggests, once the incentive was removed, the desirable behaviour stopped. This could be due to the short time period over which the project ran but considering that these children have been required to do

the same sort of homework for over a year and a half and their behaviour only changed while the intervention was running would suggest it is far more likely that the project offered them something of value (Eccles, et al., 1983) (see section 2.7.1) that all the other reward systems the teachers have used did not.

It would seem reasonable to conclude that the children do not attach enough academic value (Wigfield, 1994) to homework tasks to engage in them without the use of ClassDojo; nor is there enough reward in collecting house points, certificates and having their names displayed in corridors (Appendix Three) to motivate the required behaviour, so something about ClassDojo must be adding enough value to the task to alter some pupils' behaviour.

ClassDojo is ostensibly very similar to house points as the children collect points for completing tasks, where it obviously differs is the negative points (see section 6.2.3) for not completing work. There are, however, other features of ClassDojo that may have had a significant effect on the homework turn-in rate. First among these was the children's involvement in how ClassDojo was to be implemented. Before the tool was introduced, there was a class discussion about what behaviours were to be included, why each was important to the running of the class and pupil learning as well as the points value of each. The system was trialled for a day to see how it worked and altered as the children and teacher saw fit: for example, the pupils wanted to have prizes to work towards, so it was agreed that when a certain number of points were collected the child could choose a new avatar. Homework was included in the desirable behaviours and weighted with a reward of two points for each piece given in on time, no homework earned one negative point per piece. However, again initiated by the children, a positive

point was made available if homework was given in late, meaning pupils could 'correct' their undesirable behaviour in much the same way as they could alter their classroom behaviour to get positive points even if a negative one had previously been awarded. Although individual pupils did not have their personal records shared with the class and only running totals were represented on the avatar board, homework was kept a visible part of classroom practice because at the end of each day the class graph (figure 4.3 is an example) was shared and discussed in terms of what we were good at (the green sections) and how to improve (remove red sections). Children left the classroom at the end of the day with a clear idea that they could improve the class and their own points if they did any outstanding homework tasks that night and gave them in the next day.

5.2.6 Conclusion

Research Question 1: Can children who habitually refuse to do their homework be motivated to hand it in?

There was a behaviour change in the Focus class when using ClassDojo so the evidence suggests children can be motivated to do homework by using a specific classroom behaviour management technique and the change can also be effected within weeks of introducing the system. However, it is understanding why the change occurred that will make the process repeatable and sustainable. If we return to Porter's (2000) premise that behaviour exists because it works, then a change in behaviour as demonstrated by the Focus class would imply a cessation of efficacy of one behaviour pattern and an increase in efficacy of another. However, the evidence regarding the Focus class' behaviour changes cannot adequately be explained by this simple adage without understanding what is meant by 'works'. What can be said is that something about the

way ClassDojo was used in this project did alter some of the children's behaviour towards completing homework, something that previous and subsequent motivation and reward systems failed to achieve. It is unlikely to be an influence from home that improved the situation because the positive momentum was not sustained once ClassDojo was removed; by the same reasoning it is unlikely to be the specific teachers' influence because even though they changed before and after this project, both teachers experienced a behaviour change in the class when the classroom behaviour management systems and reward structure changed, in much the same way as I experienced in the background data generation (figure 1.1). It is also unlikely to be a school wide influence as the Comparison class showed no matching behaviour change.

The most significant change in using ClassDojo the way I did, was to place homework completion within the expected classroom behaviours and to reward it in the same way as being on task and completing classwork (Covington & Manheim Teel, 1996) as well as punishing its non-completion alongside calling out and being off task. What could be gained and lost due to certain behaviours was agreed with the children and adhered to as rigorously as possible. Placing homework within the classroom is to place the behaviour within the social environment that is a classroom (Jackson & Sherriff, 2013) and make it a visible, expected behaviour. All the other reward systems described by the teachers did not do this, homework was rewarded with house points but considered as an out-of-the-classroom activity, something separate and its non-completion being, for the most part, ignored. Homework completion was publicly rewarded but producing no homework had no impact on personal standing and no negative effect on any class or school goals.

Awarding a Dojo point for completed homework is arguably the same as rewarding with a house point, both are public acknowledgements of achievement recorded next to the child's name. However, the Dojo system also awards negative points, reflecting, in an overall numerical value, the sum contribution each child is making to the class goal and potentially making them socially accountable for their behaviour. Although Dojo points are intangible rewards, their tokenistic properties might stimulate a form of extrinsic motivation to collect them as if they were of some tangible value, in much the same way as the points or levels reflect the player's standing in computer games (see section 7.2.3). The goal orientation of pupils (see section 7.2.5) might also influence how the points collected are used to support their motivation for the behaviour. A mastery orientation might view the points as a reflection or measure of self-progression while a performance orientation might use them to compare self with peers. In both cases there might be a mix of intrinsic and extrinsic motivation stimulated by collecting points (Hidi & Renninger 2006). Behaving in a fashion that is likely to generate positive points and reduce negative points demonstrates a clear extrinsic motivation pattern however, as Hidi and Renninger (2006) suggest, an activity can begin by being extrinsically motivated but after repeated exposure some level of intrinsic satisfaction can eventually be generated too. The level of intrinsic satisfaction and the extrinsic value of points collection is likely to relate to the goal orientation of the person involved. This mix of intrinsic and extrinsic motivation might explain the increase in homework turn-in levels (figure 5.3) in term 2 and may have contributed to meeting pupil needs (figure 3.1) and raising their motivational profiles (see section 6.2).

5.3 Academic effects of using reward / punishment classroom behaviour management techniques.

One of the reasons put forward in support of homework at primary school is that it can improve academic achievement (Hallam, 2004), there is a perceived wisdom that correlates the amount of homework done with increased learning and testable academic progress (Cooper, Lindsay, Nye, & Greathouse, 1998). The findings of this project do not positively support this perceived wisdom. Figures 5.7 (Focus class, $r^2 = 0.2553$) and 5.8 (Comparison class, $r^2 = 0.1396$) show the overall relationship between the percentage of homework turned-in and the scores from the spelling and tables tests. Both classes show a small positive relationship but the correlation is not strong in either case.

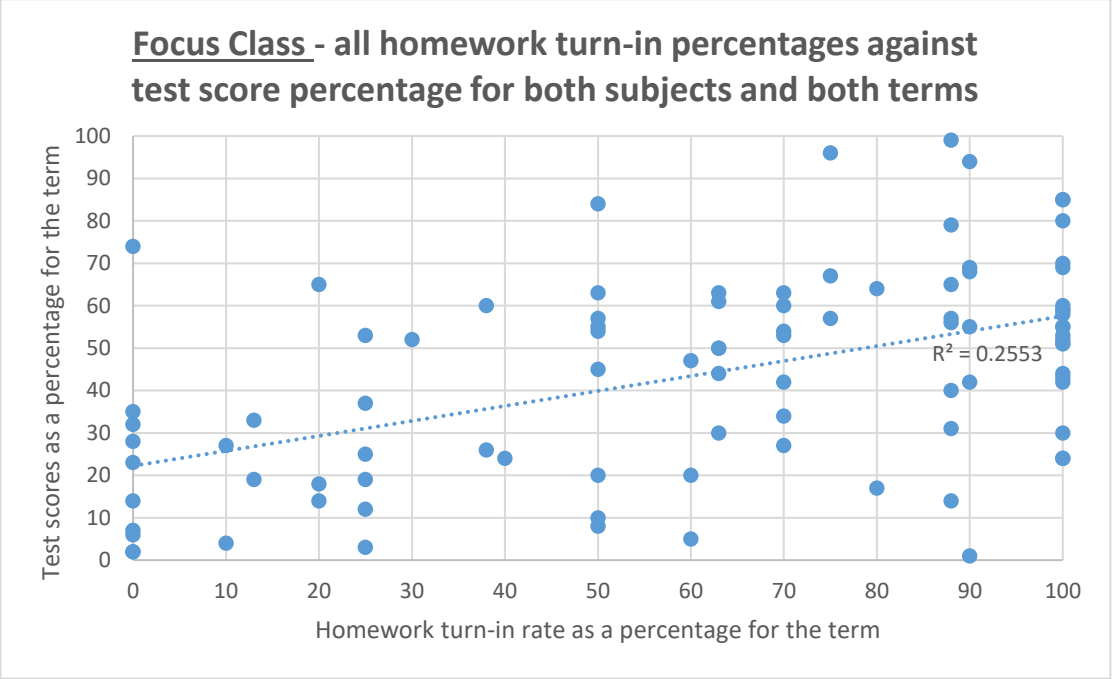

Figure 5.7 A scatter graph with trend line for the Focus class showing all the homework turn-in percentages against all the test score percentages for both terms for both spelling and maths.

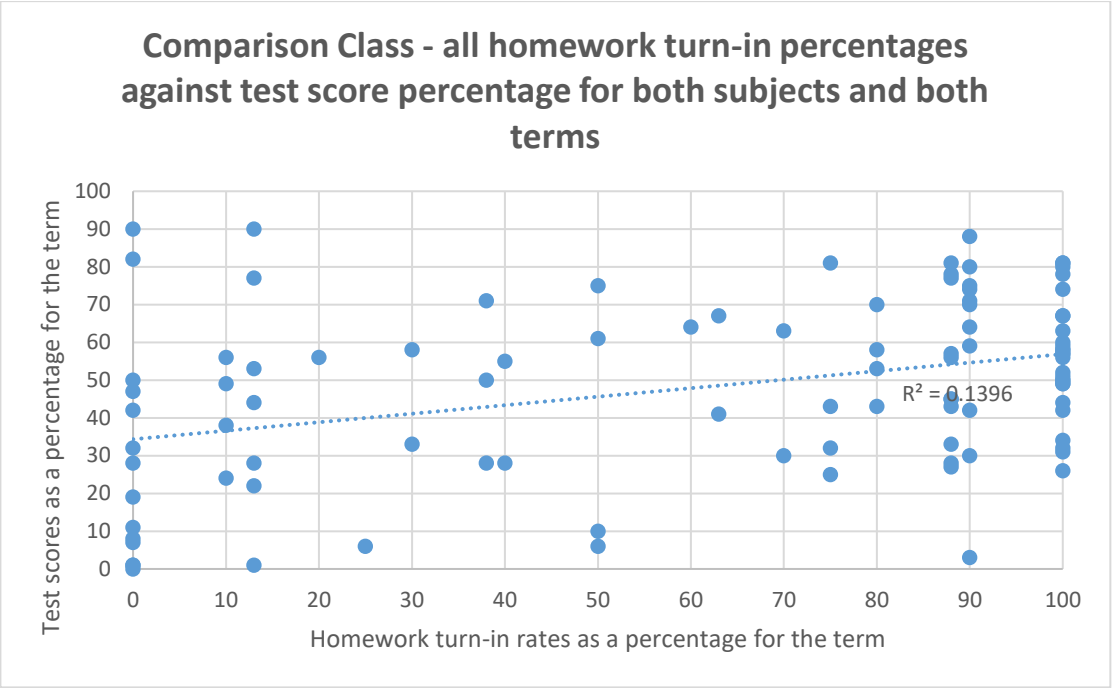

Figure 5.8 A scatter graph with trend line for the Comparison class showing all the homework turn-in percentages against all the test score percentages for both terms for both spelling and maths.

5.3.1 Average homework turn-in rates against test score

Table 5.4 shows that the Focus class (n = 23) behaved differently in their homework turn-in rates against test scores for each subject. In term 1 this class turned-in an average 56% (sd = 34.39) of the maths homework and achieved an average 36% (sd = 23.19) score on the tests. This rose on both accounts in term 2 to an average 58% (sd = 35) of the homework and 46% (sd = 22.97) on the tests. An average 2% increase in maths homework turn-in rate produced a 10% test score increase. For spelling, the Focus class dropped their average homework turn-in rate by 1% from term 1 (66%, sd = 28.28) to term 2 (65%, sd = 34.29) and their average test scores by 3% from term 1 (48%, sd = 21.77) to term 2 (45%, sd = 27.79). While these results appear to concur with Cooper et al's (1998) findings that more homework done yields better testable results, figures 5.9 and 5.10 suggest no correlation for maths ($r^2 = 0.0003$) or spelling ($r^2 = 0.0272$) is

evident. What can be concluded is that ClassDojo did not have the same effect on both homework subjects.

Table 5.5 shows that the Comparison class (n = 25) also did not behave in-line with Cooper et al's (1998) findings. For maths there was a drop in average turn-in rate of 7% from term 1 (62%, sd = 37.15) to term 2 (55%, sd = 41.89) and a drop of 4% in average test scores (term 1 38%, sd = 16.17; term 2 34%, sd = 17.70). In spelling an average drop of 4% turn-in rate (term 1 69%, sd = 36.32; term 2 64%, sd = 39.68) produced only a 1% drop in test scores (term 1 51%, sd = 22.37; term 2 50%, sd = 39.68). As figures 5.11 and 5.12 show this suggests there again was no correlation in maths or spelling between homework done and testable academic achievement.

Focus pupil	T1 % HW turn-in maths	T1 % test score maths	T1 % HW turn-in spelling	T1 % test score spelling	T2 % HW turn-in maths	T2 % test score maths	T2 % HW turn-in spelling	T2 % test score spelling
A	0	2	0	7	10	4	0	2
B	0	35	0	74	50	55	50	84
C	100	30	100	70	100	51	100	53
D	63	50	70	42	75	67	70	63
E	100	24	100	51	100	58	100	55
F	63	44	70	60	38	60	70	54
G	25	37	70	27	25	53	20	18
H	13	33	10	27	0	23	0	6
I	63	30	40	24	50	57	60	20
J	38	26	90	55	0	32	20	65
K	88	65	90	68	100	59	100	69
L	75	96	100	85	88	99	90	94
O	88	56	80	64	63	61	70	53
M	0	14	0	28	13	19	20	14
N	50	45	50	63	63	63	50	54
P	88	79	100	85	100	59	100	80
Q	88	14	100	44	88	31	100	43
R	88	40	100	52	75	57	90	69
S	25	25	30	52	25	19	60	47
T	50	8	80	17	50	10	90	1
U	63	50	90	42	88	57	70	34
V	100	24	100	55	100	42	100	60
W	25	3	50	20	25	12	60	5

Table 5.4 Focus Class percentage homework turn-in rate and percentage test score for maths and spelling by term.

Comparison Pupil	T1 % HW maths	T1 % Maths score	T1 % HW spelling	T1 % Spelling score	T2 % HW maths	T2 % maths score	T2 % HW spelling	T2 total spelling score
A	63	27	70	30	13	22	10	24
B	0	59	10	49	0	50	0	82
C	13	29	40	55	0	8	30	33
D	88	37	100	80	88	43	100	63
E	0	7	0	28	0	19	0	32
F	0	5	0	1	0	1	0	0
G	63	44	90	80	38	50	50	61
H	88	29	100	31	100	26	100	34
I	75	28	90	30	13	28	10	56
J	88	22	100	32	100	42	100	44
K	88	51	90	75	38	28	80	70
L	88	53	90	42	100	50	100	60
M	88	37	90	88	88	27	90	70
N	100	53	100	78	88	28	90	71
O	50	49	80	58	75	25	80	43
P	100	48	100	49	100	58	100	57
Q	75	53	90	59	88	45	70	63
R	100	44	100	67	100	50	100	57
S	88	50	90	74	100	56	100	81
T	13	59	20	56	13	53	60	64
U	100	32	80	53	75	32	90	64
V	25	4	50	10	13	1	90	3
W	100	33	100	58	100	52	100	59
X	13	50	10	38	0	47	0	42
Y	38	46	30	58	50	6	40	28

Table 5.5 Comparison Class percentage homework turn-in rate and percentage test score for maths and spelling by term.

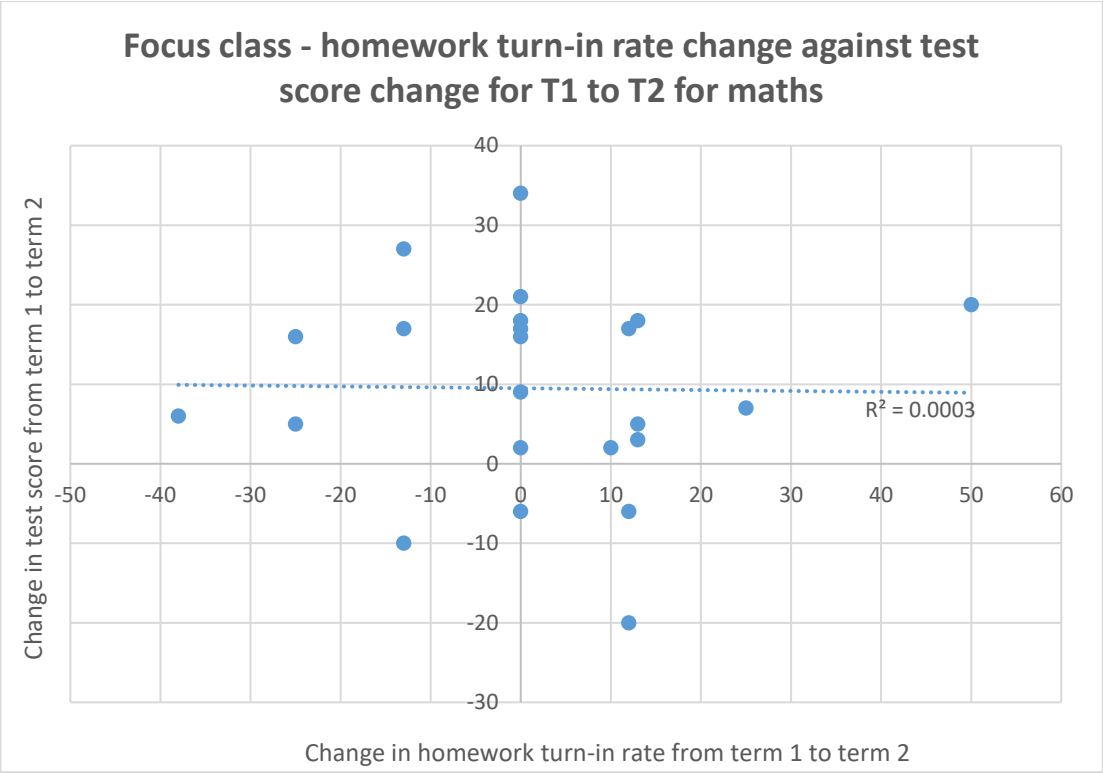

Figure 5.9 A scatter graph and trend line for the maths homework turn-in rate change and test score change for the focus class.

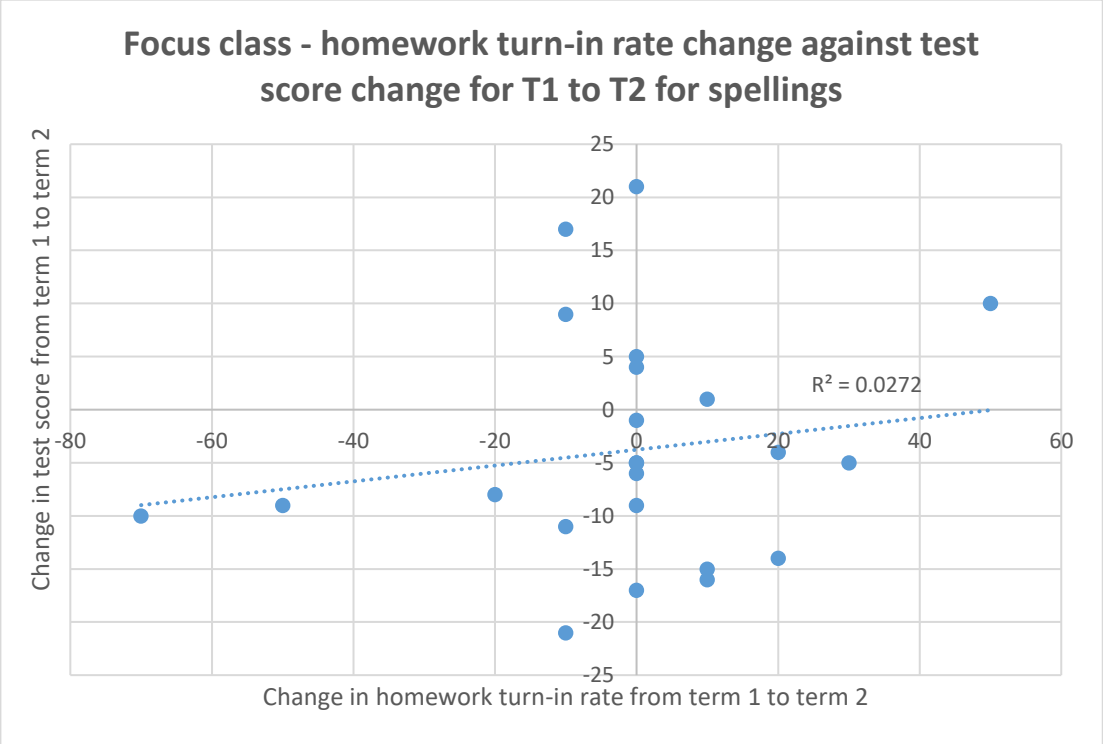

Figure 5.10 A scatter graph and trend line for the spelling homework turn-in rate change and test score change for the focus class.

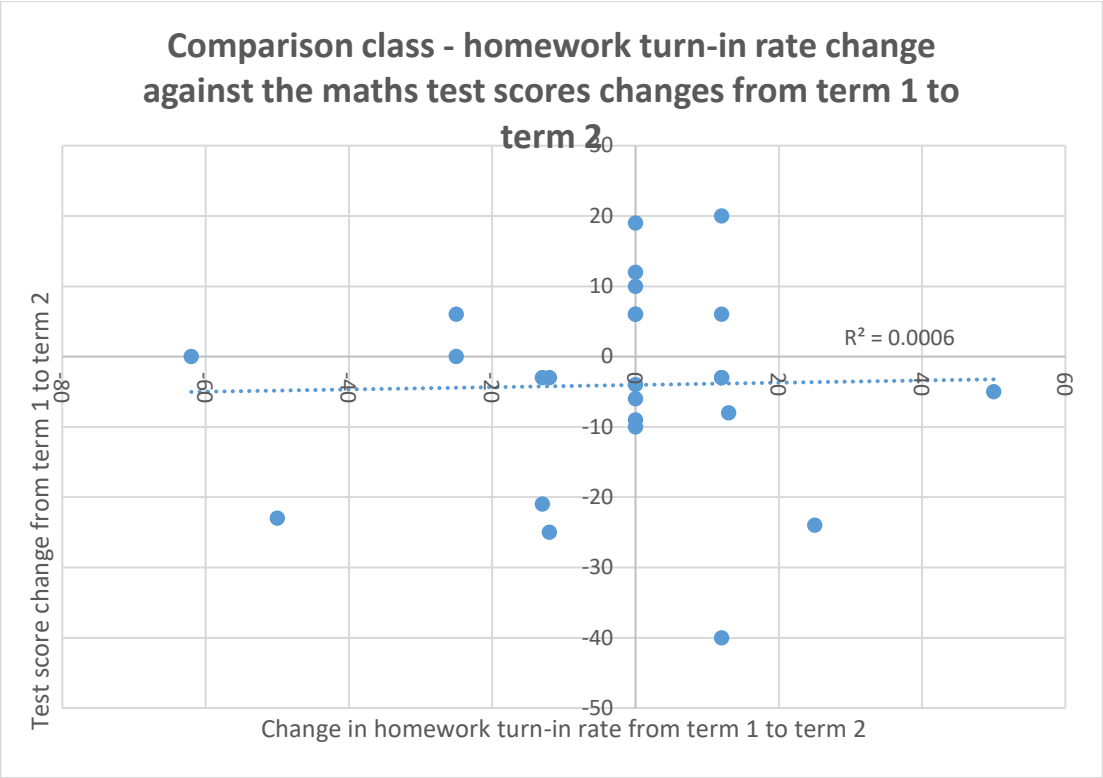

Figure 5.11 A scatter graph and trend line for the maths homework turn-in rate change and test score change for the comparison class.

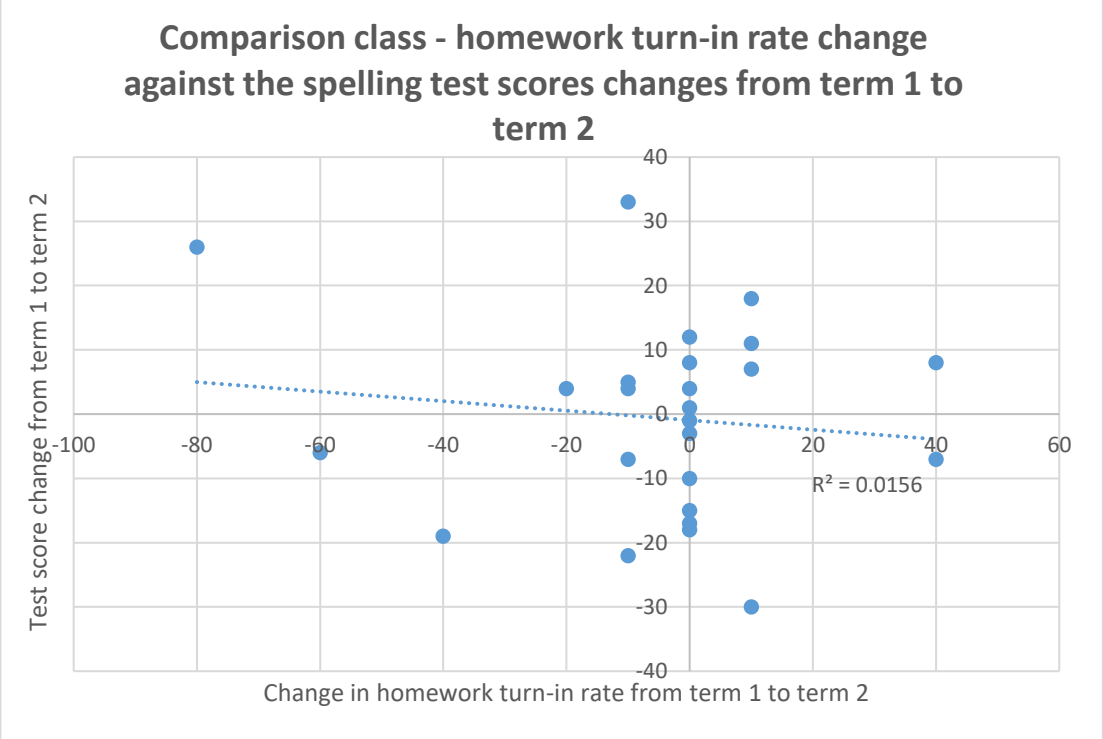

Figure 5.12 A scatter graph and trend line for the spelling homework turn-in rate change and test score change for the comparison class.

5.3.2 Individual behaviour changes

Section 5.3.1 showed there was little to no correlation between the amount of homework done and the test scores achieved for either class. Tables 5.6 (Focus class) and 5.7 (Comparison class) show how individual pupils changed their homework turn-in behaviour and the change in average test scores they achieved, the data do not support Cooper et al's (1998) findings either. It would seem reasonable that if a pupil did more homework their test scores would increase, however there is no convincing evidence of this in either class. The expected correlation to unexpected correlation for the Focus class is 39% : 61% (maths) and 31% : 69% (spellings) which means for around 30 – 40% of the class more homework did result in higher average grades but for 60 – 70% of the class this was not the case. Interestingly a similar split can be found in the Comparison class' data (29% : 71% maths; 33% : 67% spelling).

Taken together with the evidence from table 5.5 the situation for the Comparison class is likely to reflect a normal drop in homework turn-in rate reflecting a drop in doing the worksheets set. However, parents could be practising the spellings with their child just as much in term 2 as in term 1 which might support the similar test results. The decrease in maths test scores could reflect the harder multiplication tables and suggests perhaps parents are less confident practising these with their children.

Something else seems to be happening with the Focus class (table 5.4). The decrease in spelling test score is small and 2% higher than the drop in the Comparison class' test scores. This too could reflect parents testing their children in a similar way as in term 1 or reflect a slight reduction in support. However, the similar homework turn-in rates suggest the children are more motivated to do the sheets than the Comparison class

were. This might be a result of ClassDojo rewarding homework completion and turn-in, not test scores. Maths homework completion and turn-in was 2% higher in term 2 than term 1, again this could reflect rewarding this behaviour with Dojo points. However, the test scores were 10% higher in term 2 than term 1 and 12% higher than the Comparison class. This achievement was not rewarded with Dojo points. If this improvement is not a direct result of doing more homework and cannot reasonably be attributed to receiving Dojo points then using ClassDojo might have triggered additional motivational factors that influenced pupil behaviour.

Focus pupil	Maths % HW turn-in change	Maths % test score change	Spelling % HW turn-in change	Spelling % test score change
A	10	2	0	-5
B	50	20	50	10
C	0	21	0	-17
D	12	17	0	21
E	0	34	0	4
F	-25	16	0	-6
G	0	16	-50	-9
H	-13	-10	-10	-21
I	-13	27	20	-4
J	-38	6	-70	-10
K	12	-6	10	1
L	13	3	-10	9
M	-25	5	-10	-11
N	13	5	20	-14
O	13	18	0	-9
P	12	-20	0	-5
Q	0	17	0	-1
R	-13	17	-10	17
S	0	-6	30	-5
T	0	2	10	-16
U	25	7	-20	-8
V	0	18	0	5
W	0	9	10	-15
sum	33	218	-30	-89
mean	1.43	9.48	-1.30	-3.87

Table 5.6 Focus class – the percentage change by pupil of homework turn-in rates and test scores from term 1 to term 2 for maths and spellings.

Comparison pupil	Maths % HW turn-in change	Maths % test score change	Spelling % HW turn-in change	Spelling % test score change
A	50	-5	-60	-6
B	0	-9	-10	33
C	-13	-21	-10	-22
D	0	6	0	-17
E	0	12	0	4
F	0	-4	0	-1
G	-25	6	-40	-19
H	12	-3	0	-3
I	-62	0	-80	26
J	12	20	0	12
K	-50	-23	-10	5
L	12	-3	10	18
M	0	-10	0	-18
N	-12	-25	-10	-7
O	25	-24	0	-15
P	0	10	0	8
Q	13	-8	-20	4
R	0	6	0	-10
S	12	6	10	7
T	0	-6	40	8
U	-25	0	10	11
V	-12	-3	40	-7
W	0	19	0	1
X	-13	-3	-10	4
Y	12	-40	10	-30
sum	-64	-102	-130	-14
mean	-2.56	-4.08	-5.20	-0.56

Table 5.7 Comparison class – the percentage change by pupil of homework turn-in rates and test scores from term 1 to term 2 for maths and spellings.

5.3.3 Conclusion

Research Question 2: What are the perceived benefits and drawbacks associated with a reward / punishment classroom behaviour management practice?

The initial benefit of using ClassDojo was the change in the Focus class' homework turn-in behaviour. The introduction of positive and negative Dojo points produced a turnaround in the amount of work produced. This was more effective than the use of

house points and positive praise alone. There was little evidence from either class, to support Cooper et al's (1998) findings associating more homework with higher test scores or testable academic achievement however this situation might change if the ClassDojo intervention were to be used over a much longer time period and a high homework turn-in rate was established as expected pupil practice. The current situation is likely to be a factor of the school and pupil population as both classes demonstrated similar data. If this is the case then using ClassDojo to reward homework turn-in would not automatically improve test scores, particularly in the short term, as the value of academic achievement was not changed in this project. Indeed, by only changing the rewards available for homework completed and turned-in this project might have reduced learning behaviours in favour of the identified and rewarded desirable behaviour (Porter, 2000). The Focus class' spelling homework behaviour supports this interpretation. This suggests that the value of the task had changed (Eccles, et al., 1983; Plante, O'Keefe, & Théorêt, 2013), completing the task being now more valuable than the associated learning or perhaps it was the use of negative Dojo points for no homework that was the pertinent motivational factor, a point picked up in section 6.1.

Unfortunately, this interpretation does not describe what happened with the maths homework. The Comparison class decreased their homework completion rate and achieved a similar decrease in test score but the Focus class handed in slightly more homework in term 2 than term 1 and achieved an average 10% test score increase. In fact, in term 2 the Focus class handed in 3% more homework than the Comparison class and was scoring an average 12% more on the test. If the increase in test scores cannot be directly attributed to the increase in homework turned in and the behaviour is not seen in the Comparison group, then it might reasonably be concluded that using

ClassDojo may have been responsible. The value of the task in Dojo and house points was the same as the spelling homework yet the displayed behaviour is quite different.

As the Focus class' maths homework behaviour was quite different to their spelling homework behaviour and any of the Comparison class' behaviour it might be concluded that the extrinsic motivators in this case, the positive and negative Dojo points, were not solely responsible for the improved academic achievement. Perhaps some form of intrinsic motivation was being stimulated using ClassDojo in this instance. If so it was unlikely to be internally controlled behaviours (section 2.4.1) as described by Ryan, Koestner, & Deci, (1991) because these would likely have a similar impact on both homework subjects and influence homework turn-in rates rather than test scores which was not evidenced. Similarly, the math homework task had not changed in structure from term 1 so it is unlikely it suddenly became intrinsically motivating in its own right (Deci, Ryan, & Koestner, 1999) which leaves academic intrinsic motivation (section 2.4.1). This can fluctuate in strength and be subject specific (Gottfried, Fleming, & Gottfried, 2001). This is also the most likely explanation as it was the test score increase, more than the small homework turn-in rate increase, that makes the maths behaviour so different to the spelling situation. The pupil behaviour suggests achieving on the weekly multiplication tables test became a motivating factor. This behaviour might be associated with challenge, progress, competence and capability, all listed as needs (figure 3.1) associated with intrinsically motivating outcomes. Success on the multiplication tests will stimulate more intrinsic motivation to replicate the behaviour and help the pupil to strive for higher test results even if they do not do the associated homework tasks. The impact this behaviour had on the pupils' motivational profiles is discussed in section 6.2.

Chapter 6 ClassDojo, Motivational Profiles and Mindsets: Results, Analysis and Discussion

This chapter explores the effect on pupils of using ClassDojo as a classroom behaviour management system, the emotions connected with the experience and the impact on their well-being. The motivational profiles of the children are discussed in terms of their behaviour, mindsets and possible goal orientation motivations to further explore the second research question regarding benefits and drawbacks of this intervention. Then questionnaires (Appendix One) are analysed to explore any evidence of the emotions attached to the project, again in relation to the second research question. The section closes with a discussion of the third research question and offers data from beyond the initial intervention to identify effective elements of practice that might influence homework completion and turn-in rates.

6.1 Using ClassDojo

As part of the background research I did (section 1.1) before embarking on this project I interviewed teachers about their experiences using ClassDojo. They in turn asked their classes how they felt about using the program in the classroom, table 6.1 shows a summary of the results.

Table 6.1 shows that of the 108 pupils, who were evenly gender split, less than 2% disliked using ClassDojo; 100% of those who used the feature, liked working as a team to achieve a class goal; 68% liked the competition element of getting more points than their friends and this was a 63:37, boy: girl split. A similar split but the other way around (38:62, boy: girl) was found for pupils trying to improve their own scores; 94% of pupils

felt ClassDojo made them work harder and only 9% (all from one class) felt stressed by the program.

	Girls				Boys				Totals		
How many students…	Y 1	Y4/5	Y5	Y4	Y1	Y4/5	Y5	Y4	Girls	Boys	All
… like ClassDojo?	16	17	8	14	13	11	11	16	55	51	106
… dislike ClassDojo?	0	0	0	0	0	0	2	0	0	2	2
… like working as a team to get a 100% green ring?	NA	17	7	NA	NA	11	13	NA	25	24	49
… like competing against friends to get the most points?	16	0	7	4	13	11	10	12	27	46	73
… ignore what their friends get, just like trying to improve their own score?	10	16	8	0	9	0	12	0	34	21	55
… feel ClassDojo makes them work harder?	16	16	8	13	12	10	12	14	53	48	101
… feel stressed when ClassDojo is being used?	0	5	0	0	0	5	0	0	5	5	10

Table 6.1 The results from other teachers about pupil feelings using ClassDojo.

Results from questionnaires (Appendix 1.4 and 1.5) suggested the situation was very similar for the Focus class: only one child thought we should get rid of ClassDojo, claiming it was annoying, the rest wanted to keep it because it was ‘good, fun, better

than house points, made people work harder and not be naughty'. They were all either happy or excited to work as part of a team; one child also claimed they were 'proud to try their best'. No-one mentioned being stressed by the program in general but it did elicit strong feelings when the red and green points were awarded (section 6.1.1).

This combined data set suggests using ClassDojo as a classroom management tool offers widespread benefits to the children and the teachers (section 1.1), creating a sense of community, teamwork and purpose. It also encourages children to choose their behaviour for a positive reason rather than actively suppressing their actions to comply with a set of imposed rules. The program also seems to offer a motivational factor which accommodates the goal orientation (section 2.7) of the pupil. Children working with a mastery orientation can focus on achieving more points than they did the day or week before or they can focus on achieving more points than their peers if working within a performance orientation is their preferred goal. The situation is more difficult for pupils who are work avoid orientated, or those not doing their homework to protect their feelings of self-efficacy (Thoonen E. E., Sleegers, Peetsma, & Oort, 2011) because this avoidance is rewarded with negative points which highlights the inadequacy the pupil is trying to protect. The most effective self-efficacy protection behaviour is now to do the homework. Table 5.3 shows Focus class pupils doing just that. Of the 6 pupils that produced less than 50% homework turn-in rate in term 1 only one child decreased their turn-in rate in term 2. This means that 83% of the lowest performing pupils improved their homework turn-in rates when Dojo points were awarded. Since positive praise and house points were awarded in term 1, to little effect, it might be concluded that in this case the negative points were efficacious in altering the desired behaviours. However, using a motivational tool that awards negative points to embarrass and elicit emotional

upset is a cause for concern for many teachers and potentially a source of fear (Jackson, 2010) in the classroom. Section 6.1.1 explores the feelings the pupils reported while using ClassDojo to explore the extent of this fear generation.

6.1.1 Feelings elicited while using ClassDojo

In week 9 of the project the Focus pupils filled in a questionnaire about issues to do with homework (Appendix 1.4), one question (open-ended) related to how they felt using ClassDojo points. From 22 respondents to this question, 20 were positive comments – feelings of happiness, good, great and ok – while 2 comments were less positive – one pupil did not really like the points and one did not know. In week 12 of the project, the Focus pupils were asked open-ended questions about their experiences using ClassDojo and again how they liked using Dojo points (Appendix 1.5). I used their answers to create a scale of feelings (figure 6.1) on which was graphed the responses to show how opinion shifted during term 2.

The percentage of positive to negative comments for both questionnaires was very similar (91% positive in week 9 to 90% in week 12) however the second questionnaire elicited 30% more comments than the first questionnaire from the same number of respondents and a wider degree of opinion. On the scale of feelings suggested in figure 6.1, the second questionnaire stimulated stronger, more positive feelings than the first questionnaire, with two pupils who stated they did not like the scheme. However, when asked if the system should be kept or not, only one pupil said it should go because it was annoying – the noise associated with issuing points was distracting.

When asked about how they felt when they received green and red points (Appendix 1.5) the Focus children were predictably polarised in their feelings; receiving red points generated 100% negative feelings – sad, upset, angry, depressed, cross and annoyed – while receiving green points was 100% positive – super, happy, good, proud and relieved. A rather more mixed set of answers was generated when the children were asked the deliberately vague question: 'How do you feel when your name is on the board?'. 43% of the answers were positive – happy, excited, great, I like my friends to see, I am safer – and 57% of the answers were negative – embarrassed, nervous, scared, disappointed, sad and worried. This might suggest for some pupils even being awarded green points has an associated moment of distress as they take time to read their name on the interactive whiteboard and the type of points they are being issued with and for what behaviour. Alternatively, perhaps some pupils experience a level of embarrassment having their name displayed publicly and compared with their peers no matter whether it was for positive or negative praise.

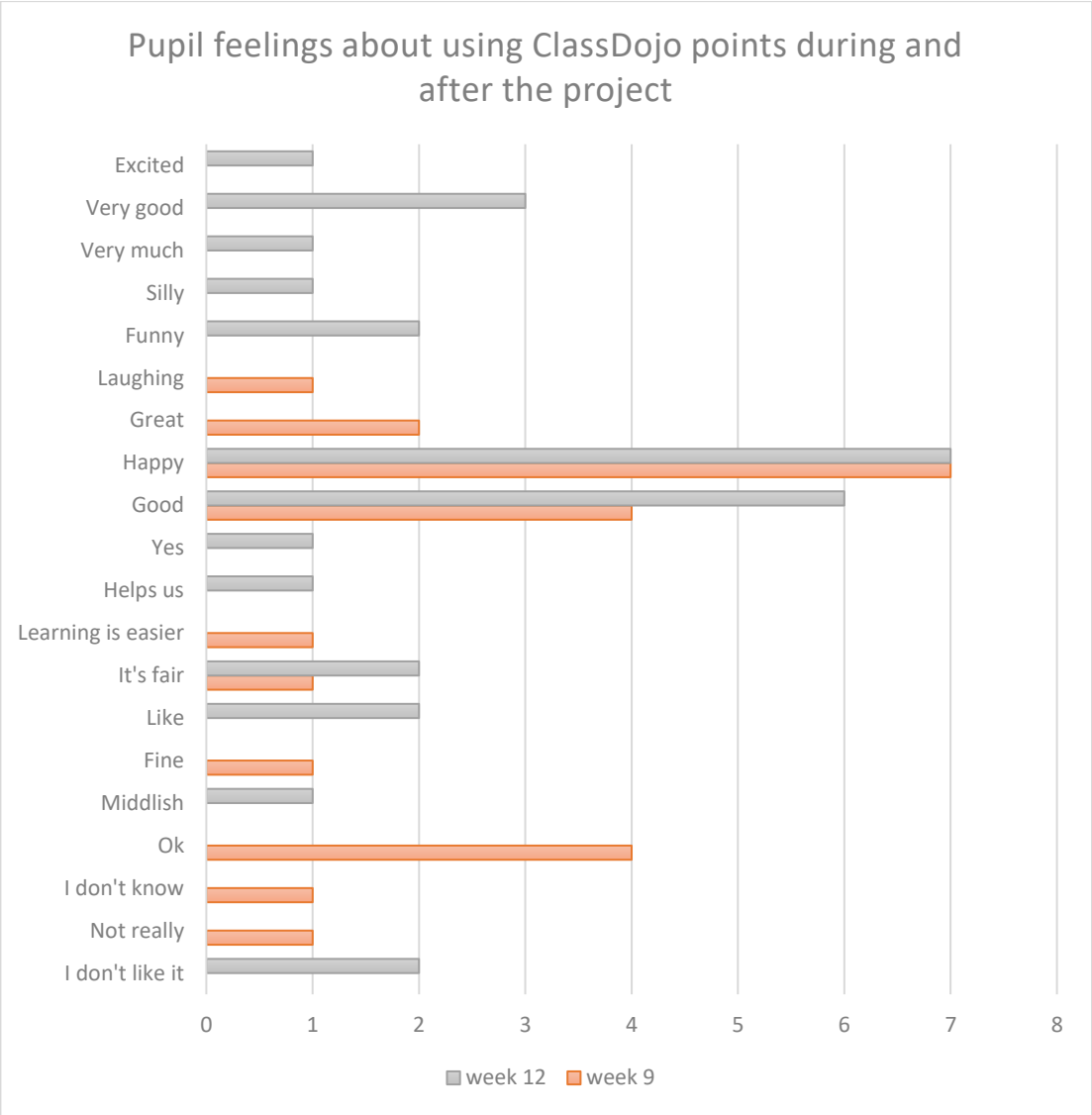

Figure 6.1 shows the terms used by pupils when asked how they felt about using ClassDojo points during the project (week 9) and after the project had finished (week 12).

6.1.2 Conclusion

Research Question 2: What are the benefits and drawbacks of a reward / punishment behaviour management system?

Behaviour management strategies are intended to support children in their behaviour choices (Glasser, 1989; Grigg, 2010) by helping them understand what is expected, what is undesirable and why. This is a social construct (Bandura, 1977; Dreikurs,

Grunwald, & Pepper, 1998) built on comparison with peers, modelling desired behaviours and understanding the consequences of undesirable actions but, as the questionnaire (Appendix 1.5) reveals, the process is an emotional one too. Using ClassDojo exposes pupils to emotional turmoil, they report experiencing strong positive and negative feelings with regards red and green points and even having their names on the interactive whiteboard. The social factor of this behaviour management strategy is evident in some of the comments about friends seeing a pupil being rewarded; the competition element in table 6.1 as well as the wholly positive experience of working as a team towards a class goal. The use of rewards and punishments in this strategy are used more for social and work related behaviours than work outcomes, breaking Shreeve et al's (2002) observation that rewards are associated with work and punishments with behaviour. This is reflected by the children's comments that the system makes them work harder but no comments about their academic achievement. Despite the pressure to work harder and the emotions created by the system, a very large percentage of the children in the study liked using ClassDojo and evidence suggests it encourages them to demonstrate more desirable behaviours than other behaviour management systems that have been tried.

It is interesting to notice the gender split found in table 6.1 with regards how more boys than girls enjoy competing with friends and how more girls than boys prefer to see how they improve over time. This could be interpreted as a goal orientation approach to learning, suggesting that more girls than boys are likely to demonstrate a mastery orientation and more boys than girls are likely to be performance orientated but without seeing how these opinions translate into classwork it is impossible to establish any futher connection. What is possible to conclude is that using ClassDojo can support the

behaviour choices of differently orientated pupils as they can interprete the rewards and punishments in accordance with their individual needs. If they require their Social-Self needs to be rewarded, getting Dojo points can be interpreted this way; or if challenge is required then this too can be the outcome as well as the Psychological-Governance needs of progress, choice and control (figure 3.1) which are the most intrinsically rewarding behaviours to experience. This means that although the rewards / punishment behaviour management system is emotionally charged and experiencing emotional punishments is a real threat, the children are given the autonomy to choose the desired behaviour and to receive the reward for it. This reward can support a wide selection of needs (figure 3.1), in line with what the child will experience as the most rewarding from the activity.

Many teachers do not like to use negative Dojo points as the evidence clearly associates them with negative emotional reactions for the children. However, this form of punishment should be compared to the school wide behaviour management strategy (figure 2.1) used in term 1 with the Focus class and throughout the project with the Comparison class. This strategy involves a warning card which is placed on the child's desk as a reminder of their poor behaviour for the first verbal warning, then for a second verbal warning the child's name is put on the orange zone of the behaviour board (figure 2.2) and the child gets 'time out in another classroom' (figure 2.1) – a practice Nye et al (2016) says should be avoided as it is detrimental to self-esteem. If behaviour does not improve step 4 is taken which moves the child's name to the red zone and parents may be informed. In this scheme punishments escalate rapidly to the child being removed from the class environment and placed in a different classroom with unfamiliar children and teachers, a public humiliation far worse than a negative Dojo point. This

removal from the classroom, as Nye et al (2016) suggests is very damaging to emotional well-being and hard for the pupil to recover from which is likely to impact their academic engagement and achievement (Wearmouth, Richmond, Ted, & Berryman, 2004) and could lead to pupil defiance and further disruptive behaviour (Way, 2011) rather than motivate compliance and demonstration of the desired behaviours.

The school wide behaviour management strategy which is displayed in each classroom (figure 2.1) could be interpreted as a controlling (Hart, 2010) form of implied threat (Yilmaz & Göçen, 2015). A way to humiliate and embarrass children if they misbehave (Bledsoe & Baskin, 2014). As indicated by the children, using Dojo points although still emotionally charged is preferable and positively motivating. The impact of using ClassDojo on the pupil well-being is reflected in their motivational profiles (section 6.2) and an interesting improvement in their feelings of emotional security and protection from psychological threat.

6.2 Motivational Profiles

Figures 3.2 and 3.3 graphically show a person's motivational profile but producing this level of detail repeatedly for children would require them to answer a lot of questions and reduce the likelihood of collecting complete data sets from very young pupils. Therefore, a set of 35 questions was devised to give an overall score for each Class-Level on the motivational model (figure 3.1), that could be graphed over time to assess any changes. A percentage value can also be given to describe the overall strength of the motivational profile as shown in table 6.3.

6.2.1 Comparing Comparison and Focus Classes' Motivational profile change

Questionnaires (Appendix 1.1, 1.2 and 1.6) were administered during this project to measure the pupils' motivational profiles. The Comparison class responded to the questionnaires before the project began, in week -2 (figure AP 1.2) and after the project finished, in week 11 (AP 1.7). The Focus class did the same questionnaires as the Comparison class but also ones in week 2 (Appendix 1.2) and week 10 (AP 1.6) of the project. The questionnaires were made up of 35 statements, five for each level in the motivational model (figure 3.1). The questions were presented in a 5-point Likert-type style with smiley faces (table 6.2) and scored 1 to 5 based on how much the child agreed with the statement at that moment in time. The statements were informed by those used by Lester (1990) but, in response to the pupil age, they were reduced in number and made more age, experience and situation appropriate. When administering the test, all questions were read out by the teacher to make the material accessible to all ability children. 20% of the questions were inverted or presented negatively to highlight any children simply answering in the same column for all questions. Irregular papers were deemed spoilt, as were incomplete questionnaires and incorrectly completed ones. To be included in the data on table 6.3, the pupils had to complete questionnaires from week -2 and week 11. From the Focus class 11 out of 23 (48%) pupils provided the required data while from the Comparison class 14 out of 25 (56%) of the pupils provided the required data. Table 6.3 gives the total of each class-level, the motivational profile total and percentage for each questionnaire for each pupil. Table 6.4 brings together the changes in motivational profiles with the changes in total homework turn-in rate from term 1 to term 2.

				

Table 6.2 Faces on which pupils recorded their responses to questions.

Class-Levels

- PF – Physical Functioning
- PS – Physical Safety
- SR – Social Relatedness
- SS – Social Self
- PsU – Psychological Understanding
- PsA – Psychological Aesthetics
- PsG – Psychological Governance

Comparison Pupil	Week -2		Week 11	
A	PF PS SR SS PsU PsA PsG SUM %	16 20 16 17 19 25 21 134 76.57%	PF PS SR SS PsU PsA PsG SUM %	11 9 14 7 11 17 20 89 50.86%
C	PF PS SR SS PsU PsA PsG SUM %	9 19 17 11 17 13 25 111 63.43%	PF PS SR SS PsU PsA PsG SUM %	11 13 4 10 18 15 6 77 44%
D	PF PS SR SS PsU PsA PsG SUM %	23 25 25 25 23 24 25 170 97.14%	PF PS SR SS PsU PsA PsG SUM %	20 25 25 24 23 25 21 163 93.14%

I	PF PS SR SS PsU PsA PsG SUM %	17 24 17 19 23 20 23 143 81.71%	PF PS SR SS PsU PsA PsG SUM %	17 19 17 11 19 21 23 127 72.57%
J	PF PS SR SS PsU PsA PsG SUM %	21 25 21 25 25 25 21 163 93.14%	PF PS SR SS PsU PsA PsG SUM %	25 14 24 20 24 21 18 146 83.43%
K	PF PS SR SS PsU PsA PsG SUM %	21 23 24 19 16 25 18 146 83.43%	PF PS SR SS PsU PsA PsG SUM %	22 21 20 17 17 23 20 140 80%
L	PF PS SR SS PsU PsA PsG SUM %	21 25 18 24 24 21 25 158 90.29%	PF PS SR SS PsU PsA PsG SUM %	15 14 12 20 17 16 21 115 65.71%
N	PF PS SR SS PsU PsA PsG SUM %	13 22 18 15 25 17 18 128 73.14%	PF PS SR SS PsU PsA PsG SUM %	16 18 21 16 14 21 16 122 69.71%

P	PF PS SR SS PsU PsA PsG SUM %	20 21 24 17 22 25 25 154 88%	PF PS SR SS PsU PsA PsG SUM %	16 20 20 20 20 20 25 141 80.57%
Q	PF PS SR SS PsU PsA PsG SUM %	17 23 21 19 21 25 21 147 84%	PF PS SR SS PsU PsA PsG SUM %	13 17 15 12 19 15 20 111 63.43%
S	PF PS SR SS PsU PsA PsG SUM %	18 20 21 23 22 21 22 147 84%	PF PS SR SS PsU PsA PsG SUM %	17 21 19 20 19 20 20 136 77.71%
T	PF PS SR SS PsU PsA PsG SUM %	20 21 23 21 21 22 23 151 86.29%	PF PS SR SS PsU PsA PsG SUM %	20 22 21 15 18 25 21 142 81.14%
U	PF PS SR SS PsU PsA PsG SUM %	25 25 25 24 26 22 24 171 97.71%	PF PS SR SS PsU PsA PsG SUM %	17 25 23 14 16 20 14 129 73.71%

X	PF PS SR SS PsU PsA PsG SUM %	19 22 23 20 24 25 17 150 85.71%	PF PS SR SS PsU PsA PsG SUM %	15 17 18 15 19 15 25 124 70.86%
Focus Pupil	Week -2		Week 11	
C	PF PS SR SS PsU PsA PsG SUM %	16 20 17 12 25 12 17 119 68%	PF PS SR SS PsU PsA PsG SUM %	24 25 17 21 25 21 25 158 90.29%
D	PF PS SR SS PsU PsA PsG SUM %	21 21 21 24 21 18 24 150 85.71%	PF PS SR SS PsU PsA PsG SUM %	19 23 20 18 20 20 20 140 80%
I	PF PS SR SS PsU PsA PsG SUM %	10 13 14 16 15 18 12 98 56%	PF PS SR SS PsU PsA PsG SUM %	20 19 21 19 20 19 20 138 78.86%

K	PF PS SR SS PsU PsA PsG SUM %	17 16 16 20 14 20 19 122 69.71%	PF PS SR SS PsU PsA PsG SUM %	22 22 19 22 20 21 20 146 83.43%
L	PF PS SR SS PsU PsA PsG SUM %	19 19 20 24 18 18 24 142 81.14%	PF PS SR SS PsU PsA PsG SUM %	22 21 22 20 20 20 21 146 83.43%
M	PF PS SR SS PsU PsA PsG SUM %	22 22 22 23 23 12 24 148 84.57%	PF PS SR SS PsU PsA PsG SUM %	16 21 25 20 22 15 25 144 82.29%
O	PF PS SR SS PsU PsA PsG SUM %	19 21 22 25 24 21 24 156 89.14%	PF PS SR SS PsU PsA PsG SUM %	24 25 21 25 25 19 21 160 91.43%
P	PF PS SR SS PsU PsA PsG SUM %	14 12 21 20 24 25 19 135 77.14%	PF PS SR SS PsU PsA PsG SUM %	16 23 19 25 24 24 21 152 86.86%

Q	PF PS SR SS PsU PsA PsG SUM %	19 22 22 23 23 16 23 148 84.57%	PF PS SR SS PsU PsA PsG SUM %	21 20 16 22 12 20 20 131 74.86%
R	PF PS SR SS PsU PsA PsG SUM %	23 21 22 19 21 19 21 146 83.43%	PF PS SR SS PsU PsA PsG SUM %	20 23 25 22 23 20 25 158 90.29%
U	PF PS SR SS PsU PsA PsG SUM %	20 20 22 25 23 21 23 154 88%	PF PS SR SS PsU PsA PsG SUM %	9 21 21 25 25 21 21 143 81.71%

Table 6.3 Pupil motivational profile scores against motivation model (figure 3.1) Class-Levels.

The data set for this part of the study only represents about half the pupils involved in the project so the results and conclusions drawn from the motivational profile changes may not represent the whole year group, however the data from each class are comparable and reveals some differences that suggest the use of ClassDojo had an impact on the well-being of the Focus class.

Table 6.4 shows the change in pupils' homework turn-in rate from term 1 to term 2 against their change in motivational profile total change for the same period, for both

classes. Figure 6.2 shows this data as a scatter graph, with a trend line for each class showing the overall behavioural relationship.

This small data set (table 6.4) shows that for the Comparison class, 3 pupils improved the amount of homework they turned in while 6 improved in the Focus class; 4 Comparison pupils to 2 Focus pupils remained unchanged in their homework production while 7 Comparison pupils and 3 Focus pupils did less homework in term 2 than they did in term 1. The motivational profile values for the Comparison class were all negative, suggesting all the pupils in this sample felt worse about things two weeks before Christmas than they did early in September. The Focus class pupils were quite different, while 4 had negative profile changes, 7 had positive ones. On the scatter graph (Figure 6.2), the separation of the data points becomes evident with the Focus class data sitting higher than the Comparison class data. Although these data suggest a difference is developing between the classes, the trend lines suggest there is very little correlation between the change in homework turn-in behaviour and the change in the pupil motivational profiles. However, the correlation is three times stronger for the Focus class than it is for the Comparison class, which suggests the use of ClassDojo to reward homework did improve the motivational profiles, but its influence went beyond homework behaviour.

Pupil	Comparison class Change in HW turn-in rate	Comparison class Motivation profile total change	Pupil	Focus class Change in HW turn-in rate	Focus class Motivation Profile total change
D	0	-7	I	22	40
L	0	-43	C	0	39
U	-6	-42	M	-22	-4
N	0	-6	P	6	17
Q	6	-36	Q	0	-17
C	-6	-34	L	11	4
P	-11	-13	U	11	-11
I	-66	-16	O	-12	4
S	0	-11	K	11	24
K	-6	-6	D	6	-10
T	17	-9	R	-6	12
X	-11	-26			
A	-45	-45			
J	6	-17			

Table 6.4 Change in pupil motivational profile data against their change in homework turn-in rate from term 1 to term 2 for the Comparison and Focus classes.

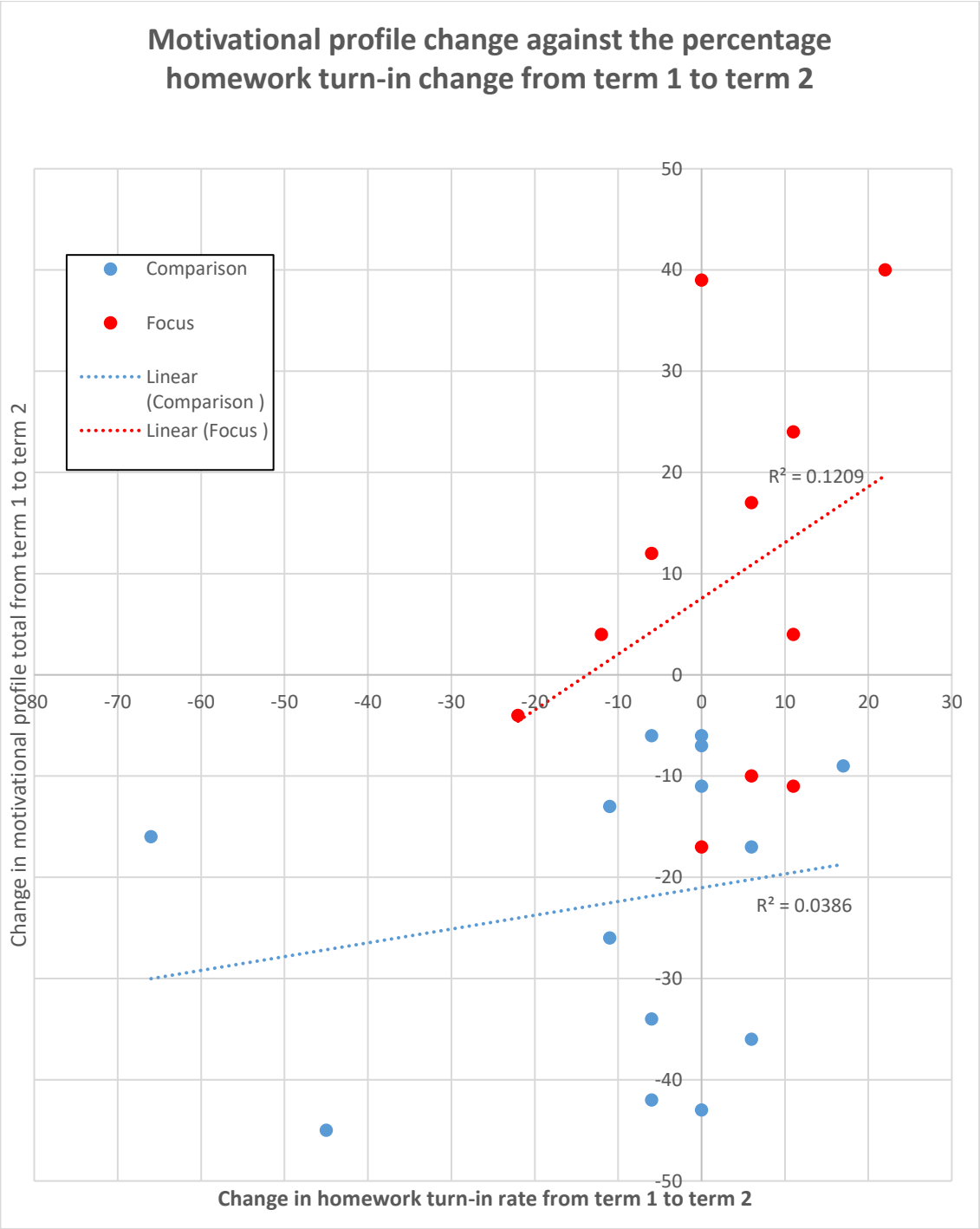

Figure 6.2 A scatter graph of the motivational profile change against the homework turn-in rate change from term 1 to term 2 for the Comparison and Focus classes.

To understand what is happening at each level of the classes' motivational profiles table 6.5 and table 6.6 show the average motivational profiles of the Comparison class and Focus class respectively, separating out the average motivational class-levels for each

week and listing the difference from the beginning to the end of the project. At the beginning of the project there was a total difference in motivational profiles of nearly 10 points (5.6%) with the Comparison class being the higher value. The Focus class showed a positive change from beginning to end of the project in all class-levels (the Comparison class showed a negative change in all class-levels) but the Focus class' final total was still lower than the initial Comparison class value. However, the overall change in the Comparison class average motivational profile was significantly more negative than the Focus class was positive, losing nearly 13% of their value to the Focus class' gain of nearly 5%. This makes a nearly 18% difference in average motivational profile values between the classes over the course of two terms.

A look at the structure of the motivational profiles (figures 6.3 and 6.4) might explain where changes occurred during the project and how these influenced the behaviour changes demonstrated with regards homework completion and test achievement. For the Focus class figure 6.4 shows the biggest change occurred in the Physical-Safety class-level; increasing by 18% of its original value. The next biggest increase was in the Psychological-Aesthetics class-level (10%). Physical-Functioning rose by 6% and the other class-levels by 2 or 3%. Although small changes on the upper levels of the motivational profile are thought to improve intrinsic motivation more than lower levels (section 3.2), the change on the Physical-Safety class-level is important. By improving the pupils' sense of emotional and psychological safety the negative and inhibiting effect on intrinsic motivation is reduced. This might be because using negative Dojo points instead of the school behaviour management strategy (figure 2.1 and 2.2) is less threatening and therefore less impactful on intrinsic motivation to engage with academic tasks. If the results from section 5.3 suggest some intrinsic motivation was created by

using ClassDojo with the Focus class it cannot be solely attributed to improvements in the Social and Psychological class-levels, the improvement in the Physical-Safety class levels must be included too.

Without the influence of ClassDojo in term 2 the Comparison class data demonstrate the impact the school behaviour strategy had over the course of the project. Figure 6.3 shows that all class-levels dropped in value, the biggest being the Social-Self class-level which lost 21% of its value. This was closely followed by Physical-Safety and Psychological-Understanding which lost 19% and 18% respectively. The other levels lost between 9 and 13% each. If we remember that the Comparison class data indicate what happens without the influence of ClassDojo it can be concluded that not only is the school behaviour management strategy detrimental to all levels of the pupils' motivational profile and therefore not supporting intrinsic motivation and academic achievement, the use of ClassDojo is supportive on all levels. What must also be remembered is that for term 1 the Focus class and the Comparison class were subject to the school behaviour management strategy and it can be assumed both reacted in a similar fashion. Therefore, the positive impact of using ClassDojo was accomplished by its introduction in term 2 only, perhaps reflecting figure 5.1.

	Week -2	Week 11	Difference
Physical Functioning	18.5	16.8	-1.7
Physical Safety	22.5	18.2	-4.3
Social Relatedness	20.9	18.1	-2.8
Social Self	19.9	15.8	-4.1
Psychological Understanding	22	18.1	-3.9
Psychological Aesthetics	22.1	19.6	-2.5
Psychological Governance	22.1	19.3	-2.8
SUM %	148 84.57%	125.9 71.94%	-22.1 -12.63%

Table 6.5 Comparison Class average profile element value at the beginning and end of the project.

	Week -2	Week 11	Difference
Physical Functioning	18.2	19.3	1.1
Physical Safety	18.8	22.1	3.3
Social Relatedness	20	20.5	0.5
Social Self	21	21.7	0.7
Psychological Understanding	21	21.5	0.5
Psychological Aesthetics	18.2	20	1.8
Psychological Governance	21	21.7	0.7
SUM %	138.2 78.97%	146.8 83.89%	8.6 4.91%

Table 6.6 Focus Class average profile element values at the beginning and end of the project.

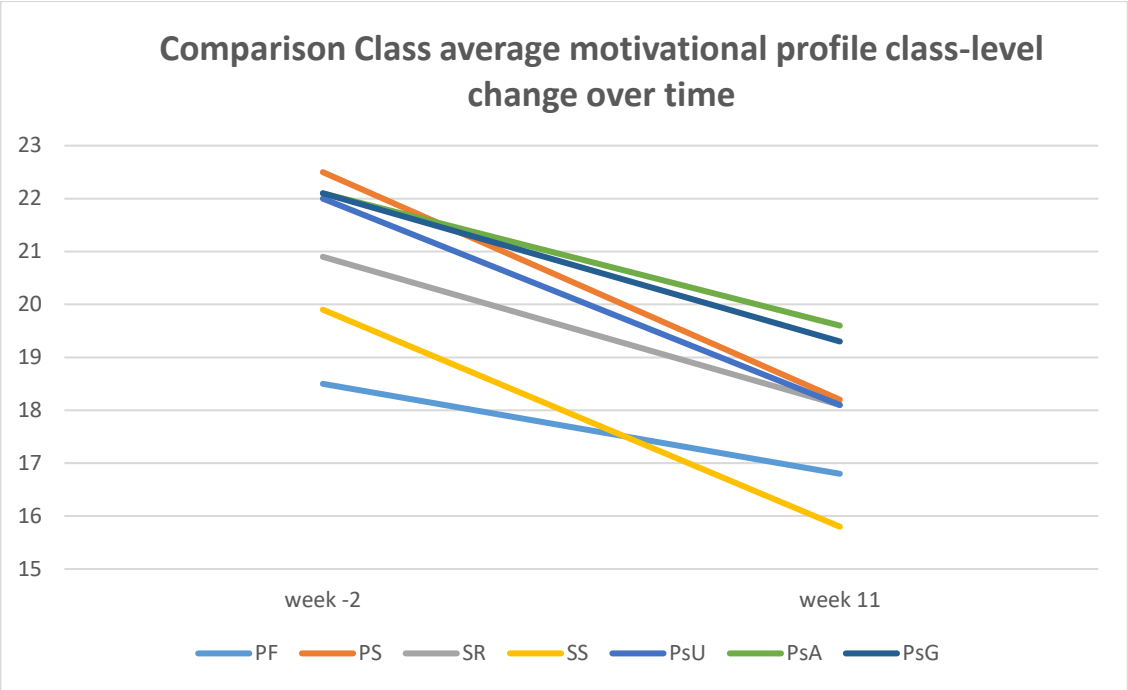

Figure 6.3 A graph of the Comparison Class' average profile class- level change over time.

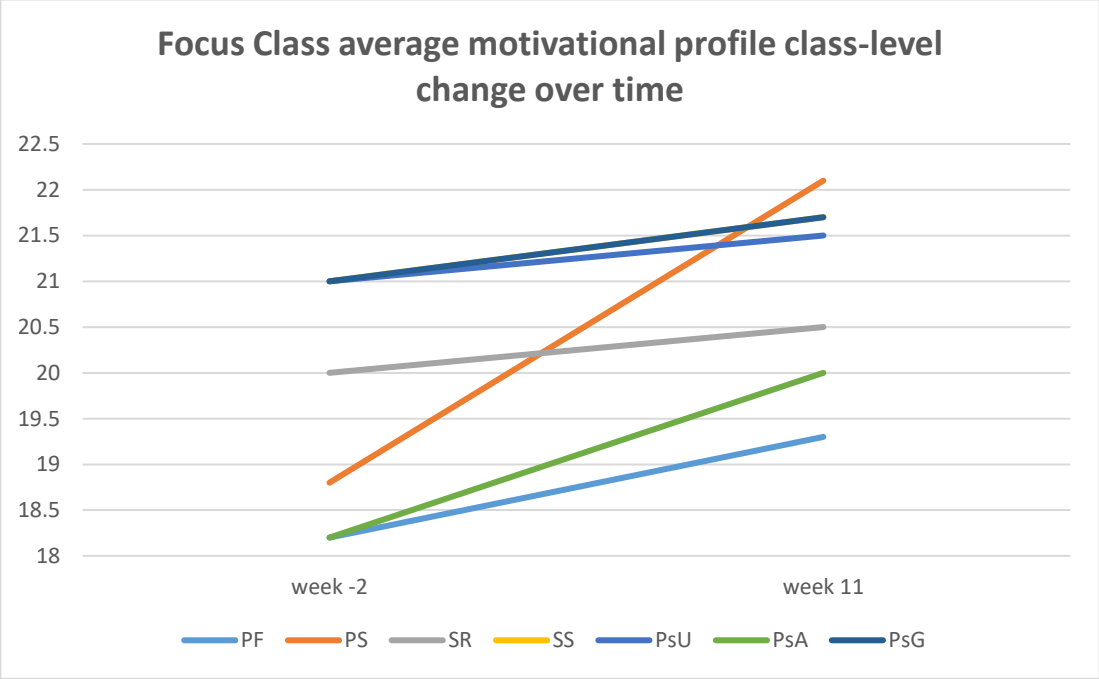

Figure 6.4 A Graph of the Focus Class' average profile class-level change over time. Note: The Social-Self line is underneath the Psychological-Governance line as they both have the same values.

6.2.2 Intrinsic Motivation Influence

The motivational profile change demonstrated in section 6.2.1 can be used to quantify a change in the intrinsic motivation level of the classes (section 3.2). If each level of the motivational model (figure 3.1) is assigned a numerical value representing its contribution to intrinsic motivation generation relative to the other levels of the model. Generating the intrinsic motivation quotient (IMQ see tables 6.7 and 6.8) is done by finding the positive contribution and subtracting the negative influence. The positive value is the sum of the motivational profile values multiplied by the class-level weighting (PF = 1, PS = 2, etc up to PsG = 7). The negative value is the motivational profile value subtracted from 25 and then multiplied by the class-level weighting (this time PF = 7, PS = 6, etc down to PsG = 1). When the negative effect is subtracted from the positive impact the final value represents the intrinsic motivation influencing behaviour. The motivational profile percentage and the IMQ are relative to each other by the very nature of this calculation process, the higher the profile value the higher the IMQ.

In the case of the Comparison and Focus class, tables 6.7 and 6.8 highlight the impact of changes on each class-level to the average intrinsic motivation in the class. The overall results indicate that the Comparison class decreased their motivational profiles and their intrinsic motivation across the project, perhaps reflecting their homework turn-in behaviour (table 5.1). Meanwhile the Focus class showed a small improvement of their motivational profiles and IMQ across the project, reflecting perhaps their similar start and end points in homework turn-in rates. These values do not reflect what happened between the start and end of the project, just how the pupils were feeling at the time of completing the questionnaires.

Comparison Class IMQ

Comparison wk -2					Comparison wk 11			
Class -level	Positive intrinsic influence	Negative intrinsic influence	Resulting influence		Class-level	Positive intrinsic influence	Negative intrinsic influence	Resulting influence
PF	18.5	45.5	-27		PF	16.8	57.4	-40.6
PS	45	15	30		PS	36.4	40.8	-4.4
SR	62.7	20.5	42.2		SR	54.3	34.5	19.8
SS	79.6	20.4	59.2		SS	63.2	36.8	26.4
PsU	110	9	101		PsU	90.5	20.7	69.8
PsA	132.6	5.8	126.8		PsA	117.6	10.8	106.8
PsG	154.7	2.9	151.8		PsG	135.1	5.7	129.4
SUM	603.1	119.1	IMQ 484		SUM	513.9	206.7	IMQ 307.2
Input					Input			
PF	18.5				PF	16.8		
PS	22.5				PS	18.2		
SR	20.9				SR	18.1		
SS	19.9				SS	15.8		
PsU	22				PsU	18.1		
PsA	22.1				PsA	19.6		
PsG	22.1				PsG	19.3		
SUM	148				SUM	125.9		
%	84.57				%	71.94		
	Comparison	Motivational profile change	-12.62					
		IMQ change	-176.8					

Table 6.7 The motivational profile and IMQ changes for the Comparison class.

Focus Class IMQ

Focus wk -2					Focus wk 11			
Class-level	Positive intrinsic influence	Negative intrinsic influence	Resulting influence		Class-level	Positive intrinsic influence	Negative intrinsic influence	Resulting influence
PF	18.2	47.6	-29.4		PF	19.3	39.9	-20.6
PS	37.6	37.2	0.4		PS	44.2	17.4	26.8
SR	60	25	35		SR	61.5	22.5	39
SS	84	16	68		SS	86.8	13.2	73.6
PsU	105	12	93		PsU	107.5	10.5	97
PsA	109.2	13.6	95.6		PsA	120	10	110
PsG	147	4	143		PsG	151.9	3.3	148.6
SUM	561	155.4	IMQ 405.6		SUM	591.2	116.8	IMQ 474.4
Input					Input			
PF	18.2				PF	19.3		
PS	18.8				PS	22.1		
SR	20				SR	20.5		
SS	21				SS	21.7		
PsU	21				PsU	21.5		
PsA	18.2				PsA	20		
PsG	21				PsG	21.7		
SUM	138.2				SUM	146.8		
%	78.97				%	83.89		
	Focus	Motivational profile change	4.91					
		IMQ change	68.8					

Table 6.8 The motivational profile and IMQ changes for the Focus class.

The motivational profile is a dynamic feature of a person and is situationally specific. The pupil data (table 6.3, and Appendix Two) supports this interpretation showing a degree of movement in values which seems to correspond to events in the classroom and homework behaviour. The questionnaires that created the pupil data sets were homework specific in nature and administered to both classes so it is reasonable to assume differences in the average class profiles (figures 6.3 and 6.4) can be attributed to the use of ClassDojo and homework turn-in although it is accepted that other life

experiences will impact individual pupil motivational profiles. There also seems to be a correlation in percentage motivational value and the exhibited behaviour which has some resemblance to Goal Orientation Theory.

The questionnaires which generated the motivational profile data were found to have a good internal reliability (Cronbach Alpha 0.82; Split-Half (odd-even) Correlation 0.72; Split-Half with Spearman-Brown Adjustment 0.84) but with the limited data set it is impossible to put strict boundary lines on the motivational profile percentages and equate them to specific goal orientations. However, the data suggest a scale exists. The association of intrinsic motivation with the motivational profile percentage would suggest the low 50% area would be a crucial point as this is where the IMQ reaches zero. Lower than 50% and the IMQ becomes negative suggesting the use of extrinsic rewards and motivational strategies need to be employed by teachers if pupils are to be reengaged with academic tasks.

There were two Comparison pupils (A and C) who produced motivational profile values of 50.86% and 44% in week 11, having achieved 76.57% and 63.43% at the beginning of the year. Both pupils demonstrated a decline in their homework turn-in rates and failed to return any completed homework on time in term 2. This suggests work avoidance behaviour patterns and the ineffectual motivational influence of house points for these individuals. In the Focus class two pupils (I and H) had scores in the fifties during week 10: 59.43% and 58.3% respectively. Their behaviour suggested a work avoidance goal orientation was motivating them too. Pupil I was found to be copying a classmate during the weekly tables and spelling test and pupil H was the only Focus class pupil to refuse to do any homework in term 2, in fact pupil H did no homework

from week 3 onwards. Looking at their charts pupil I (figure AP 2.3) and pupil H (figure AP 2.13) show motivational profiles that are quite different. I's behaviour is linked to a dramatic drop in the Social-Self class-level suggesting a reduction in self-esteem, self-respect, capability and the esteem and respect of others while the Understanding, Relatedness and Governance levels are still at the top of the chart. This is consistent with deliberately cheating, a behaviour intended to maintain an affiliation to the group if it went undiscovered. For pupil H Relatedness and Functioning are low in week 10 but Physical-Safety and Governance are high in the profile, note the Social-Self only dips slightly. While work avoidance behaviour was demonstrated in relation to homework and classwork for most of this project, the profile suggests the motivation is linked with the need to boost emotional security, protection from mental harm to the detriment of affiliation, trust and affection and elements of Physical-Functioning. However, these elements began to recover in week 11 when ClassDojo was no longer in effect and the public rewards and punishments for homework were no longer an issue. The steady Social -Self line of pupil H's profile suggests the individual is achieving some intrinsic reward from deliberately not doing what is required in the way of homework, and this is compensating for the low Relatedness and Functioning levels.

The next group of Focus pupils (K, N, and Q see Appendix Two tables AP 2.4, AP 2.14, and AP 2.9) produced fluctuating motivational profiles with scores predominantly in the 60's and low 70%. When this is the case the motivational profile tends to have the Social-Self profile line at the top of the chart and the Social-Relatedness halfway down the profile order. Pupil L in week 2 demonstrated the same profile structure when they scored 69.14%. This could correspond to the performance avoid orientation as behaviour that boosts the needs of self-esteem, competence and capability are

associated with the desire to avoid looking incompetent (Elliot & Murayama, 2008). Closely related to this group are pupils M, L and R (Appendix Two tables AP 2.6, AP 2.5 and AP 2.10) who generally score in the upper 70% and lower 80% range. Their profiles tend to have Social-Relatedness, Psychological-Understanding and Psychological-Governance at the top end and Social-Self towards the middle or bottom of the profile. This could be associated with performance approach behaviour as the desire to demonstrate competence would be addressed by increasing understanding and the requirement to outperform peers suggests an affiliation to a group of friends is favourable. These pupils also happened to be a close group of friends who regularly worked together and enjoyed seeing who could be best.

The last group, pupils P, O and C (Appendix Two tables AP 2.8, AP 2 .7 and AP 2.1) showed no discernible pattern to their profiles which were predominantly between the upper 80% and lower 90%. However, their Physical-Safety class-level did increase as their motivational profile percentage increased, suggesting that improving the emotional security of pupils does increase their intrinsic motivation. In the classroom, these children usually demonstrated learning behaviour akin to a mastery goal orientation, being less interested in what their classmates were achieving and more focused on improving their own skills and knowledge (Elliot & Murayama, 2008).

Although the motivational model (figure 3.1) and the data from the motivational profiles suggests a connection between goal orientation and a scale might exist, the data set from this project is too small to confirm more than a possibility that it exists. A lot more research would need to be done in this area to confirm any connection with goal orientation theory and establish the viability of the motivational scale.

6.2.3 Conclusion

Research Question 2: What are the perceived benefits and drawbacks associated with a reward / punishment classroom behaviour management practice?

The use of positive and negative Dojo points when teamed with explicit success criteria (Thompson, Self-Worth Protection: Review and implications for the classroom, 1994) that all pupils can achieve equally was found to improve and support all class-levels of pupil motivational profiles and well-being. The most significant improvement appeared in the increased value of the Physical-Safety class-level (figure 6.4) suggesting that the use of Dojo points reduced emotional threat and contributed to intrinsic motivation generation.

The reduction of psychological threat and improving emotional security has been shown in the data to have a positive impact on learning behaviours (Jackson, 2010), identifying where these threats exist is an important factor of any classroom behaviour management strategy. Additionally, a clear structure of rewards and punishments, based on specific, identified criteria that are within the child's control and autonomy (Covington & Manheim Teel, 1996) can reduce the level of fear associated with learning and education (see section 2.6) and support concepts of Self (Seifert, 2004) which in turn can maintain or improve the motivational profile, enabling the pupil to positively engage with the learning environment which is likely to promote academic achievement. However, pupils can exercise their autonomy and control, to support their motivational profiles and goal orientation but not display the teacher desired learning behaviour. It depends on the value attached to the desired behaviour relative to the

individual child's motivational profile and goal orientation as to whether or not the desired behaviour will be demonstrated.

Pupil behaviour is a response to their needs and reflects the value of the behaviour in supporting their individual motivational profiles. If the behaviour meets a need in the motivational profile, it will be done and the positive reward received. However, if the value of the behaviour or task does not meet a need or is likely to receive a punishment with respect to the motivational profile then the task or desired behaviour is unlikely to be achieved. The impact of refusing to engage with a class activity or expected behaviour could reduce areas of the motivational profile while supporting others, indeed punishing undesirable behaviour can, in some cases, reinforce the behaviour (Merrett, 1985) but still reduce the motivational profile percentage value; potentially feeding the development of deeper psychological issues (Maslow A. , 1954).

Child H followed a behaviour pattern that was both protective and intrinsically rewarding for their motivational profile, this could be said of pupils who demonstrate other undesirable behaviours, such as regularly being out of their seat, talking out-of-turn (Clunies-Ross, Little, & Kienhuis, 2008) or disrupting the learning of other children (Esturgó-Deu & Sala-Roca, 2010). These undesirable behaviours are driven by the motivational profile and the needs of the child. While some authors believe, these behaviours are a response to low self-esteem (Brendgen, Vitaro, Turgeon, Poulin, & Wanner, 2004), the data from the motivational profiles suggests other needs may also be involved. The needs of autonomy, choice and control are parts of the highest class-level and therefore the most intrinsically rewarding behaviours particularly when the profile is high for these needs. This means that choosing to behave in a certain manner,

especially when it is not requested by someone in authority, is a form of control, autonomy and choice. The behaviour may also address the needs associated with challenge, curiosity and knowledge from the Psychological-Understanding level. If the behaviour itself is intrinsically rewarding and it removes the child from a source of stress (Esturgó-Deu & Sala-Roca, 2010) such as difficult work or homework then regularly repeating that behaviour will be inevitable.

6.3 Mindsets and pupil perceived ability

In week 8 of the project the Focus class completed a questionnaire regarding mindsets (Appendix 1.3). Of the 23 pupils that completed the questionnaire, 2 produced spoilt papers leaving 21 responses that for the data set form table 6.9. Mindsets (see section 2.8) and a positive view of ability, have been found to play a significant role in academic achievement (Dweck, 2015; Claro, Paunesku, & Dweck, 2016). While a child's self-reported ability does not always reflect their actual measureable achievement from standardised tests, it is a measure of their feelings of capability to tackle new learning tasks so it is an important part of their motivational profiles and a significant indicator of potential learning goal orientation behaviour (section 2.8.1).

Dweck (1986; 2006) has equated her mindset theory with Goal Orientation Theory, claiming a connection between holding a growth mindset and positive learning behaviours. She also claims rewards can be used to move motivational mindsets towards a growth mentality. However, a growth mindset responds to setbacks as well as achievements which is why ClassDojo (a result of Dweck's work), has positive and negative points. This suggests that using rewards in the classroom that support growth mindset values, such as persistence, effort and accepting challenge, things Covington

and Manheim Teel (1996) discussed in terms of equity values, can positively support learning. Holding a fixed mindset does not preclude positive learning behaviours if the pupil's confidence in their ability is high.

6.3.1 Perceived ability and mindsets

Table 6.9 shows the pupil against their mindset percentages and their motivational profile percentage from week 10. Not all pupils provided motivational profile data (see pupil G, A and S) and not all the motivational profile values correspond to pupils with a full data set, which is why some pupils represented here are missing from section 6.2.1. The motivational profile percentage from week 10 of the project was used in this table as it was the closest profile data to the mindset questionnaire and contained questions with some relevance to mindsets.

To generate the information in table 6.9, each pupil in the Focus class was asked to respond to statements read out by the teacher (Appendix 1.3) and to colour in the 'face' (AP 1.3) that best expressed how they felt. The statements in the instrument reflect either a growth or fixed mindset based on Dweck's work. The first question was used to rank the perceived ability of the pupils (table 6.9) and was scored 1 to 5. The other statements were used to put a value on the amount of growth or fixed mindset reflected in the children's answers. The middle 'face' column scored a zero, being neither growth or fixed, the next faces out scored 1 and the furthest face from the middle a 2, in the direction the questionnaire was devised (figure AP 1.4). The total score for each child was found and the percentage of this total that represented growth mindsets was recorded (table 6.9), the percentage of the total that represented the fixed mindset was

also recorded (table 6.9). The results suggest none of the children held an entirely fixed or growth mindset but a combination of both.

Table 6.9 and figure 6.5 show that the Focus pupils hold different mindsets in different situations (Dweck, 2015) and possibly bring different mindsets to the same situation, it depends on how the child interprets their abilities and goals in the situation as they perceive it (Mischel, 1973). This suggests that some classroom tasks might be influenced by a growth mindset and others a fixed one or indeed elements of both influence how each child feels they can succeed in any given situation. The data (figures 6.5 and 6.6) also fail to show a strong correlation between the pupils' perceived ability and their mindset orientation or the motivational profile percentage and their growth mindset values. This suggests that the pupil's perceived ability could not be used as an indicator of their dominant mindset and their mindset could not be used to indicate the strength of their motivational profile.

However, there is a positive relationship ($r^2 = 0.4898$ see figure 6.7) between the pupil perceived ability and their motivational profile. This might be expected as perceived ability is part of the Social-Self class-level of the motivational model (figure 3.1). Yet there is also a weak but positive relationship ($r^2 = 0.3963$ see figure 6.8) between the perceived ability and the amount of homework turned in during term 2 of the project. This is very slightly higher than the value of $r^2 = 0.3554$ found for term 1, which suggests that a pupil's perceived ability does influence the amount of homework they will complete and return, their competence being informed by their motivational profile.

Elliott & Dweck (1988; Dweck 1986) suggested, if confidence in ability to undertake a particular task is low and a fixed mindset is held then avoidance behaviour may occur,

conversely, if confidence is high and a fixed mindset is held, then an approach or even mastery behaviour can be demonstrated. This suggests that it is not the mindset a person holds as much as the level of confidence they have in their ability, that dictates the learning behaviour they may demonstrate. The more capable a person feels in a situation the more likely they are to demonstrate positive learning behaviours and the higher their motivational profile is likely to be, this is borne out in the data (figure 6.7). However, ability or competence in a certain situation does not explain why children changed their homework behaviour from term 1 to term 2. Their confidence in their ability to do the homework tasks is unlikely to have significantly changed from one term to the next. The structure of the activities did not change, just the difficulty of the spellings and multiplication tables which might have decreased feelings of competency rather than increase them. The pupil mindsets have been found by Dweck to be a generally stable construct which can be altered temporarily for specific tasks but it is unlikely any significant change occurred during the project. Therefore, something else about using ClassDojo must have contributed to positive learning behaviours that is not fully explained by the mindset theory.

Pupils	Pupil perceived ability (1=low, 5=high)	Growth percentage	Fixed percentage	Motivational profile percentage in week 10
G	1	50	50	
A	2	46	54	
N	2	60	40	61.14
H	2	63	37	58.3
S	2	65	35	
D	3	59	41	72.57
I	4	67	33	59.43
T	4	71	29	72.57
E	4	88	12	86.85
R	4	71	29	79.43
F	4	64	36	81.14
L	4	78	22	80
B	5	52	48	77.14
K	5	67	33	70.86
J	5	46	54	85
U	5	54	46	83.42
Q	5	75	25	73.71
P	5	68	32	86.29
O	5	73	27	86.29
M	5	83	17	86.86
C	5	92	8	82.86

Table 6.9 Results of the mindset questionnaire with the motivational profile percentage from week 10.

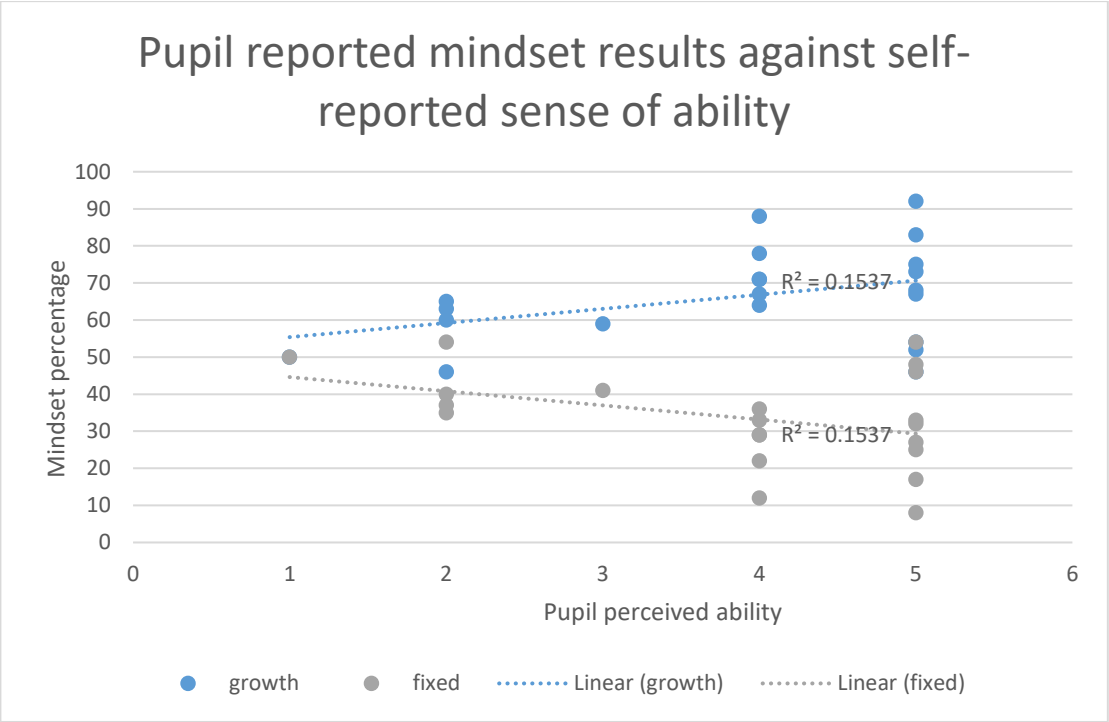

Figure 6.5 The growth and fixed mindset results shown on a scatter graph with trend line against the pupil perceived ability.

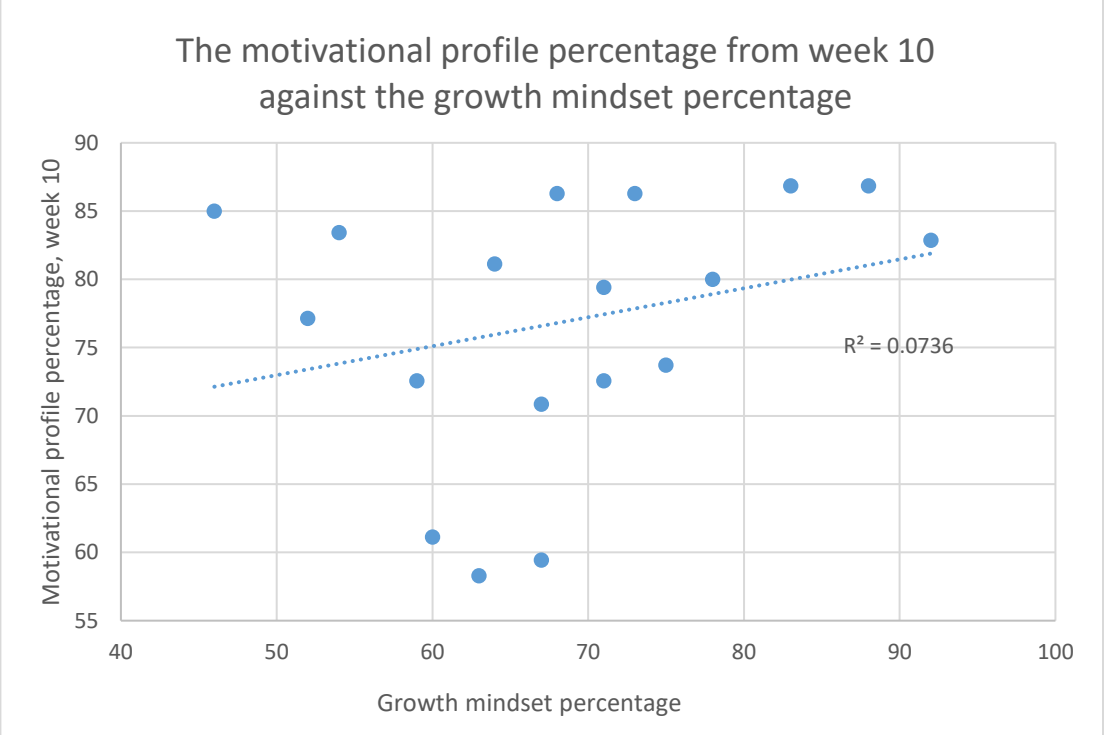

Figure 6.6 A scatter graph showing the growth mindset against the motivational profile percentage in week 10.

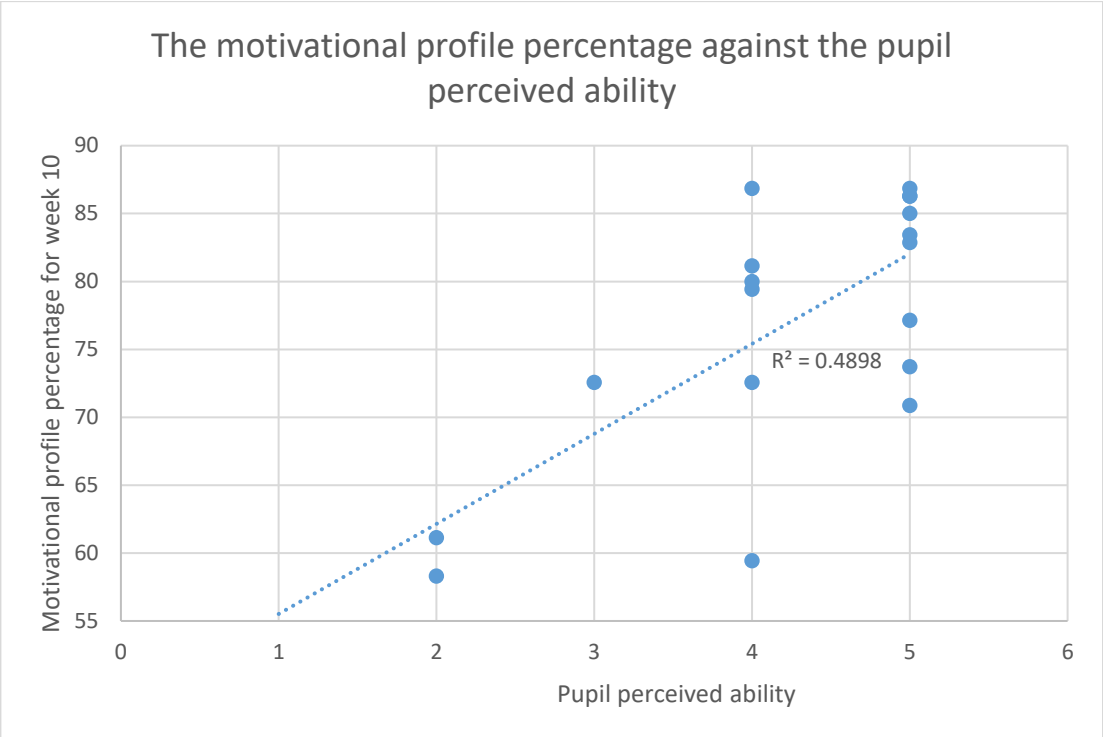

Figure 6.7 A scatter graph showing the relationship between the motivational profile percentage in week 10 and the self-reported pupil ability.

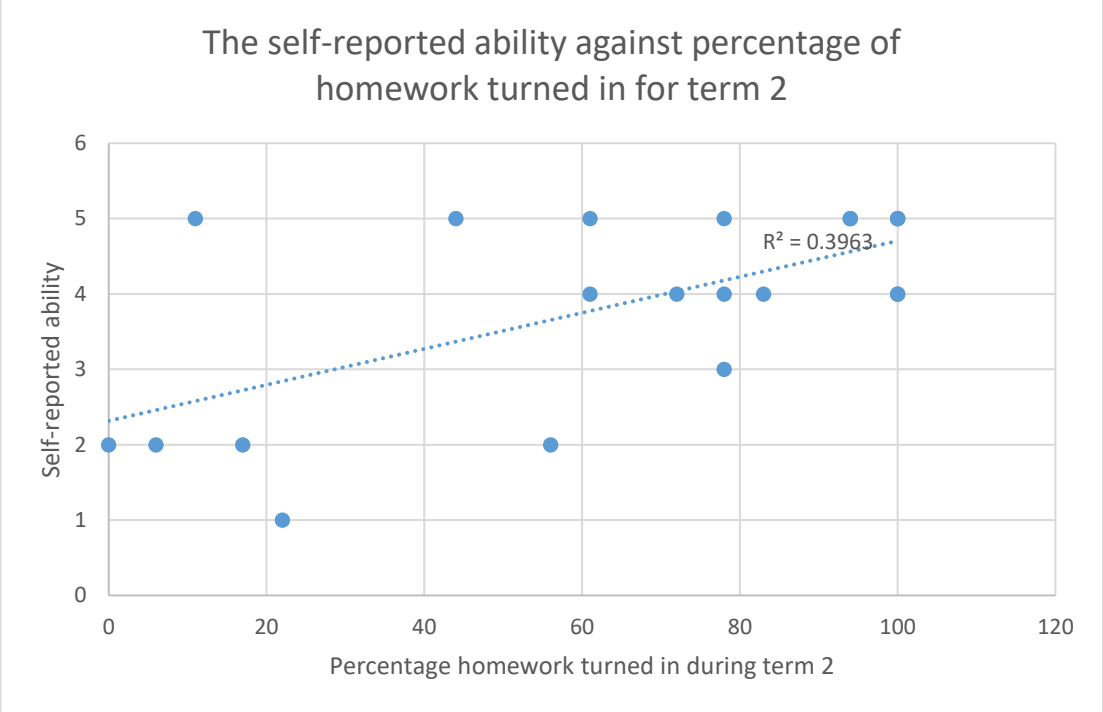

Figure 6.8 A scatter graph showing the relationship between the reported ability and the homework turn-in rate for Focus pupils in term 2.

6.3.2 Conclusion

Research Question 3: What motivational practices are effective in primary schools on homework completion?

Homework, for the Focus class, cannot be described as an intrinsically motivating practice based on the teachers' reports of their homework behaviour (section 5.2 and Appendix Three) and the results from term 1 (table 5.1). Encouraging compliance with the process requires more than relying on parents to facilitate the process (Wingard & Forsberg, 2009; Cooper, Jackson, Nye, & Lindsay, 2001; Solomon, Warin, & Lewis, 2002), teachers need to support pupil perceived levels of ability and motivational profiles to stimulate pupil engagement. From the teacher's point of view, the process requires motivating pupils with reward systems in the classroom that encourage children to take ownership of their homework and learning behaviour. Cooper et al (2001) and Xu and Wu (2013) found that what motivates homework engagment even more than satisfying parents or teachers (İflazoğlu & Hong, 2012) is peer opinion so creating a climate that values homework as an important classroom practice could be more effective at improving homework turn-in rates than relying on parents alone.

Chapter 7 Project Findings and Conclusion

This project began with an age-old problem regarding homework completion which on the face of it appears to be a small part of a teacher's job and open to debate as to its value and contribution to primary children's education. Homework completion was used, in this case, as a measurement tool, indicating the effectiveness and reach of classroom behaviour management techniques.

7.1 Project findings

The results of this project suggest that the Focus class responded differently to different classroom management systems when homework completion rates are used as the measurement criteria. This implies that motivational techniques used in the classroom might be influential on the homework process and that even young pupils might be able to accept some degree of responsibility and autonomy in relation to completing homework activities. Using ClassDojo as a classroom behaviour management system that incorporated homework as part of the classroom behaviour, produced the best results while awarding just house points or online certificates proved less effective. It might then be concluded that ClassDojo itself is the tool that brought about the change but when it was used solely for rewarding homework, that is separate from classroom behaviour, as both the teachers of the Focus class have done, the benefits were not seen. This suggests it was the way the tool was used rather than the tool itself that influenced the behaviour change and implies the efficacy of other strategies should they address the required criteria. The school policy of using house points for rewarding homework and classwork was used in term 1 and not found to be as effective as the ClassDojo intervention; the identified differences being the use of negative Dojo points for non-

completion of homework and including classroom behaviour within the strategy. During this project ClassDojo was used to reward and punish homework completion, classroom work and classroom behaviour, the use of the Zone Board strategy was suspended for term 2 although house points remained an additional reward in line with school policy. The data suggest that bringing behaviour into the realm of ClassDojo, alongside classwork and homework was the most efficacious management strategy considered during this project. The use of negative points as the main form of punishment for undesirable behaviour was posited as less harmful to pupil well-being than the use of the Zone Board and school behaviour policy displayed in the classroom. Indeed, the use of negative Dojo points seemed to reduce the fear in the classroom compared with the Zone Board system.

While ClassDojo as described, was being used in the classroom there was a positive effect on the homework completion rates of the Focus class. The generalised results shown in Table 5.1 suggest it only improved the average turn-in rate to the level it began at in term 1 but when displayed on a graph this behaviour pattern was very different to the Comparison class' behaviour and to that reflected by the background data (figure 1.1) discussed in Chapter 1. When viewed at an individual level, the results showed over half the class improved their turn-in rates during the intervention which means over half the class did more homework in term 2 than term 1 and therefore did more than return to their previous level of performance. Of those children showing the largest decreases in homework turn-in rates, parents were identified (by the pupils) as organising out-of-school activities that reduced the time available to do the homework tasks which might suggest parental support for these pupils in relation to directly facilitating homework completion reduced across the project.

ClassDojo points were used to reward homework completed and turned-in, the removal of points was the punishment for not doing homework. This could be interpreted as changing the value of the homework task, in that completing it now gained the child a public reward and not doing it a public punishment. However, completing homework sheets does not guarantee the learning associated with the task has taken place. The behaviour of some students during this study could be interpreted in this fashion: their increase in homework production and decreased or stable test scores might suggest that doing the homework task became more valuable to the child than engaging with the learning. However, the data did show an improvement in the maths test scores, which did not correlate with an increase of completed homework. This might suggest that using ClassDojo had stimulated a situation where intrinsic motivation to achieve could develop.

Questionnaire data supports the interpretation that using ClassDojo might be able to create a sense of excitement to achieve. It might also support a sense of team work as everyone could work towards class goals and group improvement. The use of Dojo points elicited strong emotions for most pupils: negative emotions for red points and positive emotions for green points. However, despite these emotions and the embarrassment some pupils reported feeling when their name appeared on the interactive whiteboard, a high majority of children voted to keep using ClassDojo. They felt it made them work harder, created a sense of fun in the classroom and was fair to everyone.

Using ClassDojo was found to improve all levels of the motivational model (figure 3.1) for the Focus class as a whole in term 2, while using the Zone Boards and school policy reduced all levels for the Comparison class as a whole across the length of this project. The biggest positive improvement for the Focus class' average motivational profile was in the Physical-Safety level, while a corresponding negative effect was seen in the average Comparison class' profile. This might be attributed to using negative Dojo points instead of moving pupils' names down the Zone Board levels. While associated with negative emotions, negative Dojo points were perhaps less harmful to the motivational profile and pupil feelings of emotional security than using the Zone Board strategy.

The motivational profile percentage was found to be positively associated with the homework turn-in rate and the pupil's perceived ability. Homework turn-in rate was also found to be positively associated with pupils' perceived ability. This supports Dweck's findings that despite the pupil's actual attainment level their feelings of competence and capability are fundamentally associated with their sense of well-being, their motivation to engage with academic tasks and potentially influences their goal orientation behaviour.

7.2 Conclusion

The strength and effectiveness of any behaviour management strategy is often measured in the classroom and reflected in the progress of pupils. It relies on the teacher's skill and expertise to be proactive rather than reactive in their management of pupil behaviour and the learning environment; meeting the motivational needs of the children

to support and promote learning and academic engagement (Näkk & Timoštšuk, 2017; Cheon, Reeve, Lee, & Lee, 2018). However, there are no simple solutions (Korpershoek, Harms, deBoer, Van Kuijk, & Doolaard, 2016) and what is more, techniques that work in one situation may not work in another (Grigg, 2010) and what works now may not work next time. What is important is that whatever strategy is used it is flexible enough to meet the dynamic motivational needs of the pupils as reflected in their motivational profiles.

7.2.1 Contribution to knowledge

The change in homework turn-in rates demonstrated in this project suggest that the classroom behaviour management strategy used by teachers can influence pupils' academic behaviour. This can be achieved without relying on increased parental engagement and can be effective for some pupils as young as lower Key Stage 2. The significant factor of the behaviour management strategy is posited as addressing classroom behaviour, homework and classwork in the one system, rewarding and punishing each area with the same tokens, in this case Dojo points.

The behaviour management system developed for this project is based on the motivational model (figure 3.1) which can be used to create pupil motivational profiles. The motivational model could provide teachers with information that might inform their practice, support a more humanistic approach to teaching and indicate the learning orientations in the class.

When compared to the Zone Board system, ubiquitous in current primary school provision, the behaviour management intervention used in this project seemed to reduce

fear in the classroom. Pupils responded more positively to the motivational profile questionnaire when ClassDojo was being used than when the Zone Board system was employed. Reducing fear, particularly that associated with emotional harm, improves the motivation of pupils allowing them to engage with academic tasks without having to protect their emotional security. Fear in education was found to be the biggest negative influence on academic achievement in the primary classroom (Hargreaves & Affouneh, 2017).

Indeed, the responses to the motivational questionnaires suggest that using ClassDojo the way it was used in this project might support all positive learning orientations simultaneously. It might also improve negative learning orientations to some degree which could contribute to improving pupil well-being, academic engagement and success. By increasing the sense of fun, fairness, pupil control and autonomy in the classroom children can begin to develop an intrinsic motivational approach to academic tasks and engage positively in the learning associated with them (Näkk & Timoštšuk, 2017; Cheon, Reeve, Lee, & Lee, 2018). This not only improves academic success it can create a sense of well-being and capability in the pupils (Covington & Manheim Teel, 1996) which could further support their motivational profiles and positive learning orientations.

From this project, a set of instruments (Appendix One) has been developed that can be used to measure and quantify pupil motivational profiles and possibly indicate their learning orientation within the school environment. In this project, this information offered an interpretation of pupil behaviour in the classroom, but more research is needed to clarify the strength of this connection.

7.2.2 Behaviour management strategy criteria

The results of this study suggest that an efficacious behaviour management strategy would benefit from being simple to understand, encompassing all expected behaviours, provide a level of pupil autonomy and control and provide evidence of progress by acknowledging continued demonstration of desirable behaviour patterns. Grouping classwork, homework and behaviour under the same set of expectations and rewarding each with the same tokens establishes a collective, unified approach. It values each activity area equally suggesting they are all important in moving academic achievement forward. Establishing a list of activities and behaviours with their token or points value gives the pupils control and a level of choice about their behaviour. They know what is expected, how to achieve it, and their progress is recorded in the number of points they have collected. Collecting points for agreed tasks can motivate pupils to achieve and engage with tasks with more commitment and effort than they might otherwise have done (da Rocha Seixas, Gomes, & de Melo Filho, 2016). It can also remove the appeal of mediocrity which strategies like Zone Boards encourage.

7.2.3 ClassDojo and Gamification issues

The process of collecting points for completing tasks is a form of gamification and if aligned with educational objectives has been found to act as a powerful engagement factor (da Rocha Seixas, Gomes, & de Melo Filho, 2016). There is also a positive relationship between pupil performance and the amount of points or rewards accumulated (da Rocha Seixas, Gomes, & de Melo Filho, 2016). Using ClassDojo in the way I did for this project was a very public system and brought with it a significant emotional impact for the children. Not only were their running totals displayed on the

interactive whiteboard on a regular basis, meaning they were publicly compared to their peers, when anyone received a positive or negative point it was publicly awarded and announced with a noisy flashing graphic. This caused a surge of anxiety in all pupils as they looked up to see who had been awarded for their behaviour and what sort of behaviour was being rewarded. Over 60% of the class said they felt sad, embarrassed or extremely scared when their name was on the board, until they were sure it was for a good reason. Despite this, all the children in the Focus class wanted the system to stay in place suggesting the positive feelings it elicited far outweighed any negative experiences.

7.2.4 Using negative points

It is the use of negative points which many teachers shy away from (section 1.1) fearing the negative impact they have on pupils. This is not an unfounded fear; this project found strong negative emotions were experience by the Focus class in relation to red Dojo points. However, using red points as a form of punishment should be considered alongside the more traditional forms of punishment and behaviour management ubiquitous in primary classrooms. The verbal reprimand is often as public as receiving a negative Dojo, moving names down the Zone Board is more serious than a negative Dojo and having to spend time in another classroom (figure 2.1) is humiliation beyond the bounds of the child's immediate peer group. These alternative punishments are part of the school policy (figure 2.1) and were in place for the Comparison class while the Focus class used ClassDojo which was when the data showed a divergence on the Physical-Safety motivational levels of both classes. This suggests that using red Dojo points provided a degree of punishment with regards responding to undesirable behaviour because there were some negative emotions associated with it yet, the impact

on pupil well-being, feelings of emotional safety and their attitudes towards their work was possibly not as large as the impact from the agreed school policy.

The implications for academic engagement with regards negative feedback is important. Pupils need to know that their behaviour (work related and social interactions) can have consequences. Good behaviour and meeting learning objectives reaps positive rewards and poor or undesirable behaviour or performance can earn negative rewards or punishments. However, those punishments should not induce fear as this reduces the intrinsic motivational engagement of pupils to the point of inhibition and potentially creates negative learning behaviours (Jackson, 2010; Hargreaves & Affouneh, 2017; Wearmouth, Richmond, Ted, & Berryman, 2004). Fear of punishment supports mediocre performance. Remove or reduce that fear, as seen with the Focus class, and academic intrinsic motivation has room to flourish. This means, using negative points in a gamified situation may create negative feeling but these may well be safer with regards the overall objectives of teaching and learning than the traditional behaviour management strategies found in primary schools. In some instances, receiving negative points or not all the positive points available for an activity can support higher learning behaviours associated with growth mindsets (Dweck, 2006) and mastery goal orientations. Being thwarted and meeting obstacles to success can impede points collection but can also support persistence and problem-solving behaviours that enhance higher learning behaviours (Dweck, 2017; Maslow A. , 1954).

7.2.5 Goal orientations

Work avoidance behaviour, with relation to homework, is often engaged in to protect self-worth (Jackson, 2015) or because the value of the task is not sufficient to warrant

engagement (Eccles, et al., 1983). In term 1 not doing homework had no consequences in the classroom, so for work avoidance students there was no incentive to do the tasks. However, in term 2 when ClassDojo was used, no homework resulted in negative points which changed the value of the tasks and impacted self-worth protection if it was not done. This meant that the best course of action to protect self-worth was now to do the homework and hand it in. The data suggest for some pupils this happened.

Collecting points can also support students with more positive learning behaviours and those who move between performance and mastery orientations (Pintrich P. , 2000c). This is because how pupils use the reward system is down to the child and their needs at the time. Collecting points can be a powerful mechanism to see progress, support capability and boost esteem. It can also be used as a measure for self-improvement associated with mastery orientations and a way to challenge, compare and out-perform peers if performance orientations are more motivating. This theoretical approach suggests that the one behaviour management strategy can support all learning orientations and multiple orientations at the same time, encouraging pupils to demonstrate positive learning behaviours and potentially moving them towards intrinsic engagement.

Positive learning behaviours have been found to positively correlate with pupil perceived ability (Dweck, Pintrich 1993; Kaplan and Midgley 1997). With regards the Focus class, perceived ability did not correspond to actual ability or classroom achievement, it was more a reflection of pupil attitudes and orientation towards tackling academic tasks. Perceived ability is associated with needs on the Social-Self level of the motivational model (figure 3.1) and pivotal to many motivational theories. Its

creation is complex and subtle, often open to misinterpretation and misinformation. Using a management system like ClassDojo can facilitate open comparison with peers and public acknowledgement of achievements which can lead to opportunities to build self-esteem and respect by meeting objectives and contributing to class goals. This can build a sense of teamwork (section 1.1), addressing needs on both Social levels of the motivational model (figure 3.1).

7.2.6 Drawbacks of ClassDojo

While using ClassDojo has many positive elements it also has some drawbacks that need acknowledging. The most cumbersome is the fact it is situated online and requires a computer to run it. This means continual internet connection is required to use the program and it needs an interactive whiteboard to display the avatars, the running totals, and to assign points. While this is on the board the lesson and learning must be interrupted if it is using the interactive whiteboard too. For many maths lessons, for instance, that use online interactive tasks, the learning would have to be stopped or interrupted to acknowledge any positive or negative points being awarded. This breaks the flow of the lesson and the learning to manage behaviour when it should facilitate more learning time and classroom discussion.

Another drawback involved changing avatars, although a small point this was found to take a lot of time. It was an important reward element of the program, the pupils enjoyed personalising their avatar but could only do it one at a time, on the interactive whiteboard. The process could take many minutes and if multiple pupils needed to do it, learning time was impacted.

7.3 Alternative behaviour management strategies

Despite the minor drawbacks, using ClassDojo demonstrated a classroom behaviour management strategy that can support pupil motivation, change academic engagement behaviours and begin to promote intrinsic motivation in the classroom. It seems to share many elements with the ubiquitous system, Zone Boards, in place in many primary classrooms at the moment and has its drawbacks addressed by this system. However, Zone Boards presents its own down side regarding motivation and academic engagement.

The use of Zone Boards (section 2.2.2) is a public display of pupil behaviour, the position of a child's name tag representing the total of their positive and negative movements during the day. However, the structure and resetting of this system is counterproductive on three levels, imposing a level of adequacy to positive behaviour and potentially encouraging poor behaviour. Firstly, with only a few zones to move pupils around in, small but rewardable behaviours, good or bad, are hard to justify, there are no nuances or opportunities to reward the small things, the insightful comment or well-presented calculation. Conversely, does calling out get a child moved down a zone or do they get to repeat the behaviour several times first? Secondly, most zone boards are returned to green at the end of each day therefore wiping away all behaviour types. While this is intended to help poorly behaved pupils to start a new day with a clean slate and the chance to choose better behaviour options, it also wipes away all good behaviour and does nothing to celebrate pupils who choose to behave well on a regular basis. Desirable behaviour is rewarded by ignoring it, putting it down to what is expected of children and leaving it uncelebrated. Poor behaviour is acknowledged and then wiped away. Lastly, the structure of the Zone Board system is also an issue: good behaviour

is rewarded with moving up the board but more good behaviour that day cannot be acknowledged as the child's name tag is at the top of the board therefore implying that no more desirable behaviour is required, indeed if the board has zones above green, then the pupil has the leaway to display some poor behaviour and be returned to green – which is regarded as good. Continued poor behaviour will move a child down the board but only to the bottom; more low level poor behaviour cannot be punished without resorting to more extreme chastisements that may be more than the behaviour justifies effectively endorsing continued low level poor behaviour that will be forgotten tomorrow when all name tags return to green again.

7.3.1 Recommendations

Using ClassDojo as a classroom behaviour management tool in this project only utilised a fraction of the application's features. Using it to communicate with parents, to create blogs and class stories would have confused the impact of the intervention, moving the focus from pupils accepting control of their behaviour and more towards the involvement of parents and the effects of socially disadvantaged backgrounds. The program was used because it has a graphic impact, it was familiar to the class, it records all awards given and can create instant graphs for class discussion. Although useful in a research project, these features are not essential for an effective classroom behaviour management tool and therefore the improvements to homework turn-in suggested in this project do not rely solely on the use of ClassDojo. Indeed, teachers may find it more productive to devise their own systems with their pupils, focusing on the use of discussion to create something of meaning to them. Any number of gamified wall charts could be used if they include the behaviour management strategy criteria (section 7.2.2)

and can demonstrate how the class is performing as a whole as well as the progress of individual children.

Chapter 8 My evolving pedagogic approach

As a training teacher, nearly thirty years ago, I was heavily influenced by the research of Piaget and Vygotsky and how they believed learners actively constructed their understanding of the world. Some years after I qualified, this pedagogical approach was augmented with Mercer's (1995) focus on talk and discussion as a form of socially, guided knowledge construction. The importance of communication and dialogue in the classroom became a valuable teaching tool and informed my lesson planning, teaching approach and pupil assessment criteria. Indeed, I worked hard to give children ownership of their learning journey where curriculum content was involved. However, classroom behaviour management was a separate issue, this was governed by school policy and an expression of teacher control based on behaviourist constructs and behaviour modification theories such as Skinner's operant conditioning (McLeod, 2015).

While learning took a cognitive / constructionist approach, involving collaborative, positive, social activities in which the children played a significant role in their knowledge building, behaviour management was my responsibility. When I was a young teacher pupil behaviour was considered a direct reflection of teacher efficacy and control. School policy meant pupil behaviour was praised using marbles in a jar and punishments with names written on the board; good work was given gold or silver stars and uncompleted homework earnt breaktime detentions. As the years passed so school policies changed; marbles were replaced with house points and names on boards with zone boards but the emphasis of the teacher as controller of pupil behaviour remained a constant.

The turning point for me came one pivotal afternoon when I gave up being in control and tried facilitating pupil behaviour in the same way I did their curriculum learning. I employed my curriculum teaching and learning pedagogical approach to behaviour management. My attitude changed from being responsible for pupil behaviour to standing next to the child, facilitating their choice of what to do but making them responsible for their actions. My experience teaching primary children has lead me to see children as emotional beings, quick to react to the environment around them, and once they find a behaviour pattern that achieves the desired goal in a situation, they will repeat that behaviour if it offers some level of effectiveness; this might include learning behaviours interpreted as goal orientations, bullying or antisocial behaviours to learnt helplessness or attention seeking behaviour. It is the role of teachers and other adults to see this behaviour in terms of the more extensive humanistic needs detailed in the motivational model (figure 3.1) and facilitate the pupils' cognitive engagement with their behaviour choices. I believe children need to have the implications of their actions explained in the context of an adult's wider experience and knowledge, but they should be given the responsibility to make decisions and experience the consequences of their actions.

I have increasingly advocated and used a humanistic approach to teaching and behaviour management alike, believing it can achieve more sustainable maturation of my learners as they accept responsibility and control over their actions and the potential to address their needs on many levels. However, this often clashes with current school policy, such as the use of zone boards and behaviour management policy in place at the school where this study was undertaken. It also does not always result in perfectly

behaved children, but I believe it acknowledges them as people with fluctuating needs and the right to have them met. Facilitating those needs I believe improves overall well-being and helping children engage in a thoughtful manner with their behaviour rather than relying on an emotional response to situations builds concepts of self (figure 3.1). I have also come to view all behaviours as part of the whole child, influenced by their personal, fluctuating levels of needs. Learning orientations, task engagement, social interactions and homework completion are all part of the individual, a reflection of their needs and I feel should be acknowledged as such. Separating behaviours out into different spheres artificially ranks the importance of each in different settings when they should be seen as contributing to the whole child development.

Appendix One – Questionnaires and data generation instruments used in this project.

Appendix 1.1 Motivational Profile baseline

Questionnaire (Figure AP 1.2) was completed by the Comparison and Focus class in the first week of term 1 (week -2 of the project). This established a baseline for each child's motivational profile. Each statement relates to one of the class-levels of the motivational model (figure 3.1), see figure AP 1.1, and was scored 1 = disagree a lot, to 5 = agree a lot. Questions 16, 24, 29 and 34 were inversed so the scoring was 5 = disagree a lot, to 1 = agree a lot to indicate if pupils were understanding the questions and not just ticking the same box for all questions. A value for each class-level was calculated from the sum of the question scores, see list below which indicates which question relates to which class-level. The results from this questionnaire are used in Chapter 5 to show how pupil motivational profiles changed across the project.

Physical Functioning – 1, 8,15, 22, 29

Physical Safety – 2, 9, 16, 23, 30

Social Relatedness – 3, 10, 17, 24, 31

Social Self – 4, 11, 18, 25, 32

Psychological Understanding – 5, 12, 19, 26, 33

Psychological Aesthetics – 6, 13, 20, 27, 34

Psychological Governance – 7, 14, 21, 28, 35

Figure AP 1.1 Class-level questions

Instructions:

Read the statements in the first column below and tick the box which most closely matches how much you agree or disagree with the statement.

	Agree a lot	Agree a bit	Neither agree nor disagree	Disagree a bit	Disagree a lot
1 I always have enough to eat.					
2 I feel safe at school.					
3 My family love and support me no matter what happens.					
4 I feel respected by other children.					
5 I like to find out about things.					
6 I am an artistic person.					
7 I like being in control.					
8 I sleep well at night.					
9 I feel safe at home.					
10 I have good friends at school.					
11 I feel respected by adults.					
12 I know lots for my age.					
13 I like listening to music.					
14 I like to decide what I do and don't do.					
15 I get plenty of exercise.					
16 People are horrid to me a lot.					
17 I have friends outside of school.					
18 I feel confident.					
19 I usually understand what teachers want me to do in lessons.					
20 Nature is beautiful.					
21 It is important to see progress in my learning.					
22 I am generally fit and well.					
23 My life is good.					
24 I am lonely a lot.					

25 I am good at school work.					
26 I enjoy learning new things.					
27 I like making and looking at pictures.					
28 I feel good when I get better at things.					
29 I get stressed a lot.					
30 People help me if I need help.					
31 People trust me.					
32 I like myself.					
33 I like to find things out for myself.					
34 Colourful surroundings make me sad.					
35 I try to be the best I can be.					

Figure AP 1.2 Motivational Profile Baseline Questionnaire

Appendix 1.2 Motivational Profile Face sheet

For this questionnaire, completed by the Focus class in week 2 of the project, statements 1 – 35 were read to the class by the teacher. The children had a 'faces' sheet (Figure AP 1.3) numbered 1 to 35, on which they coloured in the face that best described how they felt about the statement. As with the questionnaire in AP 1.1, the responses were valued 1 – 5 with 1 = to the saddest face and 5 = to the grinning face. This time questions 2, 4, 9, 10 and 13 were reversed to check children were understanding the questions and not responding in the same column for the whole paper.

Figure AP 1.3 Section of the 'faces' answer sheet on which pupils recorded their responses.

The statements the teacher read are listed below, under the headings from the motivational profile to which they relate. As in AP 1.1 the score for each class-level

was calculated by adding the total for each section and the results were used in Chapter 6.

Statements

Physical Functioning

1 I am active every day.

2 I spend a lot of time in front of the TV.

3 I eat all the food that is given to me.

4 I have been poorly in the last week.

5 I have lots of energy.

Physical Safety

6 My life has a nice routine.

7 I live in a safe area.

8 I feel safe and secure at school.

9 Bad weather is fun.

10 I enjoy thunderstorms.

Social Relatedness

11 I work well as part of a group.

12 I work well with anyone in the class.

13 I prefer to work on my own.

14 I am a valued member of the class.

15 I am a trusted member of the class.

Social Self

16 I am good at my work.

17 I like myself.

18 Other people like me.

19 I am a good friend.

20 Other people thing I am great.

Psychological Understanding

21 I often ask how things work.

22 I explore the environment when I go out to play.

23 I notice when things change.

24 I need to understand things.

25 I have a hobby where I learn things.

Psychological Aesthetics

26 I do drawing / painting at home.

27 I enjoy dancing to music.

28 I sing a lot.

29 I have pictures / posters on my bedroom walls.

30 I notice the pictures and displays around the school.

Psychological Governance

31 I am in control of my life.

32 I know how to improve my learning.

33 I find my work challenging.

34 I feel I am doing the best I can.

35 I have choices about what I do.

Appendix 1.3 Mindsets Questionnaire

This instrument used the same 'faces' answer sheet (Figure AP 1.3) as AP 1.2 but only had 16 statements, listed below, which the teacher read out. The questionnaire was completed by the Focus class in week 8 of the project to indicate their mindset values. Based on Dweck's (2000) work on mindsets, the questions reflect either growth or fixed mindsets. Question 1 was scored 1-5 giving a self-reported ability score which was used in section 6.3.2 to rank pupils. The questions 2 – 16 were graded growth to fixed or fixed to growth as indicated in figure AP 1.4. The middle face of figure AP 1.3 scored 0, the face either side a 1 for growth or fixed depending which question it was and the face furthest from the middle scored 2 for the respective mindset. The percentage growth and fixed mindsets was calculated as a percentage and presented in Table 6.12.

Qu. No.	Question description	Question Type
1	Perceived ability I am smart / clever	5 point Likert scales Scored 1 - 5
2	Concept of ability Ability for various subjects is fixed	5 point Likert scales Scored growth to fixed
3	Attitude to learning Ability is unaffected by learning	5 point Likert scales Scored growth to fixed
4	Concept of ability Intelligence can be changed	5 point Likert scales Scored fixed to growth
5	Concept of ability Ability can be changed	5 point Likert scales Scored fixed to growth

6	Concept of learning Trying things you don't know is a good way to learn	5 point Likert scales Scored fixed to growth
7	Concept of effort Can improve with effort	5 point Likert scales Scored fixed to growth
8	Attitude to learning Like challenges	5 point Likert scales Scored fixed to growth
9	Attitude to learning If it is difficult – give up	5 point Likert scales Scored growth to fixed
10	Concept of effort Trying hard will not improve results	5 point Likert scales Scored growth to fixed
11	Attitude to failure Being told where mistakes occur helps learning	5 point Likert scales Scored fixed to growth
12	Attitude to success It is good when others succeed	5 point Likert scales Scored fixed to growth
13	Attitude to effort Easily give up	5 point Likert scales Scored growth to fixed
14	Attitude to failure Mistakes show learning	5 point Likert scales Scored fixed to growth
15	Attitude to failure Mistakes prove failure	5 point Likert scales Scored growth to fixed
16	Attitude to learning and effort With time and effort learning is possible	5 point Likert scales Scored fixed to growth

Figure AP 1.4 Mindset Questionnaire

Statements read out by the teacher.

1) I am smart.

2) You have a certain amount of ability for maths, English, science and you can't do much to change it.

3) Learning new things at school does not mean you are changing your ability.

4) You can greatly change how intelligent you are.

5) You can greatly change your ability to do maths or science or English.

6) Trying problems I don't know how to solve is a good way to learn.

7) I can improve with effort.

8) I like challenges.

9) If my work is difficult I give up.

10) Even if I try hard I will not improve.

11) Being told where I went wrong helps me learn.

12) It is good when other people succeed.

13) I often think 'I can't do this' and give up.

14) Mistakes are OK, they show I am learning.

15) Mistakes prove I can't do it.

16) I can learn anything with enough time and effort.

Appendix 1.4 Homework Issues

This questionnaire (figure AP 1.5) was completed by the Focus class in week 9 of the project. The questions gave the children the opportunity to express in their own words some of their issues, feelings and ideas. The results of this questionnaire were used in section 6.3. Note: in question 3 the name of the school award has been removed to protect anonymity.

Homework Issues

1) I did not do all my homework this week because

_____

_____

2) What could your teacher do to help you do your homework each week?

Provide spare sheets	Have homework club at break time	Write to my parents each time I don't do it	Have a weekly prize if we all do it	My idea is:

3) Last week we won *(a school award)* because we all did our homework; how did that make you feel?

_____

_____

4) How do you feel about using Dojo Points?

_____

_____

_____

_____

5) Do you think you would be more likely to do homework if it could earn the class a treat each week? YES / NO

6) If everyone did their homework each week do you think the class deserves a treat? YES / NO

7) What sort of class treats would help you do homework each week?

I don't need a treat, I always do my homework anyway	Dojo points and house points are enough for me	5 mins. extra playtime	An extra song in Friday's wake and shake session	Add up the time each term and have a 'free choice' session

Figure AP 1.5 Homework Issues questionnaire

Appendix 1.5 Using ClassDojo Questionnaire

In week 12 of the project the Focus class were give this questionnaire with open-ended questions to give them the opportunity to express their feelings in their own words. The results of this questionnaire were used in section 6.1. Note: in question 8 the name of the school award has been removed to protect anonymity.

Using ClassDojo

1) How do you like using ClassDojo?

_____

2) Do you prefer it to just using house points?

_____

3) How much do you feel you contributed to the class goals?

_____

_____

_____

4) Did you do all the homework set?

_____

5) Why?

_____

_____

6) What is the point of homework do you think?

_____

_____

_____

7) How do you feel when your name is on the board?

_____

_____

_____

8) How do you feel about working towards a class goal like *(school award)* or free time?

_____

_____

_____

9) How do you feel when you get green dojo points?

_____

_____

_____

10) How do you feel when you get red dojo points?

_____

_____

11) Do you want to continue using ClassDojo or get rid of it? Give reasons for your answer.

Appendix 1.6 Motivational profile questionnaire

In week 10 of the project, the Focus class completed the motivational profile questionnaire figure AP 1.6 which contributed to the pupil motivational profiles used in chapter 6. The answers were scored 1 to 5 in the same way as the other motivational profile questionnaires, this time questions 3, 4, 15, 26 and 28 are inverse and score 5 to 1. At the end of the project, in week 11 both the Comparison and Focus class completed questionnaire figure AP 1.7 which has the same questions as figure AP 1.2.

1 I can see how my learning is improving.					
2 I choose when and where to do my homework.					
3 I choose not to do my homework.					
4 My parent tells me when I must do my homework.					
5 I remember to give my homework in not my parents.					
6 I enjoy colouring in.					
7 I like to listen to music while I do things at home.					
8 I have a good imagination.					
9 I am a creative person, I have good ideas.					
10 I like being outside.					

11 I enjoy a challenge in my school work.					
12 I can find out about things that interest me.					
13 I try hard to understand new things.					
14 I like my teachers to notice how much effort I put into my work.					
15 If I don't understand my work I just give up.					
16 I feel good when I work towards class goals.					
17 I try harder to get my homework in now we have a class prize to work for.					
18 I am able to do my homework.					
19 What adults think of me is important.					
20 What other children think of me is important.					
21 My friends can trust me to try my best.					
22 I am a valued member of the class.					
23 I am happy for others to choose not to do their homework.					
24 Working as a group towards a class prize is not important.					
25 My parents think I work hard at school.					
26 I feel excited when I upset someone else.					

27 People at school will not hurt me.					
28 I like to take other people's stuff.					
29 I enjoy sharing my things with other people.					
30 I have lots of friends in school.					
31 I get lots of sleep at home.					
32 I get lots of exercise at school.					
33 I never worry about not being able to go to the toilet at school.					
34 I have plenty of access to drinks at school.					
35 I get hugs when I need them.					

Figure AP 1.6 Motivational profile questionnaire

1 I always have enough to eat.					
2 I feel safe at school.					
3 My family love and support me no matter what happens.					
4 I feel respected by other children.					
5 I like to find out about things.					
6 I am an artistic person.					

7 I like being in control.					
8 I sleep well at night.					
9 I feel safe at home.					
10 I have good friends at school.					
11 I feel respected by adults.					
12 I know lots for my age.					
13 I like listening to music.					
14 I like to decide what I do and don't do.					
15 I get plenty of exercise.					
16 People are horrid to me a lot.					
17 I have friends outside of school.					
18 I feel confident.					
19 I usually understand what teachers want me to do in lessons.					
20 Nature is beautiful.					
21 It is important to see progress in my learning.					
22 I am generally fit and well.					

23 My life is good.					
24 I am lonely a lot.					
25 I am good at school work.					
26 I enjoy learning new things.					
27 I like making and looking at pictures.					
28 I feel good when I get better at things.					
29 I get stressed a lot.					
30 People help me if I need help.					
31 People trust me.					
32 I like myself.					
33 I like to find things out for myself.					
34 Colourful surroundings make me sad.					
35 I try to be the best I can be.					

Figure AP 1.7 Motivational profile questionnaire

Appendix Two – Motivational Profiles

Pupil C (table AP 2.1 and figure AP 2.1) completed all their homework and performed well in all the tests. PsU (Psychological Understanding) and PsG (Psychological Governance) are high throughout the weeks of the project and the Social-Self class-level improved significantly once they established their ability to do the homework and achieve on the tests. The high percentages reflect the positive approach this pupil had towards classwork too.

Pupil C				
	wk -2	wk 2	wk 10	wk 11
PF	16	18	11	24
PS	20	17	19	25
SR	17	25	25	17
SS	12	22	21	21
PsU	25	25	25	25
PsA	12	25	25	21
PsG	17	25	19	25
SUM	119	157	145	158
%	68%	89.71%	82.86%	90.29%

Table AP 2.1 Pupil C Motivational profile values by class-level.

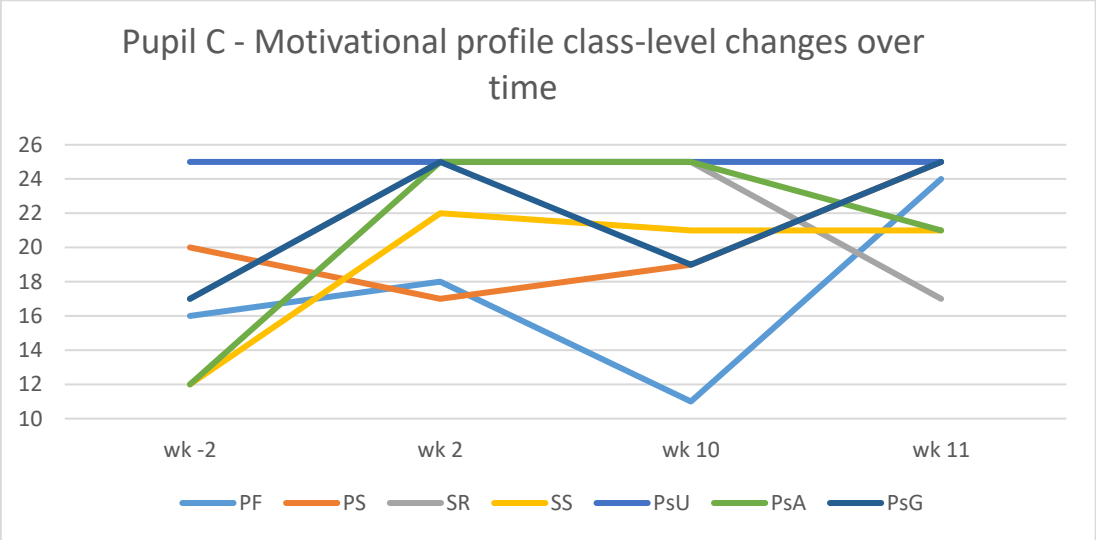

Figure AP 2.1 Pupil C Motivational profile.

Pupil D (table AP 2.2 and figure AP 2.2) slightly increased their homework turn-in rate from term 1 to term 2 but in week 10 their Social-Self level drops, coinciding with their submission of late spelling homework and no maths homework for the week before. This could account for the drop-in profile seen at week 10.

Pupil D				
	wk -2	wk 2	wk 10	wk 11
PF	21	20	20	19
PS	21	17	19	23
SR	21	21	17	20
SS	24	22	14	18
PsU	21	25	23	20
PsA	18	25	17	20
PsG	24	25	17	20
SUM	150	155	127	140
%	85.71%	88.57%	72.57%	80%

Table AP 2.2 Pupil D Motivational profile values by class-level.

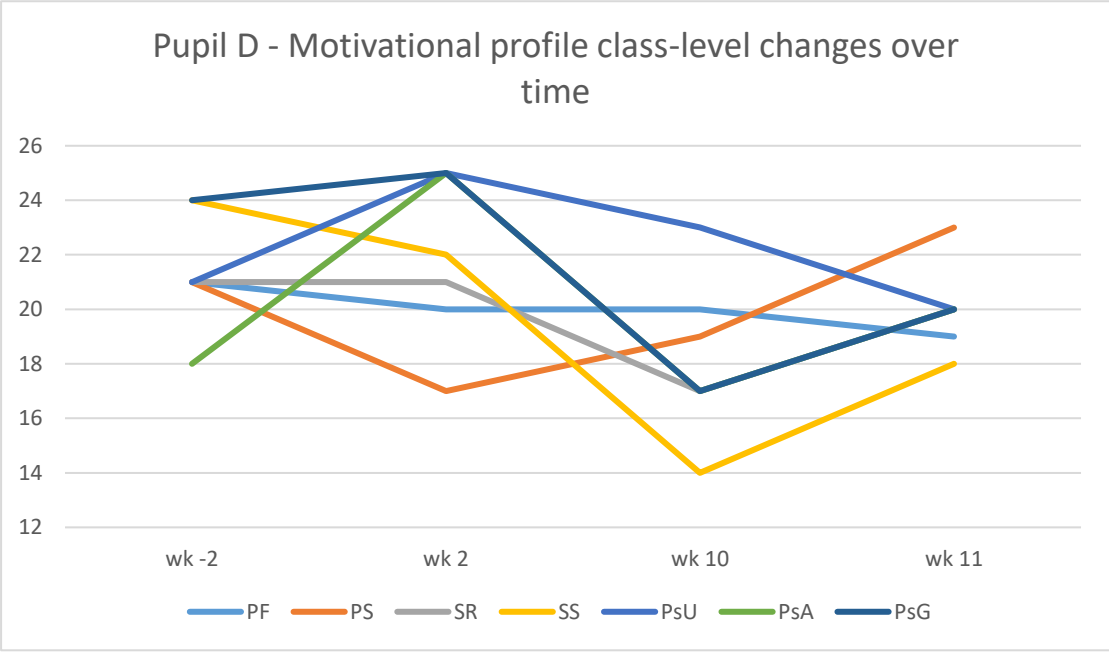

Figure AP 2.2 Pupil D Motivational profile.

The profile data for Pupil I fluctuates dramatically (table AP 2.3 and figure AP 2.3) suggesting wildly different behaviour patterns. The sudden drop in Social-Self in week 10 is particularly revealing because although this pupil had handed in all late homework to date and scored well on the spelling and tables tests it was suspected they had cheated as pupil I's tables test was the same as pupil O. Despite appearing to get away with the situation in class, the motivational profile suggests otherwise and perhaps the percentages can be used to quantify the motivational orientation that drives learning behaviour.

Pupil I				
	wk -2	wk 2	wk 10	wk 11
PF	10	17	12	20
PS	13	17	14	19
SR	14	20	17	21
SS	16	25	11	19
PsU	15	25	19	20
PsA	18	21	14	19
PsG	12	24	17	20
SUM	98	149	93	138
%	56%	85.14%	59.43%	78.86%

Table AP 2.3 Pupil I Motivational profile values by class-level.

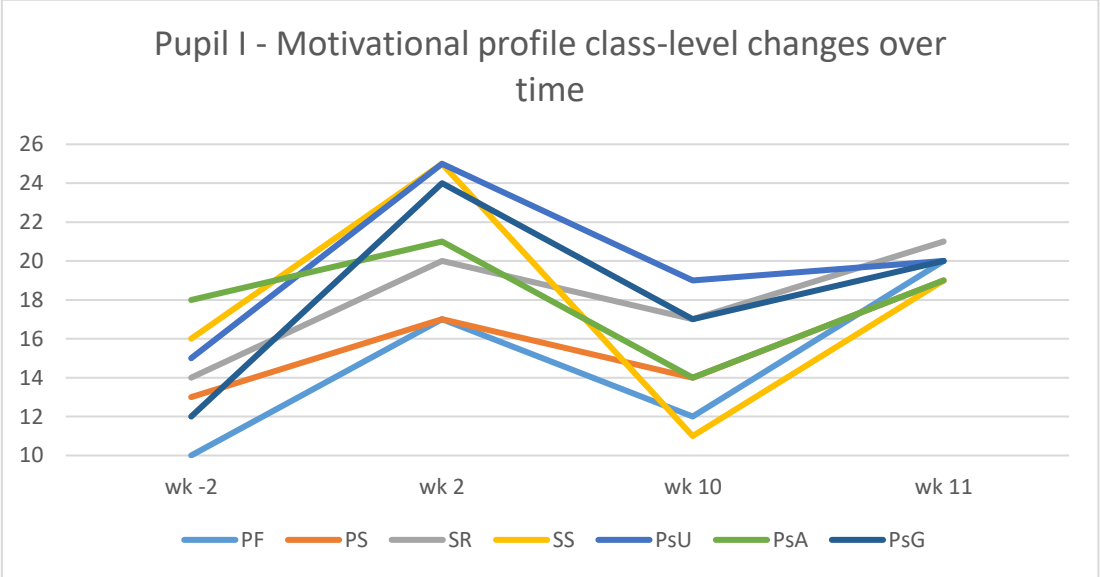

Figure AP 2.3 Pupil I Motivational profile.

Pupil K (table AP 2.4 and figure AP 2.4) shows an improvement in all areas of their profile when ClassDojo was introduced. They also increased how much homework they did for both subjects while dropping a few percent on the tests. The completion of homework and the associated dojo points and social recognition may have served to boost their profile, particularly in the Social Class but also the Physical-Safety Class-Level. This hints at a possibility that contributing to a social goal can meet the need for emotional security and perhaps mental threat which may be connected to Jackson's (2010) fear in education.

Pupil K				
	wk -2	wk 2	wk 10	wk 11
PF	17	17	12	22
PS	16	10	15	22
SR	16	10	19	19
SS	20	18	22	22
PsU	14	16	20	20
PsA	20	16	19	21
PsG	19	18	17	20
SUM	122	105	124	146
%	69.71%	60%	70.86%	83.43%

Table AP 2.4 Pupil K Motivational profile values by class-level.

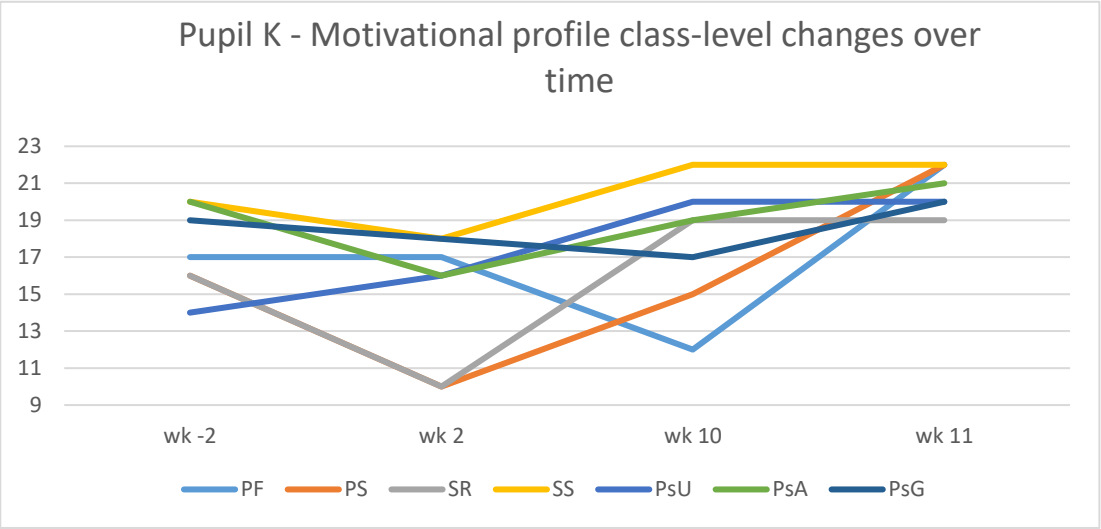

Figure AP 2.4 Pupil K Motivational profile.

Pupil L demonstrates a significant dip in profile in week 2 (table AP 2.5 and figure AP 2.5) and a drop in the Social-Self Class-Level towards the end of the project. The week 2 dip corresponds to a half-done piece of maths homework which was well within this child's ability to do. The dip in Social-Self could be accounted for by a decrease in self-esteem when other children started to match their homework and test performance which they used as a measure of their academic performance to outperform their peers.

Pupil L				
	wk -2	wk 2	wk 10	wk 11
PF	19	15	16	22
PS	19	17	22	21
SR	20	17	21	22
SS	24	24	19	20
PsU	18	16	21	20
PsA	18	13	19	20
PsG	24	19	22	21
SUM	142	121	140	146
%	81.14%	69.14%	80%	83.43%

Table AP 2.5 Pupil L Motivational profile values by class-level.

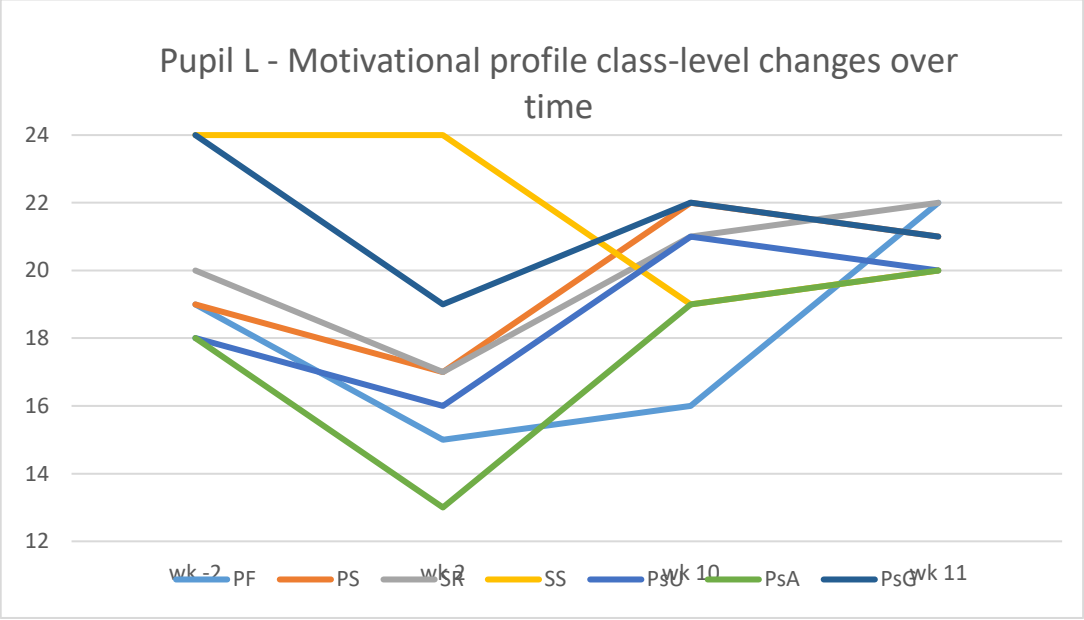

Figure AP 2.5 Pupil L Motivational profile.

Pupil M (table AP 2.6 and figure AP 2.6) maintains a high profile across the project, the upturn in week 10 corresponds to high test scores and overdue homework being given in which might reflect the PsU score but not necessarily the increased Aesthetics level.

Pupil M				
	wk -2	wk 2	wk 10	wk 11
PF	22	16	16	16
PS	22	15	23	21
SR	22	24	25	25
SS	23	23	23	20
PsU	23	15	25	22
PsA	12	13	21	15
PsG	24	19	19	25
SUM	148	125	152	144
%	84.57%	71.43%	86.86%	82.29%

Table AP 2.6 Pupil M Motivational profile values by class-level.

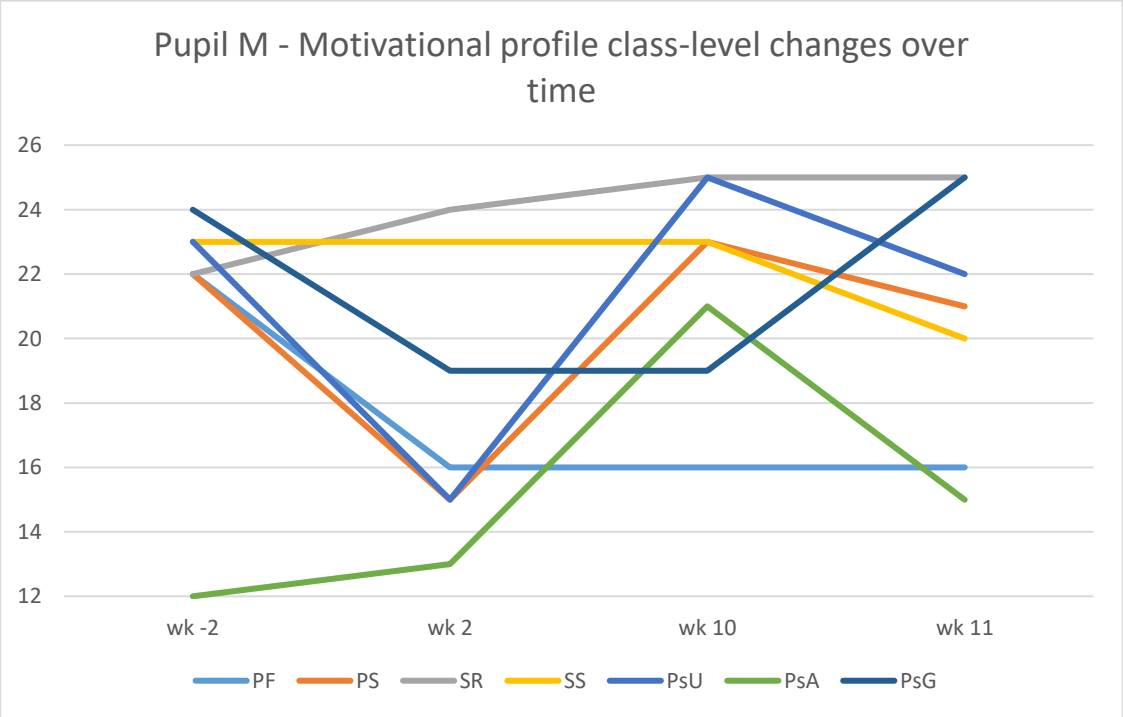

Figure AP 2.6 Pupil M Motivational profile.

Pupil O (table AP 2.7 and figure AP 2.7) showed a decrease in homework turn-in rate across the project but an improvement in test scores in the last few weeks of term 2. The percentages on table 6.12 suggest a change in attitude that homework turn-in rate does not support.

Pupil O				
	wk -2	wk 2	wk 10	wk 11
PF	19	18	25	24
PS	21	17	21	25
SR	22	17	17	21
SS	25	25	25	25
PsU	24	20	25	25
PsA	21	13	21	19
PsG	24	25	17	21
SUM	156	135	151	160
%	89.14%	77.14%	86.29%	91.43%

Table AP 2.7 Pupil O Motivational profile values by class-level.

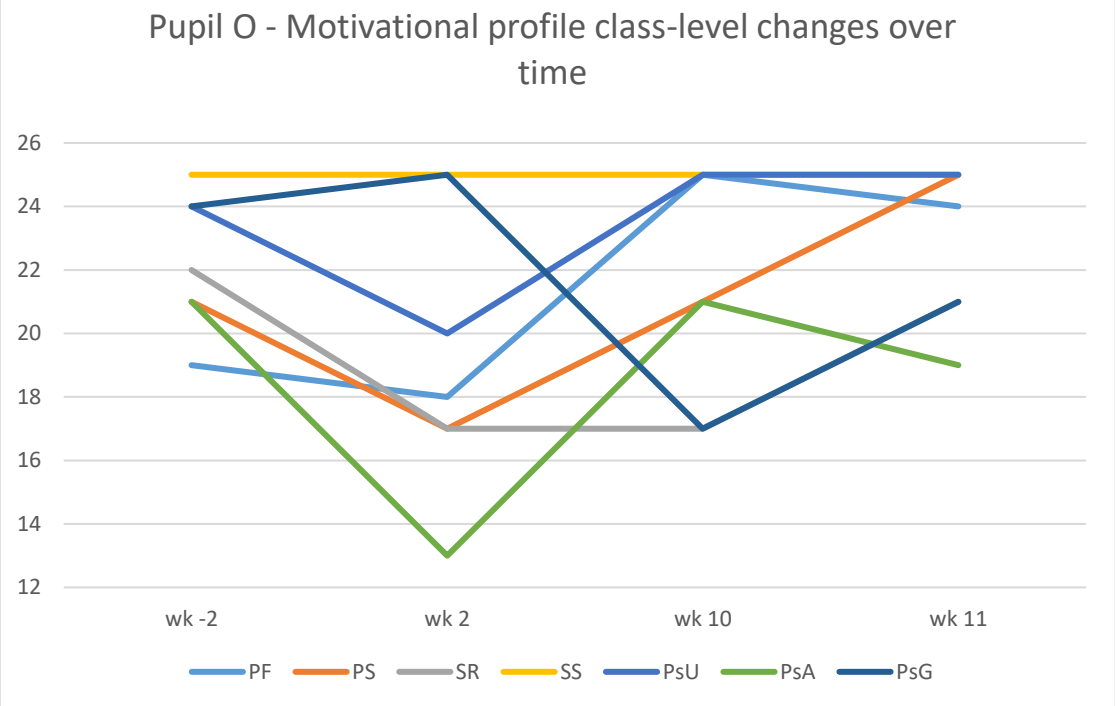

Figure AP 2.7 Pupil O Motivational profile.

Pupil P (table AP 2.8 and figure AP 2.8) appears unaffected for the most part by this project. Their homework turn-in rate slightly increased to 100% in term 2 with test scores remaining high throughout. However, their profile reveals an increase in their Physical-Safety Class-Level (similar to pupil K) again suggesting the use of the ClassDojo behaviour management strategy positively contributed to elements of emotional security.

Pupil P				
	wk -2	wk 2	wk 10	wk 11
PF	14	24	17	16
PS	12	14	19	23
SR	21	20	23	19
SS	20	25	24	25
PsU	24	23	24	24
PsA	25	24	25	24
PsG	19	20	19	21
SUM	135	150	151	152
%	77.14%	85.71%	86.29%	86.86%

Table AP 2.8 Pupil P Motivational profile values by class-level.

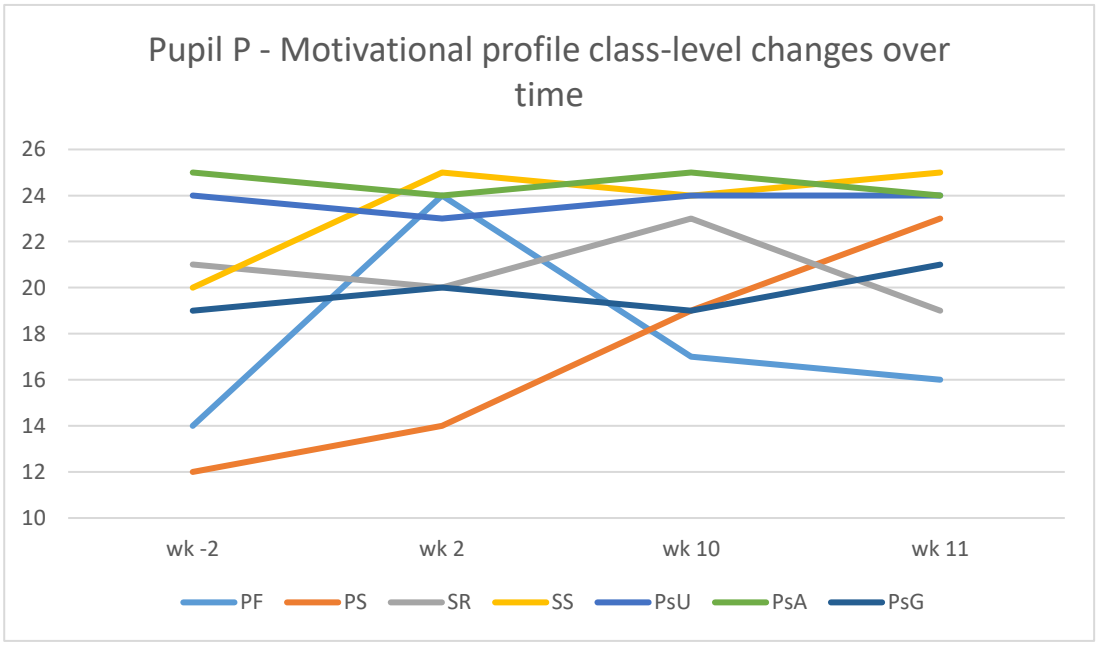

Figure AP 2.8 Pupil P Motivational profile.

Pupil Q (table AP 2.9 and figure AP 2.9) and pupil U (table AP 2.11 and figure AP 2.11) show a dip in Physical-Functioning in week 2, corresponding to some classroom behaviour that resulted in lost playtimes, this might be the cause of these results. Pupil Q also shows a steady decline in motivational profile while using ClassDojo, possibly because they received only one dojo point for behaviour other than homework turned in.

Pupil Q				
	wk -2	wk 2	wk 10	wk 11
PF	19	6	17	21
PS	22	21	21	20
SR	22	20	12	16
SS	23	24	21	22
PsU	23	21	21	12
PsA	16	21	20	20
PsG	23	25	17	20
SUM	148	138	129	131
%	84.57%	78.86%	73.71%	74.86%

Table AP 2.9 Pupil Q Motivational profile values by class-level.

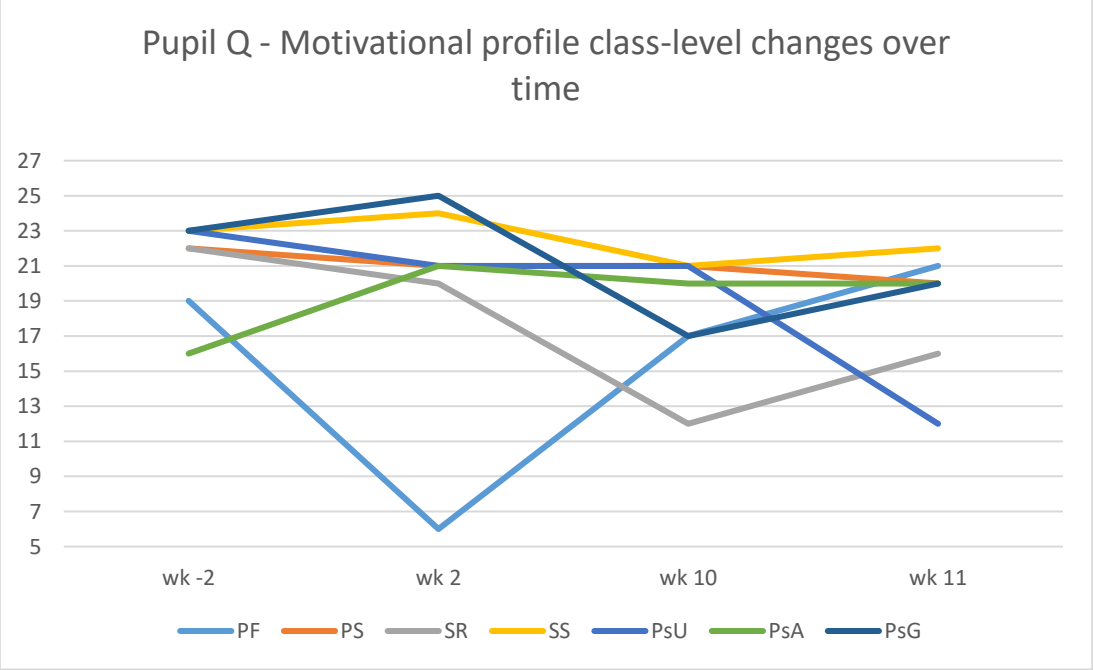

Figure AP 2.9 Pupil Q Motivational profile.

Pupil R (table AP 2.10 and figure AP 2.10) showed a dip in motivational profile until week 11, this corresponds to Pupil R only receiving dojo points for homework in week 10 but rather a lot of positive points for classroom behaviours between the questionnaires in week 10 and 11.

Pupil R				
	wk -2	wk 2	wk 10	wk 11
PF	23	18	13	20
PS	21	17	25	23
SR	22	18	22	25
SS	19	21	19	22
PsU	21	23	25	23
PsA	19	18	16	20
PsG	21	22	19	25
SUM	146	137	139	158
%	83.43%	78.29%	79.43%	90.29%

Table AP 2.10 Pupil R Motivational profile values by class-level.

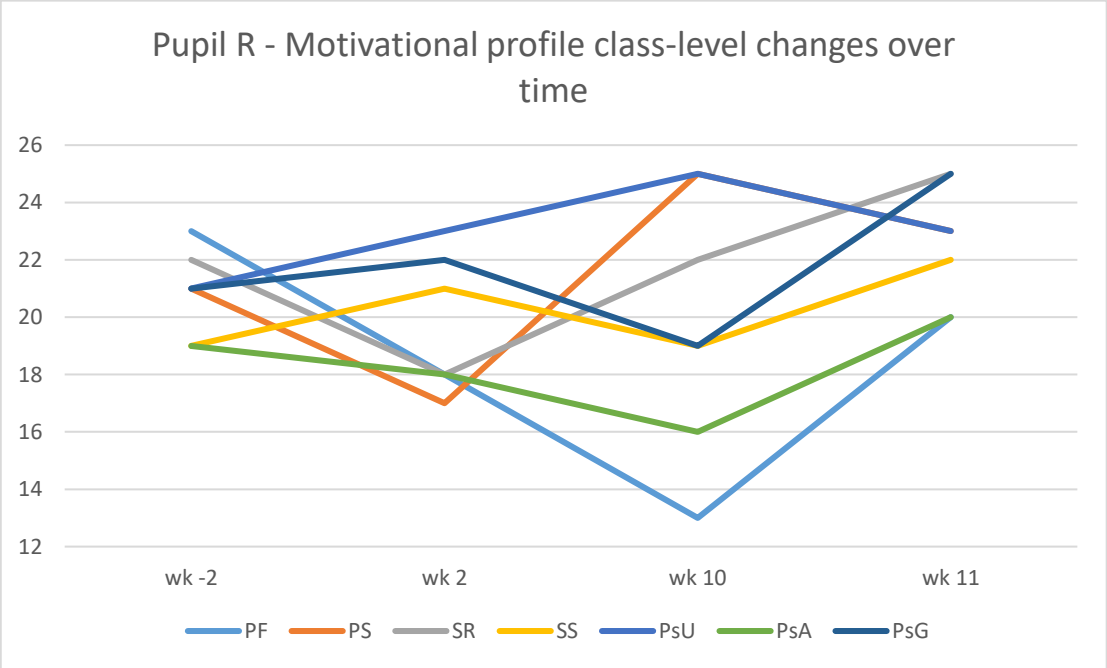

Figure AP 2.10 Pupil R Motivational profile.

Pupil U (table AP 2.11 and figure AP 2.11) maintained a high motivational profile value throughout the project apart from issues in week 2 with pupil Q.

Pupil U				
	wk -2	wk 2	wk 10	wk 11
PF	20	9	13	9
PS	20	16	25	21
SR	22	18	17	21
SS	25	16	25	25
PsU	23	14	24	25
PsA	21	21	25	21
PsG	23	21	17	21
SUM	154	115	146	143
%	88%	65.71%	83.42%	81.71%

Table AP 2.11 Pupil U Motivational profile values by class-level.

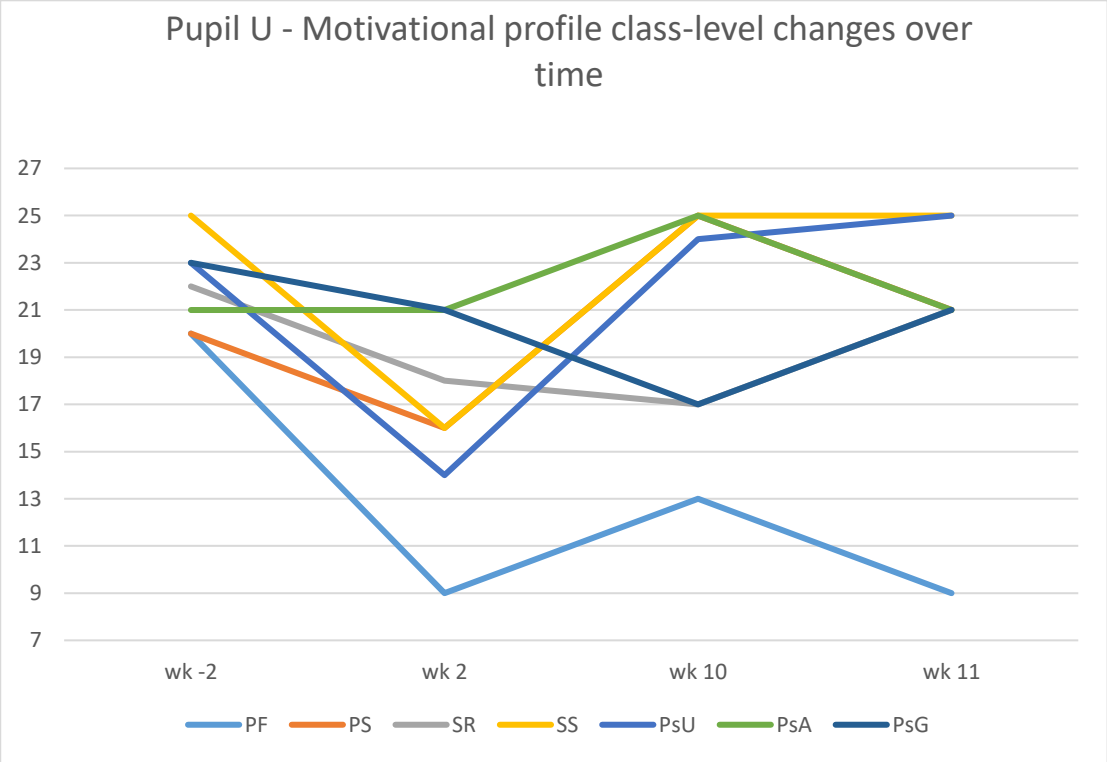

Figure AP 2.11 Pupil U Motivational profile.

Incomplete data sets

There are three pupils who did not provide a complete data set of questionnaires but their profiles are of some interest as they differ from those above.

Pupil J showed the largest homework turn-in drop of all Focus class pupils and yet his motivational profile (table AP 2.12 and figure AP 2.12) remain high throughout. It is interesting to note the dramatic drop in Social-Self and Psychological-Governance class-levels which would be expected from a pupil who blames parents for the lack of homework they could turn in and the subsequent public loss of Dojo points.

Pupil J			
	wk -2	wk 2	wk 10
PF	19	20	21
PS	20	17	25
SR	22	21	21
SS	23	25	14
PsU	23	17	25
PsA	20	25	25
PsG	24	25	15
SUM	151	150	146
%	86.29%	85.71%	83.43%

Table AP 2.12 Pupil J Motivational profile values by class-level.

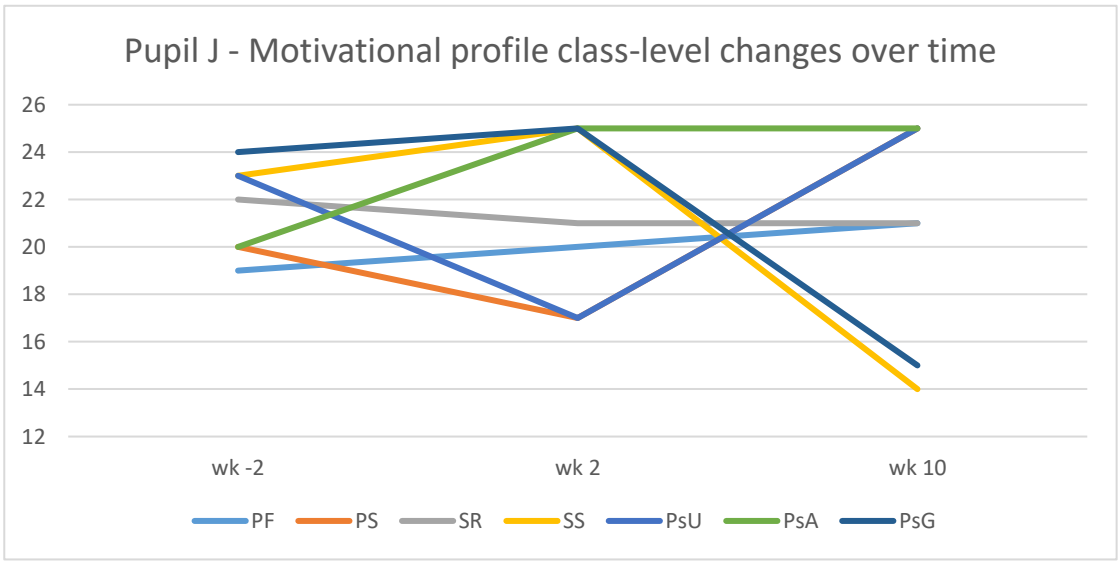

Figure AP 2.12 Pupil J Motivational profile.

Pupil H produced no homework from week 2 onwards. This was a deliberate behaviour pattern repeated weekly, perhaps reflected in their PsG, PS (Physical Safety) and SS (Social Self) lines (table AP 2.13 and figure AP 2.13). When ClassDojo is introduced, the loss of points appears to impact particularly the Social-Relatedness and Physical-Functioning class-levels but the steady Social-Self, Psychological-Governance and Physical-Safety lines suggests the behaviour is a deliberate work avoiding act perhaps to protect the low motivational profile seen in week 10.

Pupil H			
	wk 2	wk 10	wk 11
PF	19	5	16
PS	17	21	16
SR	17	7	17
SS	21	17	17
PsU	25	15	18
PsA	21	18	15
PsG	25	19	18
SUM	145	102	117
%	82.86%	58.30%	66.86%

Table AP 2.13 Pupil H Motivational profile values by class-level.

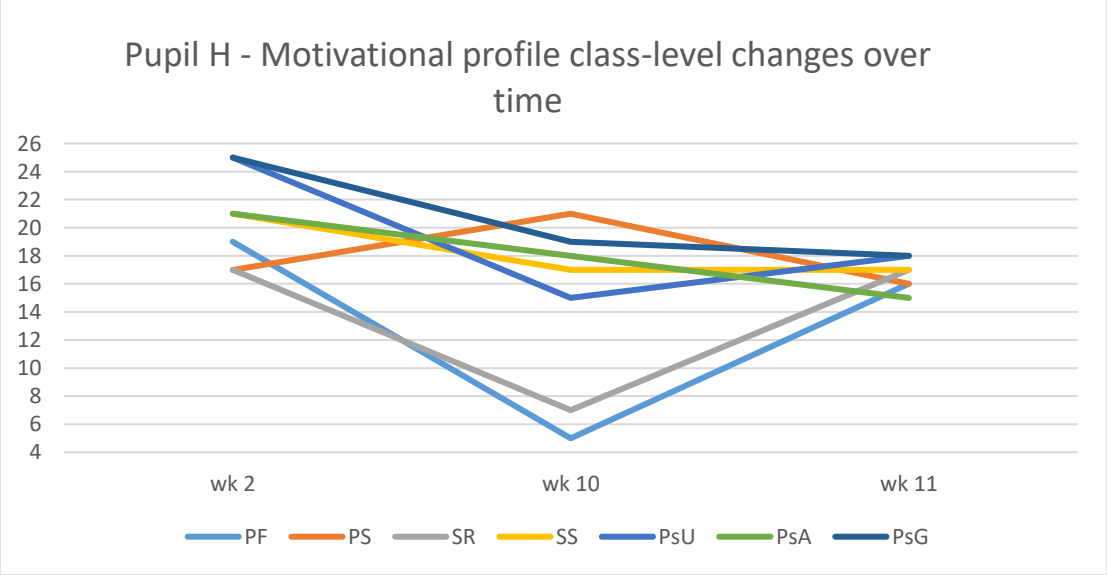

Figure AP 2.13 Pupil H Motivational profile.

Pupil N (table AP 2.14 and figure AP 2.14) also maintained a low homework turn-in rate and suffered a dramatic drop in their Social-Relatedness class-level, much the same as pupil H. Again, the Social-Self, Psychological-Governance and Physical-Safety Class-Levels appear at the top of the profile although the overall percentage suggests a low profile and the behaviour supports a deliberate behaviour pattern intended to protect the profile from further negative events.

Pupil N		
	wk 2	wk 10
PF	20	12
PS	19	17
SR	17	3
SS	13	23
PsU	17	16
PsA	14	19
PsG	11	17
SUM	111	107
%	63.43%	61.14%

Table AP 2.14 Pupil N Motivational profile values by class-level.

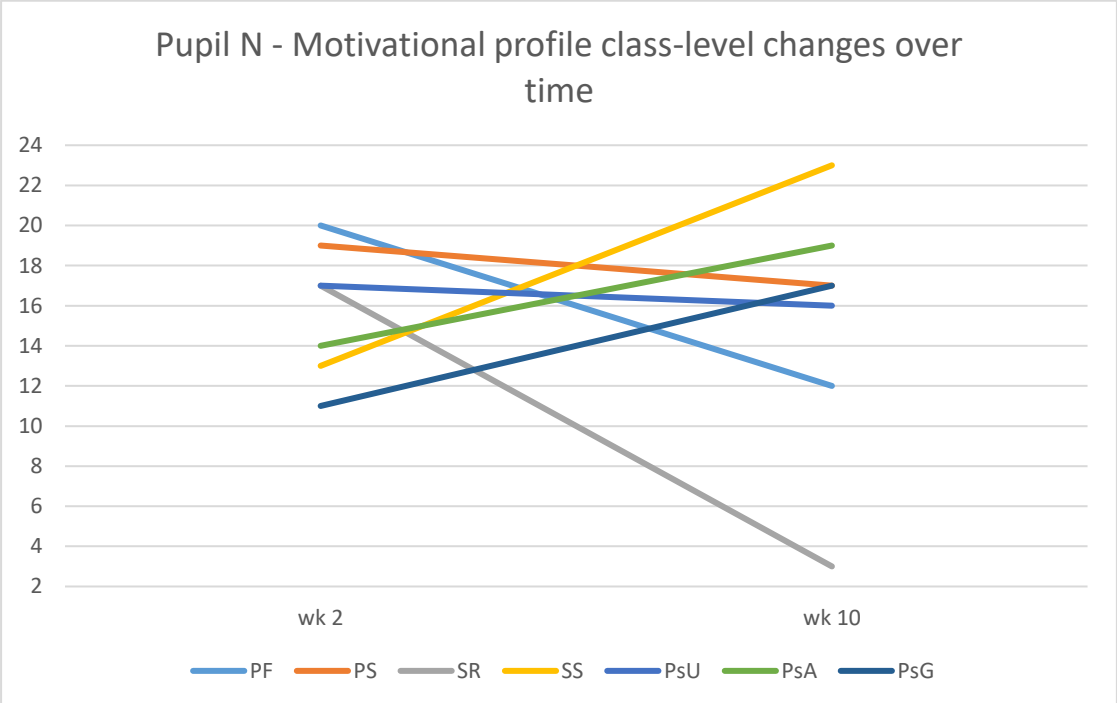

Figure AP 2.14 Pupil N Motivational profile.

Appendix Three - Post project teacher interview

The teacher responsible for the Focus class at the very end of term 2 and in term 3 was not the same person as the teacher in terms 1 and 2, however the new teacher was asked about homework behaviour post project.

> ‘The week after we stopped using ClassDojo there was still some homework due in and I know only half the children handed it in – in both classes, mind you it was nearly Christmas.’

They were asked about the homework behaviour in term 3 and how it was rewarded.

> ‘We do weekly spellings, and it started quite well after Christmas but by February there was only four children I believe actually learning the spellings. Now [March] I don’t think anyone is putting in any effort. They are supposed to read daily too, in January I had seven children regularly read, but that soon dropped to just 3-5 children reading regularly each week. Maths is pretty much the same, it’s an online program we use and only four children have logged on from home this term and only two boys seem to be making any effort with their tables at all.’

> ‘rewards, well, house points is the school policy so I give them for spellings. Regular reading gets the child’s name on a display board in the main corridor and the maths program awards its own

> certificates and points online and the tables are tested with the school tables challenge and certificates are awarded for passing each level.'

They were also asked to comment on the classroom behaviour management system being used.

> 'I use the traffic light zone boards because it is school policy although I have added a rocket ship to the upper end so I can recognise children who are being good. I record who is on each level at the end of the day and those on red miss 10 minutes of break the next day and those on orange lose 5 minutes. When a child has been on the rocket a multiple of 5 times they get to change their name tag. I made up some pictures they can colour in. Their old tag is retired to the star on the zone board. You can tell at a glance who are the well-behaved children and who are not.

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