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Evaluation of the implementation and impact of an integrated prevention model on the academic progress of students with disabilities



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ABSTRACT

In this paper we report on the implementation and impact of an integrated prevention model (Achievement for All – AfA) to improve the educational experiences and outcomes of students with disabilities. It comprises three inter-related strands: assessment, tracking and intervention; structured conversations with parents; and, developing provision for wider outcomes, Participants were 12,038 students with disabilities from 431 mainstream primary and secondary schools across 10 Local Authorities in England involved in the twoyear AfA pilot. Pre- and post-test data on academic attainment in English and Maths were compared with national data on academic progress for students with and without disabilities over an equivalent period of time. School-level contextual and implementation data and student-level socio-demographic and psychosocial data were also collected. Four hypotheses were tested regarding the impact of AfA on academic attainment in English (H1) and Maths (H2); the influence of aspects of the implementation context and processes (H3); and individual differences between students (H4). Our findings are discussed in relation to the identification and validation of critical intervention components and standards for assessing the practical significance of attempts to improve outcomes for students.

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1. Introduction

Students with disabilities represent a significant proportion of the school-aged population, and are widely considered to be the most vulnerable group of learners in any education system. Prevalence estimates vary by country – for example, 21% in England (Department for Education, 2010), 13.2% in the United States (Institute of Education Sciences, 2011), and 7.6% in Australia (Australian Institute of Health & Welfare, 2004). This variation is accounted for by differential definitions of disability, and the social, political, historical and legal influences that affect schooling systems across the world (Robson, 2005; Squires, 2012). These influences also have a bearing on how students' needs are classified. The overwhelming majority of students with disabilities attend mainstream ('regular') schools in developed nations (for example, 91.4% in England – Department for Education, 2010; 95% in the United States – Institute of Education Sciences, 2011).

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Promoting positive outcomes for students with disabilities has been perhaps the most significant challenge facing schools in recent years. Despite additional support, the available evidence suggests that they perform less well academically than those without disabilities at each stage of their education in core academic subjects such as mathematics and science (Department for Education, 2010; Zhang, Katsiyannis, & Kortering, 2007). Research also points to poorer outcomes in psychosocial domains, such as: being over-represented as victims (and in some cases, as perpetrators) of bullying (Monchy, Pijl, & Zandberg, 2004; Van Cleave & Davis, 2006); and having lower peer acceptance and fewer friends/friendship groups than their non-disabled peers (Frostad & Pijl, 2007; Pijl, Frostad, & Flem, 2008). These outcomes may be heavily mediated by parental engagement. Unfortunately, this is another area of concern for students with disabilities (Lamb, 2009; Lendrum, Barlow, & Humphrey, 2013).

2. School-based interventions for students with disabilities and the potential of integrated models of prevention

Examination of the literature on school-based interventions for students with disabilities highlights a range of issues that are pertinent to the current study. While a range of strategies and approaches have been shown to be effective (see, for example, Kavale's (2007) meta-analysis), interventions are often narrowly-focused, typically targeting a single group (e.g., students with autism) and/or outcome domain (e.g., social skills). This is known as the 'program for every problem' phenomenon. While tailoring to individual needs can of course be beneficial, it can also lead to a fragmented approach to implementation that is neither cost-efficient nor sustainable. This means that some very promising approaches are not enacted consistently over time. What is perhaps needed is an integrated model, in which independent strategies or programs at both universal and targeted/indicated levels are fused into one coherent framework for intervention in a coordinated manner (Domitrovich et al., 2010).

An additional problem is the 'research to practice gap'. Schools rarely use approaches that have a strong evidence base (Cook & Cook, 2011). Even when they do, they typically modify an intervention to improve fit with their own needs and practices (Harn, Parisi, & Stoolmiller, 2013). It is clear that some modifications risk affecting the integrity of the intervention and the achievement of expected outcomes (Durlak & DuPre, 2008; Lendrum & Humphrey, 2012). However, despite an increased emphasis on implementation science in recent years, there is still a clear lag in terms of identifying and operationalizing what actually makes interventions work – with very few studies establishing what are typically referred to as 'core components' or 'active ingredients' (Blase & Fixsen, 2013). Hence, an intended contribution of the current study was to document the relationship between theorized 'active ingredients' and outcomes (see Hypotheses 3a and 3b below). Additionally, we sought to explore the influence on outcomes of factors affecting implementation, such as school leadership support (Gottfredson & Gottfredson, 2002).

Finally, the interpretation of outcome data can be problematic – interventions are often quoted as producing effect sizes that are arguably arbitrary when not viewed in context. Setting appropriate benchmarks for the practical significance of intervention effects in making a noticeable difference in the classroom is becoming an increasingly important consideration (Hill, Bloom, Black, & Lipsey, 2008). Furthermore, the importance of individual differences should not be underestimated. Although traditional approaches to analyzing the impact of interventions (e.g. intention to treat – Gupta, 2011) may imply uniform effects across participants, this is rarely the case. Indeed, developmental theory and research suggests considerable variability in the degree to which individuals are affected by factors in their environment (including interventions) (Belsky & Pluess, 2009). Hence, the influence of student characteristics including (but not limited to) disability type, special educational provision, gender and age should be assessed in order to account for possible 'differential gains' (Humphrey, 2013) among sub-groups when examining program impacts (see Hypothesis 4). Such analyses also serve to increase our understanding of the extent to which interventions address inequities – as Petticrew et al. (2012) state, "policymakers and practitioners need evidence on the effects of interventions in subpopulations" (p.97).

The intervention examined in this paper aligns with the 'integrated prevention model' outlined by Domitrovich et al. (2010). This theoretical model reflects the complexities of the etiological factors underpinning outcomes for students with disabilities, positing that a range of individual and environmental factors can place children at risk of negative outcomes, and that these outcomes are inter-related. Domitrovich et al. (2010) propose that approaches to intervention that focus narrowly on a single risk factor or outcome domain are less likely to be successful than those that target multiple factors. They argue that effective school-based prevention should combine universal, school-wide approaches with targeted/indicated intervention for specific groups of students. Finally, they suggest that an integrated model, in which independent strategies or programs are fused into one coherent framework for intervention in a coordinated manner, will result in a synergistic effect. The rationale for such a model is provided in terms of (a) comprehensiveness; (b) maximized intervention exposure; (c) the additive or multiplicative effects caused by the interaction of different strategies; (d) reduced 'initiative overload' and improved sustainability; and (e) improved potential for high quality implementation.

3. The Achievement for All (AfA) intervention framework

AfA was developed by the English government's Department for Education in response to on-going concerns about the school experiences and outcomes of students with disabilities, and was conceptualized as a means to support schools to provide better opportunities for them to fulfill their potential. The pilot version was implemented from 2009 to 2011 in over 450 schools across 10 Local Authorities (akin to school districts) in England, supported by a £31 (c. \$46.5) million grant.

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