



Australian Association
of
Special Education (AASE)

*Quality
education
for all*

POSITION PAPER

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**EVIDENCE-BASED
PRACTICE**

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AUSTRALIAN ASSOCIATION OF SPECIAL EDUCATION INC. POSITION PAPER ON EVIDENCE-BASED PRACTICE

EXECUTIVE SUMMARY

DECISIONS ABOUT THE EFFECTIVENESS OF EDUCATIONAL PRACTICES SHOULD REST ON SCIENTIFIC EVIDENCE

AASE advocates for the use of evidence-based practices in all classrooms and believes that the evidence provided by scientific research should underpin policies and practices in both regular and special education.

STANDARDS FOR EVIDENCE-BASED PRACTICE IN SPECIAL EDUCATION

AASE accepts that the gold-standard for research exploring intervention effectiveness is the randomized control trial where participants are randomly assigned to intervention and control groups.

AASE also accepts that well-conducted small-n designs are important for special education as are group designs that are high quality, but do not employ randomized allocation to groups.

AASE RECOMMENDS

That state and federal education authorities take responsibility for promoting evidence-based practices and advising against disproven approaches.

That state and federal education authorities, in consultation with special education researchers and knowledgeable professionals, develop a set of criteria, relevant to Australian schools, for judging the standard of evidence available about educational practices.

That schools and teachers accept some responsibility for establishing the level of research evidence for existing and proposed practices. Education systems and sectors should provide advice and support for this endeavour.

That state and federal education authorities provide clear guidelines for teachers and schools who wish to trial new and unresearched or unsupported practices.

INTRODUCTION

The key aims of the Australian Association of Special Education (AASE) are to:

- a) Provide educational leadership to the professional and wider community
- b) Advocate for quality education for all
- c) Commission, participate in and disseminate quality research to inform educational practice
- d) Arrange, promote and facilitate high quality professional learning events and conferences
- e) Coach, mentor and model best practice in teaching and leadership
- f) Build partnerships with universities, service providers and the community
- g) Actively influence policy and decision making

To achieve these aims, AASE must be able to identify effective educational practices for students with disabilities and special education needs. The identification of effective and efficient practices underpins AASE's advocacy for quality programs for students, for quality pre-service teacher preparation and quality professional learning for teachers and the leadership AASE provides to professionals, parents, policy makers and the wider community. For this position paper, the focus will be on quality programs and practices in schools.

DECISIONS ABOUT THE EFFECTIVENESS OF EDUCATIONAL PRACTICES SHOULD REST ON SCIENTIFIC EVIDENCE

Teachers in special education have a wide range of interventions and therapies available to them, all claimed to improve educational outcomes. Teachers, schools and education authorities need to make choices about which interventions to use and who to use them with. Many interventions are marketed with extravagant claims, while others have a solid research base and have been shown to support student learning.

AASE advocates for the use of evidence-based practices in all classrooms and believes that the evidence provided by scientific research should underpin policies and practices in both regular and special education. As Carter and Wheldall (2008) have pointed out, in a scientific approach to education, evidence is the "ultimate arbiter" (p. 9) of the effectiveness of an intervention. Cook, Tankersley and Harjusola-Webb (2008) noted that "using educational practices that have been shown to improve students' learning and behaviour outcomes through reliable, trustworthy research seems to be both an essential and principled goal for special education" (p. 105).

AASE acknowledges that quality research in special education to obtain reliable evidence of causal effects can be difficult to carry out. The complexities include the wide variability of children with special education needs, the kind and severity of their disabilities and the range of contexts where they are educated (Odom, Brantling, Gersten, Horner, Thompson & Harris, 2005). Never the less, there are a range of research methodologies, both group and small-n, that are available to researchers and which will provide valid and reliable results, allowing the effects of an intervention to be identified

There are several differences between evidence-based practices (EBPs) and unsupported practices. EBPs have a sound theoretical base that is generally accepted within the relevant field. They have empirical support drawn from good quality experimental research, published in peer-reviewed journals. Judgments about the evidence base must take into account both the quality and the number of research studies available. In addition, the effects of the practices must result in important outcomes for students. Evaluating these factors is not a simple exercise, but other

fields of endeavour such as medicine and psychology have set standards, and special education is following suit (Carter & Wheldall, 2008; Cook, Tankersely & Landrum, 2009; Hempenstall, 2006).

STANDARDS FOR EVIDENCE-BASED PRACTICE IN SPECIAL EDUCATION

Given that practices in special education should have an evidence base, we are still left with the question of what constitutes sound research-based evidence for a particular practice. Many organisations, groups and individual researchers (Council for Exceptional Children; Campbell Collaboration; What Works Clearinghouse; Promising Practices Network) have suggested standards of evidence, but there is not yet a common clear consensus on the detail of how much and what kind of research is required to establish a research-base for any practice.

It is generally accepted that the gold-standard for research exploring intervention effectiveness is the randomized control trial where participants are randomly assigned to intervention and control groups (Carter & Wheldall, 2008; Odom et al., 2005). These trials are possible in special education for participants with high frequency disabilities, but are impractical for participants with more complex and low frequency disabilities. For this reason, well-conducted small-n designs are also important for special education as are group designs that are high quality, but do not employ randomized allocation to groups.

Quality group designs are those that use random assignment to homogenous groups, a clearly described comparison condition, procedures to ensure treatment integrity in both intervention and comparison groups, and objective, reliable and valid outcome measures. A practice should be supported by at least two high quality studies carried out in different sites, or four acceptable studies, and ideally there should also be trials showing effectiveness in typical school settings (Gersten, Fuchs, Compton, Coyne, Greenwood & Innocenti (2005); Coalition for Evidence-based Policy, 2003; Cook et al. (2009); Hempenstall, 2006).

Quality small-n designs must clearly demonstrate experimental control at at least three points (for example ABAB, alternating treatment designs and multiple baseline designs across at least three participants, behaviours or settings), and the effects of the intervention should be apparent by visual inspection of the graphed data. Procedural and observational reliability must be established. It is suggested that between 5 and 10 quality small-n designs carried out with at least 20 participants in several locations would provide adequate support. (Horner, Carr, Halle, McGee, Odom, & Wolery, 2005; Kratochwill, Hitchcock, Horner, Levin, Odom, Rindskopf, & Shadish, 2010)

Although only experimental research can provide empirical evidence about effectiveness, other research approaches (correlational designs and qualitative approaches) may provide information about interventions and approaches that appear promising and which should be subject to closer scrutiny (Gersten et al., 2005).

It is important to distinguish between research that establishes efficacy or the positive outcomes of an intervention within a tightly controlled research context and effectiveness research that establishes that an intervention has meaningful effects when it is used in real-world settings such as schools. Research efforts should move from establishing efficacy to establishing effectiveness (Santoro, Gersten, & Newman-Gonchar, 2011).

AASE recognizes the reality that for many educational practices, the results of randomised control trials or other quality research studies, and studies in natural settings are not available and that

decisions must be made drawing on the results of a more limited research base. Thus, as Carter and Wheldall (2008) noted, there will be degrees of support that allow practices to be recommended with varying levels of confidence.

RECOMMENDATIONS

AASE therefore recommends

- That state and federal education authorities take responsibility for promoting evidence-based practices and advising against disproven approaches. Currently, education authorities do not consistently provide this advice, and in fact promote and tolerate unproven and disproven practices in special education.
- That state and federal education authorities, in consultation with special education researchers and knowledgeable professionals, develop a set of criteria, relevant to Australian schools, for judging the standard of evidence available about educational practices.
- That schools and teachers accept some responsibility for establishing the level of research evidence for existing and proposed practices. Education systems and sectors should provide advice and support for this endeavor.
- That state and federal education authorities provide clear guidelines for teachers and schools who wish to trial new and unresearched or unsupported practices. These guidelines should include a requirement for a quality evaluation of the practice, using student outcome measures.

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