# Summary of key findings of a scoping review of Implementation in Education

## 1.1 Introduction

High quality implementation of educational approaches can have a significant impact on improving students' outcomes. Implementation is generally defined as a specified set of planned and intentional activities designed to integrate evidence-based practices into real-world settings (Mitchell, 2011).

Approaches, practices and interventions delivered in real world school and classroom settings often look different from what was originally intended. Principals and teachers may decide to adapt elements of a program, and barriers in the school system may prevent an approach from being fully realised. What this shows is the importance of the *quality of the implementation* in affecting learning gains, rather just than the program itself. Implementation strategies such as training and ongoing teacher support are important to consider in efforts to encourage positive student outcomes.

## 1.2 Methodology

A scoping review was conducted to answer the question - ***What is known about the role of implementation in providing effective teaching and generating positive learning outcomes for school aged children in primary and secondary education?***

While the initial search of the literature yielded 2,682 citations, only 36 publications were included in the final literature sample as outlined in table 1. Eight were *implementation effectiveness studies* and reported implementation outcomes that were achieved through the testing of different implementation strategies. The remaining 28 studies were *implementation quality studies*, which reported on the effectiveness of interventions and included an indicator of implementation quality.

Table 1: Outcomes of literature search of Implementation in Education

| Literature | |
|---|---|
| Initial search of the literature yield | 2,682 citations |
| Final literature sample | 36 publications |
| Implementation effectiveness studies | 8 studies |
| implementation quality studies | 28 studies |

## 1.3 Key findings

The application of implementation science in education is slowly emerging (Albers & Pattuwage, 2017). Four major indicators of implementation quality are dosage, fidelity, quality of delivery (Domitrovich et al., 2008) and acceptability (Albers & Pattuwage, 2017). These are outlined in Table 2. The scoping review includes several randomised controlled trials and documents on how dosage (participation in certain activity), fidelity (ongoing support), quality of implementation (support from principals) and acceptability (teachers' participation and attitudes to that activity) influence students' outcomes (academic and behavioural) and teachers' attitudes and practices.

When implementing an educational approach, providing ongoing support to teachers through coaching, workshops, and supervision has shown to have a substantial impact on student outcomes (Artman-Meeker, Hemmeter, & Snyder, 2014; Clarke, Bunting, & Barry, 2014; Gray, Contento, & Koch, 2015; Kam, Greenberg, & Walls, 2003; Matsumura, Garnier, & Resnick, 2010; Sarama, Clements, Starkey, Klein, & Wakeley, 2008). When looking at quality of delivery, principals support and the support of the teachers within the Promoting Alternative THinking Strategies' (PATHS) - a delinquency prevention curriculum, was seen to significantly influence reduced students' aggression and behavioural dysregulation.

Table 2: A framework for measurement within implementation

| Element of implementation | Dosage | Fidelity | Quality of Implementation | Acceptability |
|---|---|---|---|---|
| **Definition** | Units of an approach and support system | The degree to which an approach and support system are conducted as planned | Quality of delivery is measured by the engagement and responsiveness from the educators | The degree to which users and stakeholders of an intervention accept its relevance and importance. |
| **Examples in Education** | Amount of teacher participation in coaching | One day training with ongoing distance coaching | Principal support for approach and quality of support for teachers. | Teachers participation and attitudes towards coaching. |
| **Approach** | Literacy coaching with the Content Focused Coaching Program (Matsumura et al., 2010) | Pyramid Model: classroom-wide approach for social emotional development and addressing challenging behaviour (Artman-Meeker et al., 2014) | Promoting Alternative Thinking Strategies' (PATHS) - a delinquency prevention curriculum (Kam et al., 2003) | Literacy coaching with the Content Focused Coaching Program (CFC) (Matsumura et al., 2010) |
| **Outcomes from focusing on this element of implementation** | Teachers significantly increased in participation in coaching ($p<0.001$). | Significant impact on classroom interaction quality ($p=0.05$) with the ongoing distance coaching | Students showed significantly greater reductions in aggression and behavioural dysregulation, and significant increases in emotional competence. | Teachers in CFC schools were more positive about being observed by a coach, and having a coach model lessons for improving their practice ($p < .05$ and $p < .001$). Teachers in the CFC schools reported significantly greater emphasis on planning and instruction ($p < .05$), help during lesson enactment ($p < .05$), and building knowledge of the theory behind effective reading comprehension instruction ($p < .05$) than comparison teachers. |

Adapted from:(Albers & Pattuwage, 2017; Artman-Meeker et al., 2014; Domitrovich et al., 2008; Kam et al., 2003; Matsumura et al., 2010)

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## 1.4 Implications

The conceptual richness of the field of implementation science invites further exploration of how its concepts can be integrated and utilised both as part of high quality educational studies and of good educational implementation practice.

Within education science, this may imply the development and funding of rigorous study designs, aimed at testing different approaches to implementation of evidence-based practice in classrooms, schools and school systems – in particular in Australian settings.

## 1.5 References

Albers, B., & Pattuwage, L. (2017). *Implementation in Education: Findings from a Scoping Review*. Melbourne: Evidence for Learning. Retrieved from http://www.evidenceforlearning.org.au/evidence-informed-educators/implementation-in-education

Artman-Meeker, K., Hemmeter, M. L., & Snyder, P. (2014). Effects of Distance Coaching on Teachers' Use of Pyramid Model Practices: A Pilot Study. *Infants & Young Children, 27*(4), 325-344.

Clarke, A. M., Bunting, B., & Barry, M. M. (2014). Evaluating the implementation of a school-based emotional well-being programme: a cluster randomized controlled trial of Zippy's Friends for children in disadvantaged primary schools. *Health education research, 29*(5), 786-798.

Domitrovich, C. E., Bradshaw, C. P., Poduska, J. M., Hoagwood, K., Buckley, J. A., Olin, S., . . . Ialongo, N. S. (2008). Maximizing the implementation quality of evidence-based preventive interventions in schools: A conceptual framework. *Advances in School Mental Health Promotion, 1*(3), 6-28.

Gray, H. L., Contento, I. R., & Koch, P. A. (2015). Linking implementation process to intervention outcomes in a middle school obesity prevention curriculum,'Choice, Control and Change'. *Health education research, 30*(2), 248-261.

Kam, C.-M., Greenberg, M. T., & Walls, C. T. (2003). Examining the role of implementation quality in school-based prevention using the PATHS curriculum. *Prevention Science, 4*(1), 55-63.

Matsumura, L. C., Garnier, H. E., & Resnick, L. B. (2010). Implementing Literacy Coaching The Role of School Social Resources. *Educational Evaluation and Policy Analysis, 32*(2), 249-272.

Mitchell, P. F. (2011). Evidence-based practice in real-world services for young people with complex needs: New opportunities suggested by recent implementation science. *Children and Youth Services Review, 33*(2), 207-216.

Sarama, J., Clements, D. H., Starkey, P., Klein, A., & Wakeley, A. (2008). Scaling up the implementation of a pre-kindergarten mathematics curriculum: Teaching for understanding with trajectories and technologies. *Journal of Research on Educational Effectiveness, 1*(2), 89-119.

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