

## Development of evidence-based practices for early childhood road safety education

Emma Clarkson, VicRoads<sup>1</sup>, Helen Lindner, VicRoads<sup>1</sup>, Associate Professor Stacey Waters, Edith Cowan University<sup>2</sup>, Samantha Baker, Edith Cowan University, Kaashifah Bruce, Edith Cowan University.

<sup>1</sup>VicRoads, 60 Denmark St, Kew Victoria 3101, Australia

Email for correspondence: [emma.clarkson@roads.vic.gov.au](mailto:emma.clarkson@roads.vic.gov.au)

### Abstract

Conclusive international evidence indicates that early childhood is a vital period in children's learning and development (DEECD, 2008). In recognition of this, in July 2009, the Council of Australian Governments agreed to a wide ranging package of reforms for early childhood, including Australia's first ever national Early Years Learning Framework (COAG, 2009).

VicRoads, on behalf of the Road Safety Education Reference Group Australasia, contracted The Child Health Promotion Research Centre (CHPRC) at Edith Cowan University to develop National Practices for Early Childhood Road Safety Education - aligning with the Early Years Learning Framework.

This paper presents the first nationally focused adaptation of the Early Years Learning Framework to the road safety research field.

The development of the National Practices for Early Childhood Road Safety Education followed a three stage, formative research process.

1. A review of the literature relating to early childhood road related injury, road safety education and evidence-based pedagogy for teaching young children.
2. The development of draft practices.
3. Expert consultation with road safety and early childhood education experts, who were asked to validate the proposed national practices through a process of group consensus.

The Practices will provide a contemporary and practical framework to guide early childhood educators and policy makers in designing and implementing evidence-based road safety education.

**Key words:** road safety education; early childhood; safe road users.

### 1. Introduction

Road trauma is a significant public health issue for young Australians. It is the leading cause of death and injury and the second most frequent cause of hospitalisation among children in Australia (World Health Organization, 2008).

Children up to about 10 years of age are at particular risk of pedestrian injury due to their small size and the fact that they are still learning to detect the presence of traffic and to judge the speed and distance of traffic.

It is recognised that road safety education is an important part of a holistic approach to keeping children safe around traffic and in the road environment (OECD, 2004).

Research shows that a child's experience in their early years sets the course for the rest of their lives. Brain research shows us that, from birth to five years, children already have most of the physical brain capacity they need. We now know that significant learning and brain growth occurs during infancy (Laevers, 2005).

In recognition of this, on 2 July 2009, the Council of Australian Governments agreed to a wide ranging package of reforms for early childhood, including endorsing Australia's first ever national strategy outlining a shared vision for the development of young children in Australia, and the immediate implementation of Australia's first national Early Years Learning Framework.

The Early Years Learning Framework has been developed with considerable input from the early childhood sector, early childhood academics and the Australian and State and Territory Governments (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009).

The aim of the Early Years Learning Framework is to extend and enrich children's learning from birth to five years and through transition to school. The Framework has been developed to assist educators to provide young children with opportunities to maximise their potential and develop a foundation for future success in learning. Please refer to Figure 1 which depicts the different elements of the Early Years Learning Framework.

The extensive evidence-base of the Early Years Learning Framework and its implementation within Australian early childhood settings, presented a unique opportunity to align the development of National Practices for Early Childhood Road Safety Education with this Framework. This enhances their relevance, applicability and implementation across Australian early childhood education settings.

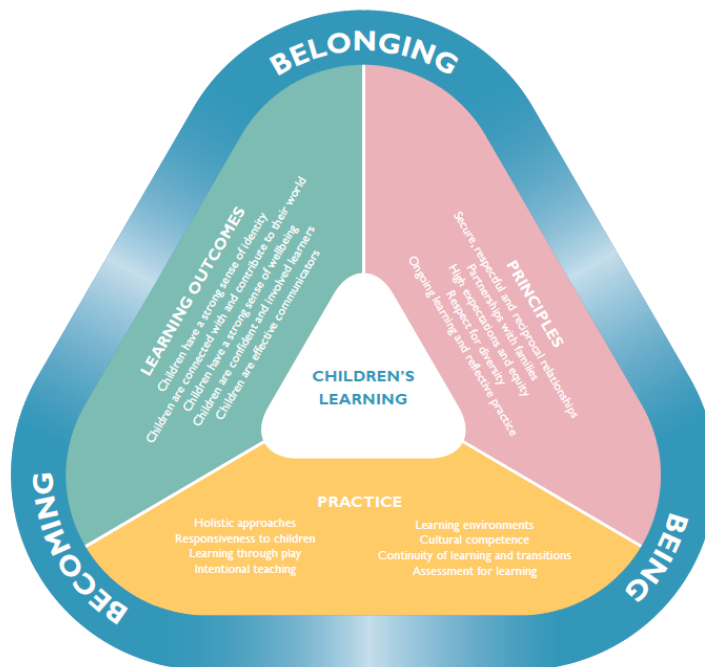
VicRoads, on behalf of the Road Safety Education Reference Group Australasia (RSEGA), contracted The CHPRC at Edith Cowan University in Western Australia to undertake this work.

VicRoads is the state and road traffic authority in Victoria, Australia.

The RSEGA is a nationally representative group of senior managers who oversee the implementation of road safety education in early childhood services, primary and secondary schools. The RSEGA endorses a nationally consistent approach to evidence based road safety education.

The following agencies contributed funding to this project: Department of Transport and Main Roads, Queensland; Department of Planning, Transport, and Infrastructure, South Australia; Department of Education and Early Childhood Development, Victoria; VicRoads, Victoria; The New Zealand Transport Agency and School Education and Drug Aware, Western Australia.

**Figure 1: Belonging, Being & Becoming - The Early Years Learning Framework for Australia, Commonwealth of Australia (2009)**



## 2. Method

The development of the National Practices for Early Childhood Road Safety Education followed a three stage, formative research process.

### ***Stage 1: Literature search and review***

A comprehensive literature search was conducted in order to retrieve currently published descriptive, empirical and theoretical literature relevant to the development of the National Practices for Early Childhood Road Safety Education. The key focus of this search related to early childhood road related injury, early childhood road safety education and early childhood pedagogy (Waters et al, 2012). A significant amount of the literature on current Australian road safety programs was located in non-peer reviewed sources such as agency and research reports. Every document identified was reviewed for its applicability and retrieved where appropriate.

As part of this process, it was identified that the Early Years Learning Framework provided a suitable evidence-based framework with which to align the National Practices for Early Childhood Road Safety Education.

All of the retrieved road safety programs, descriptive and theoretical literature was subsequently reviewed in relation to the Early Years Learning Framework. This enabled the integration of the research underlying young children's learning with the latest road safety evidence and facilitated the formation of the National Practices for Early Childhood Road Safety Education.

## ***Stage 2: Development of National Practices for Early Childhood Road Safety Education***

As outlined in Stage 1, the National Practices for Early Childhood Road Safety Education were drafted to align with the Early Years Learning Framework. The draft Practices were reviewed by staff at CHPRC, Edith Cowan University, Western Australia and VicRoads. The Practices were then modified based on feedback and prepared for validation by the panel of experts in Stage 3.

### ***Stage 3: Expert consultation and validation***

To further refine and validate the National Practices for Early Childhood Road Safety Education, a panel of experts in the fields of early childhood education and road safety were consulted. Consultation with the expert panel was conducted using two methods – questionnaires using the Delphi technique and a face-to-face workshop (Waters et al, 2012).

#### ***Delphi process, round one***

Using the Delphi technique, panel members were asked to rate the extent to which they agreed with the inclusion of each practice and how easily each practice could be implemented in the real world. Panel members were also given the opportunity to add comments relating to each practice. (Comments included recommendations to change specific words and ideas for how the practices could be applied). The application of the Delphi technique provided a means of obtaining a group consensus on the wording, content and appropriateness of each drafted practice. This technique is a multi-stage process whereby the panel is required to respond to a series of questionnaires, with each questionnaire building upon the responses of the questionnaire preceding it. This process is continued until agreement is achieved. The use of this technique provokes collaboration and participation from all participants, enabling a synthesis of opinion on early childhood road safety education (Waters et al, 2012).

Thirty potential nationally representative panel members were identified by VicRoads with the assistance of the RSERGA members in each jurisdiction. Twenty five participants provided consent to participate, all of whom responded to the first round questionnaire. The responses were collated and analysed in IBM SPSS Statistics 19. Group responses to each question were presented as frequencies (% and n) and common themes from the qualitative comments were identified.

#### ***Face-to-face workshop***

After round one of the Delphi process, further consultation on the draft practices was conducted through a one day, face-to-face workshop held in Melbourne, Victoria. Thirteen nationally representative road safety and early childhood education experts attended the workshop. (These experts also participated in the questionnaire). The purpose of this workshop was to refine the practices based on round one of the Delphi feedback, prior to the Delphi round two. This workshop also enabled the panel to collaborate and express their ideas on how these practices could be applied and to identify potential barriers that may limit their implementation.

#### ***Delphi process, round two***

The National Practices for Early Childhood Road Safety Education were refined to incorporate the feedback from the first questionnaire and workshop, and the second Delphi questionnaire was sent to the panel members. This second questionnaire followed the same format as the first with the addition of the panel member's initial comments and ratings and the group averages from round one. 68% (n=17) responded to the second questionnaire. There was general consensus amongst the panel that the Practices were consistent with the

EYLF and the wording had been made clearer. Therefore, there was no need to undertake a third round of the Delphi process.

### 3. Conclusions, findings and recommendations

#### 3.1.1. National Practices for Early Childhood Road Safety Education

Feedback obtained within the consultation and validation process was in general supportive of the inclusion of each of the finalised national practices.

These practices encompass findings from the extensive literature review along with the valuable feedback obtained from the expert consultation and validation stage.

The National Practices for Early Childhood Road Safety Education are presented in Table 1.

**Table 1: National Practices for Early Childhood Road Safety Education**

<p><b>EARLY YEARS LEARNING FRAMEWORK PRACTICES</b></p> <p>HOLISTIC APPROACHES</p> <p>1. Recognise that children’s learning is integrated and interconnected when making curriculum decisions about road safety education.</p> <p>RESPONSIVENESS TO CHILDREN</p> <p>2. Deliver road safety education which is responsive to individual children and extends children’s strengths, knowledge and interests.</p> <p>LEARNING THROUGH PLAY</p> <p>3. Through play-based learning seek opportunities to address road safety in a way that expands children’s thinking and encourages problem solving.</p> <p>INTENTIONAL TEACHING</p> <p>4. Engage in intentional teaching which extends and expands children’s learning about road safety.</p> <p>LEARNING ENVIRONMENTS</p> <p>5. Provide opportunities in the learning environment, including the local community, for safe and meaningful interaction with children, parents and carers about road safety.</p> <p>CULTURAL COMPETENCE</p> <p>6. Implement road safety education that is culturally relevant for the diversity of children, their families and the community.</p> <p>CONTINUITY OF LEARNING AND TRANSITIONS</p> <p>7. Use the opportunity of transitions, in active partnership with children, families and the local community, for road safety education.</p> <p>ASSESSMENT FOR LEARNING</p> <p>8. Together with children and families, reflect on each child’s learning and application of road safety to plan for future learning.</p>
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### **3.1.2. Recommendations**

Recommendations for implementation of the National Practices for Early Childhood Road Safety Education include:

- Develop early childhood educator online resource materials to support and demonstrate how the National Practices for Early Childhood Road Safety Education can be implemented in early childhood settings.
- The National Practices for Early Childhood Road Safety Education should be disseminated to all early childhood services within each jurisdiction of Australia and New Zealand.
- Implementation of the National Practices for Early Childhood Road Safety Education should be supported by early childhood educator professional development.
- The National Practices for Early Childhood Road Safety Education should be evaluated by the RSERGA

(Waters et al, 2012).

### **3.1.3. Conclusion**

By providing National Practices for Early Childhood Road Safety Education that are based on sound evidence, early childhood educators and policy makers across Australia can develop, implement and evaluate evidence-based road safety programs that support children's learning about road safety.

Led by VicRoads, the RSERGA has commenced developing *practice examples* to support early childhood educators to implement each practice. The *practice examples* will include programming ideas and information about relevant supporting resources.

This research will also inform the development of national safe travel and transport guidelines to support the development and implementation of policies by early childhood services.

## **4. Acknowledgments**

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- Department of Planning, Transport, and Infrastructure, South Australia
- Department of Education and Early Childhood Development, Victoria
- The New Zealand Transport Agency
- School Education and Drug Aware, Western Australia

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VicRoads also wishes to acknowledge the work of the team at the Child Health Promotion Research Centre at Edith Cowan University, led by Associate Professor Stacey Waters.

## **References**

Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments. (2009). *Belonging, Being & Becoming: The early Years Learning Framework for Australia*. ACT: Author.

Council of Australian Governments (2009) Communique – 2 July 2009.

Department of Education and Early Childhood Development (2008) *A Research Paper to inform the development of An Early Years Learning Framework for Australia*: June 2008. Melbourne, Australia: Office for Children and Early Childhood Development.

Laevers, F. (2005) *Deep-level-learning and experiential approach in early childhood and primary education* Research Centre for Early Childhood and Primary Education Katholieke Universiteit: Leuven.

OECD (2004) *Keeping Children Safe in Traffic*, OECD, Paris.

Waters, S., Baker, S., & Bruce, K. (2012). *National Practices for Early Childhood Road Safety Education*. Perth, Australia: Edith Cowan University, Child Health Promotion Research Centre.

World Health Organization (2008) *World health statistics 2008*. Geneva, Switzerland: World Health Organization.