The Use of Reward Systems to Improve Behaviour and Attainment in Schools

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The attainment gap arises from a complex interplay of numerous factors that contribute to a child’s educational development including parenting styles, cognitive ability, wider family environment, individual characteristics, and the school they attend. The gap has been shown to be present in pre-school children with this continuing to develop and increase throughout the course of education.\(^1,2\)

Although it has been argued that some of the factors contributing to low achievement are beyond the control of schools others argue that it is important to involve schools in improving the attainment of all pupils, particularly disadvantaged pupils. Rasbash and colleagues\(^3\) suggest that 20% of variability in achievement is due to school factors, whilst 80% is due to pupil factors, therefore schools can help to reduce inequality, although this is difficult within the wider context of social problems. With educational achievement a strong determinant of later life choices it is even more important to consider how such a gap can be reduced, with the government turning to schools to try and solve this problem.

The Sutton Trust has produced a toolkit of interventions proven to be effective at raising pupil attainment.\(^4\) This includes ideas such as behavioural interventions, involving parents, providing feedback to pupils, digital technology, and peer tutoring.

Reducing challenging behaviour in schools is a key concern and can have a direct and lasting effect on pupils’ learning.\(^5,6\) The Sutton Trust identify three broad categories of behavioural intervention: universal programmes that improve behaviour, specialised programmes, and school level approaches to developing a positive school culture or improving discipline which also aims to support greater engagement in learning. This is similar to positive behaviour support (PBS) which has been used successfully in schools to manage behaviour\(^7,8\) and has been shown to produce positive effects for pupils with severe behavioural difficulties at the lowest level of intervention.\(^9\)

PBS is an evidence-based systems approach for establishing a school’s social culture in order to create environments conducive to learning, through the development of individualised behaviour supports.\(^29\) It does this through non-aversive behaviour management and by actively engaging parents and teachers in the system.\(^7,14\) Key features are the inclusion of all pupils, definition of behavioural expectations, teaching behavioural expectations and monitoring and rewarding of behavioural expectations.\(^29\) Evidence suggests that PBS results in the following: reduction of problem behaviour, increased student engagement, improved academic performance, increased family involvement, improved classroom management and enhanced sense of efficacy in staff.\(^29\)

Traditionally, behaviourists within the operant school of thought believed the best way to modify behaviour was through the frequent use of reinforcement (i.e. rewards/punishments) to modify and influence behaviour.\(^10\) This framework is commonly used in schools. Historically, the emphasis was on punishing ‘bad’ behaviour, using punishment such as exclusion and detention.\(^11\) However, punishment has been shown not to result in the desired outcome of improved behaviour, and even sometimes results in exacerbation of unwanted
Evidence suggests that punishment inadvertently reinforces negative behaviour by providing attention to pupils.\textsuperscript{13}

More recently, schools have utilised rewards for the reinforcement of ‘good’ behaviour.\textsuperscript{14} This includes traditional systems such as merits, point systems and star charts. However, with the emergence of technology that can provide behavioural management systems online, there is an increase in the creative ways in which schools can actively recognise pupils for their positive efforts. Studies have shown the positive impact of technology, such as e-learning systems and reward platforms, on education, in part due to material being more stimulating and interactive. This simultaneously prepares pupils for a world where technology plays a fundamental role.\textsuperscript{15}

Criticism has been levelled at reward based programmes that offer extrinsic rewards for good behaviour. Evidence suggests that expectation of reward can undermine intrinsic motivation and self-regulation, destroying the ‘love of learning’.\textsuperscript{16,17,18} Deci and colleagues\textsuperscript{16} and Ryan & Deci\textsuperscript{19} suggest some behaviour is under its own inherent reward and therefore intrinsic. However, detrimental effects of extrinsic rewards have not been definitively proven.\textsuperscript{20}

Schools have successfully used external rewards for decades to manage behaviour\textsuperscript{21}, with the external reward of good grades being integral to the education system.\textsuperscript{22} Importantly within the literature, rewards based on meeting a performance objective, so called performance-contingent rewards, are not found to reduce intrinsic motivation\textsuperscript{23} and are shown to provide the learner with self-efficacy on tasks.\textsuperscript{24} These are often the type of rewards provided in the classroom environment. Behaviour can be seen as under complex or multiple contingencies as we rarely do something for just one reason. It is therefore perhaps more useful to view intrinsic and extrinsic motivation as not mutually exclusive or incompatible. Both equally predict commitment and interact to increase the level of competence and autonomy of the pupil depending on the function of the.\textsuperscript{22,23} What is important for any system is creating the optimum conditions for improving behaviour through the use of rewards.

The function of the reward rather than the tangible properties of it are of crucial importance in motivation.\textsuperscript{22} That is, if you gave chocolate as a reward for good behaviour then this would not be a valued reward for everyone, with some individuals liking/wanting the reward whilst others not. Pupil’s perceptions of what is a ‘good’ reward, is shown to change with age, with praise appearing the least popular reward.\textsuperscript{25} Offering a range of rewards that increase personal choice and allow pupils to individualise the rewards they receive helps increase motivation, autonomy and can reinforce an individual’s underlying values and therefore intrinsic motivation e.g. giving to charity. Additionally, schools can make choices about the behaviours rewarded based on the values they want to cultivate.\textsuperscript{26}

Social learning theory\textsuperscript{27} also offers insight into behaviour, motivation and learning, and proposes that people learn within a social context. Learning is facilitated through modelling and observational learning, that is, we learn how to behave in appropriate ways through vicarious experiences and consequences.\textsuperscript{28} Evidence suggests that reward systems can create a school culture that is seen as positive, safe, predictable and consistent\textsuperscript{29} which can provide opportunities for vicarious learning. Being part of a community provides a common experience with shared rules, ideals/values, and objectives, providing students with a sense of belonging and increasing engagement and self-efficacy.\textsuperscript{24,30} Sense of community is reinforced through the use of public recognition with leader boards and annual prizes.\textsuperscript{25}

Systems of rewards that are the same for all pupils within a school can help to define behavioural expectations about the school system, acknowledge positive behaviour, and
provide consistent consequences that are perceived to be fair.\textsuperscript{25} Providing a system that is transparent and robust increases the likelihood of this.\textsuperscript{26}

When good behaviour is not rewarded consistently competition and incompetence are fostered, undermining learning and intrinsic motivation in the classroom.\textsuperscript{22} This could be considered a form of punishment.\textsuperscript{12} Consistently acknowledging a repeated positive activity with small, regular rewards creates the classroom conditions where new behavioural habits can be formed. In addition, Mawhinney and colleagues\textsuperscript{31} suggest that when task performance is rewarded on repeated occasions it removes any negative effect of rewards, demonstrating the benefits of providing regular, consistent rewards to pupils. This supports the idea that there is nothing inherently negative about external rewards.\textsuperscript{20,32,33}

At a biological level, humans have a specific network of neurons within the brain that encode information relevant to subsequent behavioural choice.\textsuperscript{34} The caudate nucleus and dopamine system are thought to be the main loci for reward-based behavioural learning, with neural pathways being strengthened by providing repeated reinforcement.\textsuperscript{35} Once pathways are strengthened, predicting that a reward will be obtained elicits a similar response within the brain to actually receiving the reward itself.\textsuperscript{36} This suggests that there is a biological element to rewarding good behaviour.

Training teachers in the principles of reinforcement and rationale for reward systems creates an environment where systems are delivered uniformly.\textsuperscript{37} Involving parents in rewards is also fundamental in changing behaviour,\textsuperscript{38,39} with the close collaboration between home and school improving outcomes.\textsuperscript{40} Evidence suggests that parental involvement has a ‘causal influence on children’s school readiness and subsequent attainment’.\textsuperscript{41}

In summary, reward systems are effective at improving behaviours in schools and may narrow the attainment gap.\textsuperscript{1} Further research is required to further support the link between behaviour and attainment. However, a number of factors increase the efficacy of reward systems. These include: consistent delivery, perceived fairness of reward distribution, prompt recognition for behaviour, regular and frequent small rewards, sense of community and belonging, providing choices in the rewards available, and the use of technology to deliver such systems in an engaging consistent way that also facilitates parental and teacher involvement. Additionally, it is crucial to provide individualised incentives, through the use of reward choice, in order to create rewards that are meaningful and function to maximise both intrinsic and extrinsic motivation for each individual pupil.
References


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