Daily report cards as a school-based intervention for children with attention-deficit/hyperactivity disorder

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This paper describes daily report cards and the evidence relating to their use in schools for children with attention-deficit-hyperactivity disorder (ADHD). This intervention typically involves teachers evaluating a student’s behaviour at school against pre-determined targets and parents subsequently providing reinforcement at home for positive reports. Research suggests that the daily report card has been effective in treating a range of ADHD symptoms and improving school outcomes, including academic achievement in some cases. The daily report card also encourages collaboration between teachers and parents, and evidence suggests that the intervention benefits from the inclusion of reinforcement at home. Daily report cards are easy to implement and research finds that teachers consider them an acceptable intervention for ADHD. This paper also considers challenges in using daily report cards, including barriers to their use over the long-term and the risk of stigma for children with a report card. Ideas to address these issues are suggested.

Key words: Daily report card, ADHD, school.
In this article we describe an intervention referred to as a daily report card (DRC) and consider the evidence relating to its use for children with attention deficit hyperactivity disorder (ADHD). The DRC is an intervention used to identify, monitor and improve target behaviours through behavioural reinforcement (Fabiano et al., 2010). It is an intervention that has been widely used with children both with and without disabilities (Frafjord-Jacobson et al., 2013). ADHD is a common neurodevelopmental disorder characterised by age-inappropriate levels of inattention, hyperactivity and impulsivity (APA, 2014).

What are daily report cards?

A DRC is an individualised intervention used in school settings that draws on simple behavioural principles of operant conditioning. The card includes a number of behavioural and performance concerns pertaining to the child in question (Riley-Tillman et al., 2007). These concerns are framed positively as targets for improvement, setting clear simple expectations for the desired behaviour, for example ‘remains in seat during written tasks’. Teachers monitor the child’s progress on the DRC throughout the day by noting whether targets have been met. An example of a DRC is shown in Figure 1, although the exact format used will understandably vary. Many researchers have described the DRC as a home-school intervention. Indeed, typically ‘information is shared with the parent who is asked to provide some reward or consequence’ (Murray et al., 2008, p. 112). However, a DRC can be used without parent involvement (Jurbergs et al., 2010) as teachers also provide feedback to the child regarding targets on the DRC, as well as praise for meeting DRC goals.

The DRC can also be referred to as a ‘home–school note’, again indicating the norm of involving home–school collaboration (Owens et al., 2005). Some researchers use the term ‘daily behaviour report card’, which assumes that the intervention targets improved behaviour only (Jurbergs et al., 2010). However, we refer to the intervention as a DRC throughout this article as this emphasises the wider scope of the intervention to target academic outcomes, organisation and social interaction, as well as more typical positive classroom behaviour.

A DRC may be used as a stand-alone intervention or as part of a wider programme. For example, the Youth Experiencing Success in School (YESS) programme involves a DRC in combination with teacher consultation and parenting sessions (Owens et al., 2005). Barkley et al. (2000) also included a DRC with
Figure 1. Daily report card
home-based reinforcement as one of six classroom-based behavioural interventions they tested for disruptive children. The intervention also included behaviour modification, self-control training, social skills training and anger management. These studies indicate that a DRC may be used alongside other strategies, but that a DRC cannot be a substitute for more specific skills training needs.

What is ADHD?

ADHD is a neurodevelopmental disorder affecting approximately 5–7% of school-aged children (Willcutt, 2012). There are three subtypes of ADHD: predominantly hyperactive/impulsive type; predominantly inattentive type; and combined type. To constitute a diagnosis according to DSM-5, children must show a persistent pattern of inattention and/or hyperactivity-impulsivity for at least six months that interferes with functioning or development in more than one setting and have had several inattentive or hyperactive-impulsive symptoms before 12 years of age (APA, 2014).

The education system plays a front-line role in the identification and management of ADHD (Telford et al., 2013). The core symptoms of ADHD affect a child’s functioning in an educational environment and ADHD is associated with a number of adverse school outcomes, including poor academic achievement, classroom disruption and negative social interactions with teachers and peers (DuPaul et al., 2001; Loe and Feldman, 2007). The behaviours associated with the core symptoms of ADHD present significant challenges to teachers and peers of students with ADHD (Rafalovich, 2004).

Clinical guidelines for the treatment of ADHD in school-age children recommend non-pharmacological interventions such as evidence-based parent and/or teacher-administered behaviour therapy, as well as medication (Wolraich et al., 2011). Where medication is used it is important that this forms part of a comprehensive multimodal treatment approach that includes psychological, behavioural and educational interventions (Miranda et al., 2006). It can be difficult to transfer interventions designed in the clinical setting to the classroom (e.g. cognitive behavioural therapy), so finding effective behavioural interventions that are practical to implement in schools is important (Murray et al., 2008). The DRC is one such behavioural intervention that has received research attention and is likely to be familiar to teachers. The remainder of this article will present the
case for using a DRC with students with ADHD-related difficulties. We summarise the research evidence related to using the DRC with students with ADHD and discuss the challenges which need to be considered when implementing this type of intervention in the classroom.

Why use a DRC for students with ADHD?

There is evidence that school-based behavioural interventions are effective for children with ADHD, but a lack of clarity regarding which interventions are most effective (Moore et al., 2015a). Compared with other interventions, such as neurofeedback (see Willis et al., 2011), the DRC is much cheaper and easier to implement. There can be conflict between teachers and parents of children with ADHD, which often arises from poor communication and perceived stigma (Gwernan-Jones et al., 2015). The DRC aims to encourage home–school collaboration by promoting communication between parents and teachers with a focus on positive target improvement and reinforcement (Fabiano et al., 2010). A DRC offers the flexibility to be tailored to an individual child’s needs and targets (Chafouleas et al., 2006) and targets specific behaviours for change (Owens et al., 2005). For example, a child holding a predominantly inattentive subtype diagnosis might require targets related to focusing on instructions and concentrating on completing work, whereas for another child with ADHD the target might focus on remaining in their seat.

What’s the evidence?

Benefits

Research evidence for effectiveness of DRCs for ADHD

Outcomes of studies using the DRC as a stand-alone intervention and as part of a wider intervention with children with ADHD have shown that a DRC significantly improves symptoms, behaviour and academic performance for students with ADHD. In a randomised controlled trial Fabiano et al. (2010) found that after the ADHD treatment group used a DRC for one school year, their classroom behaviour, academic productivity and success improved compared to ADHD control group participants who received their education as usual. There were improvements in blinded observations of classroom functioning, individualised education plan goal attainment and teacher ratings of academic productivity and disruptive behaviour in the classroom. Parents also reported marked reductions in hyperactive and impulsivity symptoms.
In their randomised controlled study of a DRC, Murray et al. (2008) found moderately large and significant effects on a teacher-rated measure of academic productivity and skills, with children previously diagnosed with ADHD receiving the DRC intervention showing higher scores at post-test than ADHD control participants. There was no significant difference between intervention and control groups on measures of attention; however, inattention scores decreased significantly from pre to post treatment for both groups.

Owens et al. (2005) also conducted a randomised controlled trial that measured symptoms and functioning in a treatment group who received a DRC procedure, year-long teacher consultation and parenting sessions compared with a control group. Findings indicated that treated children showed marked reductions in a range of symptoms including hyperactivity/impulsivity, inattention, oppositional or defiant behaviour and aggression. The intervention also had a positive impact on peer relationships, academic functioning, and student–teacher relationships.

Acceptability
A recent systematic review of educators’ attitudes towards school-based interventions for ADHD found that the only intervention where educators’ attitudes were unanimously positive across studies was the DRC (Richardson et al., in press). It is important to consider attitudes about the acceptability of an intervention as this, along with perceived effectiveness, will impact an individual’s willingness to implement interventions. Curtis et al. (2006) measured the acceptability and perceived effectiveness of a number of interventions using the Behavioural Intervention Rating Scale (BIRS). Teachers read a description of the DRC, response cost techniques, classroom lottery and medication interventions and rated them using the BIRS. The DRC received the highest rating, followed by response cost, classroom lottery and medication.

Murray et al. (2008) examined the feasibility and integrity of a DRC in a small sample of randomly assigned elementary students with ADHD. Students receiving the DRC demonstrated significant improvement in academic skills and productivity, while parents and teachers maintained moderately high levels of adherence over four months and acceptability ratings were all very favourable.

Easy to implement
Previous research has identified a gap between research and practice, with classrooms not necessarily mirroring research recommendations (Murray et al., 2008). The DRC is easy to implement due to its simplicity, ease of use and
efficiency (DuPaul and Weyandt, 2006). As indicated above, the DRC is considered more acceptable than other interventions by educators, indicating that teachers may be willing to implement the intervention. A DRC is cheaper to implement than other interventions and is one of the simplest forms of feedback to employ in the classroom. Apart from the report card itself, no additional materials are required and little time is needed to complete the card, suggesting that it is a cost effective intervention for ADHD (Frafjord-Jacobson et al., 2013).

Promotes parental involvement and improves home–school collaboration

A systematic review of qualitative research indicated that mothers of students diagnosed with ADHD experienced conflict with school staff, felt blamed for their child’s behaviour and were unsuccessful when sharing information or making requests to schools (Gwernan-Jones et al., 2015). Home–school communication regarding students with ADHD can be strained as the communication is often negative in nature, whereas an intervention like a DRC can promote collaboration towards agreed goals (Fabiano et al., 2010). Unlike the randomised controlled trials described above, Jurberg et al. (2010) compared two treatment groups of children with ADHD: one receiving a DRC with teacher feedback and the other receiving a DRC with both teacher feedback and parent reinforcement. On-task behaviour in the classroom increased in both treatment groups, but more so for the DRC with parent reinforcement treatment. Anecdotal data suggested that teachers preferred the report card programme with parent-delivered reinforcement, stating that they found it to be a more powerful intervention due to parent involvement (Jurberg et al., 2010).

Jurberg et al.’s (2010) parent measures suggested that communication facilitated by the DRC encouraged parents to become more involved in their child’s classroom behaviour and academic performance. Parents reported feeling empowered as daily feedback increased their knowledge of their children’s daily classroom performance, allowing them to provide their children with more advice and guidance regarding the DRC targets. The daily communication also promoted parents’ positive feelings about the classroom teacher, and parents began visiting the classroom more frequently.

Help to focus targets and observe behaviour

A DRC helps to focus targets set for children’s learning and development and evaluate them. Regular monitoring first highlights areas of children’s difficulties, which helps to inform the development of future targets. Rather than focusing...
on a broad symptom such as impulsivity, use of a DRC makes targets more specific and achievable. For example, a child may frequently interrupt during class; a focused target for this behaviour framed in a positive way could be to put their hand up before speaking. Recording daily achievement related to attaining targets provides and maintains focus upon a student with ADHD’s individual needs and offers a record of action and progress (Fabiano et al., 2010).

Given that measuring and evaluating the behaviour of students with ADHD in the classroom is a critical component of a DRC, it is important that the DRC encourages teachers to make valid observations of targeted behaviour. Chafouleas et al. (2005) investigated the similarity of information provided from a DRC as rated by teachers to direct observation data obtained from independent observers. Results suggested a moderate degree of similarity between teacher perceptions of behaviour measured on a DRC and those of independent observers. This provides evidence that the behaviour monitored using a DRC is reliable and valid.

Challenges and limitations

Despite the range of benefits of using DRCs for students with ADHD discussed above, there remain some challenges that teachers should consider before implementing this intervention.

Willingness of teachers to use DRC

Despite good evidence of acceptance, a number of factors may make teachers less willing to implement a DRC intervention for students with ADHD, including time pressure, a lack of knowledge about ADHD and conflicting responsibility to the classroom as a whole versus the child with ADHD (Moore et al., 2015b). To use a DRC in the classroom effectively, teachers need to monitor targets and provide feedback while teaching and supporting all other students. It is important, then, that the DRC can be completed quickly and that the targets can be monitored without taking away from the teaching and learning of peers. Indeed, as a Korean teacher noted in a qualitative study, ‘the teacher can’t put the other children’s education aside and only help the children with ADHD’ (Hong, 2008, p. 405). Teachers may also be concerned that through using a DRC with a child with ADHD, other children may feel that they are being treated unfairly. For example, the teacher will give praise and encourage reinforcement at home as part of a DRC for a child with ADHD, but other children
in the class, who are likely to have also performed the target behaviours, will not receive the same attention (Partridge, 2009).

**Stigma**

There can be a stigma associated with receiving interventions which have been reported to frame ADHD as a problem (Ljusberg, 2011). The process of carrying out the DRC with a student in the class, including completing the card during class time, may highlight the diagnosis of ADHD and therefore make the individual stand out from the rest of the class. This may increase the likelihood that children with ADHD experience social isolation and face the stigma of peers (Mueller et al., 2012). Given DRCs’ emphasis on encouraging desirable behaviours, communication about targets and teacher ratings should focus on positive behaviours as much as possible, and it is important that difficulties related to ADHD are not interpreted as character flaws (Bartlett et al., 2010).

**Adherence**

The nature of the DRC means that a high level of commitment is required to complete the DRC every day over a long period of time. In Murray et al. (2008), 78 per cent of DRC items over the four months of the intervention were completed by teachers. Only 59% of DRCs were reviewed by parents. In their study Owens et al. (2005) reported that teachers completed the DRC less often, on 69% of school days across one school year. Consistent implementation of the DRC therefore appears to be challenging. Unless the DRC is considered a priority in the context of competing demands, or built into existing practices, implementation may diminish during busy periods (Owens et al., 2005). It is possible that there may be some resentment of the time commitment of the intervention, especially if there are multiple DRCs in one class while other teachers with classes without children with ADHD are not using the intervention.

Where students with ADHD have a number of teachers during the school day (e.g. in high school) there is the resulting challenge of co-ordinating target setting, responsibility of monitoring targets and consistency in ratings. Even in settings with one class teacher, the teacher may not always be present; given the long-term nature and need for daily completion, it is likely that there will be times when a substitute teacher may need to complete the DRC. It is therefore important that the card itself is clear in terms of what the targets are and how they are to be rated, and that cards are pre-populated with targets in advance, so
that any teacher can continue using the intervention. In order to help maintain adherence, it is important to frequently revisit targets and adjust them. Targets should be challenging but achievable and therefore will need adjusting frequently, particularly when home reinforcement is part of the process.

**Parental involvement**

Educators across multiple studies voice the importance of effective relationships with parents and its impact on the success of interventions for students with ADHD (Mulligan, 2001). However, teachers frequently have difficulty in making and sustaining contact with parents (Murray et al., 2008). Parent availability, willingness and ability to provide daily consequences may affect the success of a DRC and existing research (as discussed earlier) suggests the inclusion of parent reinforcement is preferable (Jurbergs et al., 2010). When parents are involved, home-based reinforcement is a critical component of the intervention. In Murray et al. (2008), only two thirds of parents indicated that they had provided a reward to their child when earned. There is a further issue in ensuring that parents react appropriately to missed targets on the DRC. The initial explanation of the intervention that parents receive is very important to encourage both appropriate use and adherence. Despite these concerns, it is worth considering that Jurbergs et al. (2010) found that mothers using the DRC often reported feeling empowered by increased knowledge of their children’s daily classroom behaviour and improved their relationships with teachers.

**Gaps in research**

Future research could investigate adherence levels among teachers using a DRC and find out reasons why teachers do not use the DRC. Research around the DRC to date has mainly been focused on the school setting. There has been little research considering how parents determine what rewards to give and how parents respond to negative reports. Therefore, further research could explore factors affecting parent delivery of the home-based reinforcement and whether parents are actively involved in encouraging behaviour related to the targets. There have been some randomised controlled trials of a DRC used for students with ADHD, but as yet to our knowledge no systematic review of the literature that focuses solely on this intervention has been published. A systematic review could analyse the mixed findings from individual studies regarding the DRCs effects on academic achievement. Indeed, typically the DRC is categorised with other behaviour...
modification techniques (e.g. DuPaul et al., 2012), and therefore it would be of interest to consider whether a DRC is more effective than other strategies.

Conclusion

The DRC intervention has been shown to be beneficial in treating ADHD, improving school outcomes, monitoring individualised targets and promoting daily collaboration between teachers and the child’s parents. There is evidence that both teachers and parents find the DRC highly acceptable for use with students with ADHD, despite issues with adherence. Of course, difficulties related to symptoms of ADHD are not exclusively faced by those children who hold a diagnosis, and the DRC may be effective for a range of other behaviours and individual concerns. Key strengths of the intervention include the low cost, the ease with which it can be put into practice and its flexible nature, such that it holds potential in a range of educational settings, for a range of ages, to address a variety of needs.

References


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