

Effectiveness of traffic safety education: parents, children and schools

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ABSTRACT

Kids on the Move is the core traffic safety education (TSE) resource for Victorian primary schools. It comprises three books. Book 1 focuses on whole school TSE, book 2 on early primary learning and book 3 on later primary. The resource also includes a DVD, *A Child's World of Traffic* to support parents to use everyday traffic situations to teach their children about road safety.

To understand the effectiveness of the resource, Edith Cowan University was commissioned to undertake two studies.

VicRoads commissioned the initial study. One of the objectives was to evaluate the effectiveness of the pedestrian components of *Kids on the Move* (Book 2 – Prep to Year 2) and the DVD, *A Child's World of Traffic*, including:

- impact of the resources on pedestrian safety knowledge, understanding and self-reported behaviours in parents
- effectiveness of the resources as parent education tools.

The TAC commissioned the second study to determine the extent to which the resource has been implemented in Victorian schools. The study also reports on the:

- extent to which schools understand the Victorian 'core and enrichment' approach
- barriers to implementation
- most effective approaches for implementation.

This paper will report on the outcomes of both studies. The initial study found that the resource had positive results in relation to parents' supervision of their children and the teaching of road safety skills and behaviours.

INTRODUCTION

Working collaboratively, the key Victorian road safety and education agencies undertake research, apply findings and develop programs and resources for formal education settings and parents/families. The approach and the key activities are detailed in the *TSE: Directions and Action Plan*, which supports the Victorian road safety strategy.

The *TSE: Directions and Action Plan* was developed by the TSE Reference Group, which is chaired by VicRoads and comprises representatives from the other key Victorian road safety, education and transport agencies including:

- Transport Accident Commission (TAC)
- Department of Education and Early Childhood Development (DEECD)
- Victoria Police
- Department of Transport
- Department of Justice
- Metlink
- RACV

The *TSE: Directions and Action Plan* details the purpose of TSE and the integrated approach taken by the agencies to ensure learning occurs sequentially at key windows of opportunity in school and early childhood settings and aligned with both student development and parent and teacher motivations. The approach draws upon behaviour change principles e.g. real life practical training for young children, student centred and peer learning for senior secondary level students and role modelling by parents and other adults.

This approach is based on research commissioned in 2004 (Elliott) to review Victoria's approach to TSE delivery, given the reduction in funding and age of resources. This was particularly pertinent as DEECD was introducing a new curriculum framework and the importance of the pre-licence developmental stage was highlighted by the new GLS measures which were at an early stage of development.

The review proposed Victoria's TSE strategy (Taylor 2005) should be based on a 'core and enrichment' model, where essential or 'core' TSE is delivered at specific times to target the relevant road safety issues for:

- pre-school – holding hands, passenger restraint and parent modelling and supervision

- early primary – pedestrian and passenger safety, particularly the “Stop, Look, Listen and Think” crossing procedure
- transition to secondary – pedestrian, public transport and cycling safety as independent travellers
- pre-licence – young driver safety issues, including speed, alcohol and other drugs, fatigue, peer group pressure and distractions while driving

Core resources have been developed to influence behaviour change through the exploration of safety behaviours and activities and the building of knowledge, skills and attitudes to support young people to move to progressively independent travel and licensing.

As the 2004 review and 2005 strategy identified, the most significant challenge for TSE is the paucity of outcome based evaluation/research that links education based behavioural change programs directly to reduced road trauma outcomes. This can be attributed to the lack of funding to develop the longitudinal research required and the difficulty of disentangling affects of TSE from other influences and interventions.

Although to date, there has been a significant gap in research to demonstrate the effectiveness of TSE alone, a body of research is emerging that documents evaluation of best practice programs and interventions. For example, the recent work undertaken by Edith Cowan University (ECU) for the Government of Western Australia on behalf of the national road safety education partners builds on the Victorian TSE review and strategy development undertaken in 2004 and 2005 (Elliott and Taylor respectively). ECU was commissioned to develop evidence-based principles for school road safety education.

Measures can be developed to determine the effectiveness of specific programs. For example, education measures aimed at teaching pedestrians how to cope with the traffic environment are considered an essential component of any strategy in the prevention of pedestrian injuries.

Determining the relevant effectiveness of different prevention strategies is important to justify the expenditure of road safety resources.

BACKGROUND

VicRoads and the TAC, in partnership with the DEECD, commissioned two studies to determine the extent to which the core primary school resource *Kids on the Move* has been effective.

The VicRoads study originated from a Parliamentary Inquiry. The Victorian Parliamentary Road Safety Committee 2006 report *Review of the Inquiry into the Incidence and Prevention of Pedestrian Accidents* considered the pedestrian safety programs and resources available from VicRoads and the TAC. It noted that the Committee received no evidence of the effectiveness of these programs. Recommendation 29 of the report states that: “the pedestrian education programs delivered by VicRoads and the TAC be evaluated for their effectiveness and highlight the penalties associated with illegal pedestrian behaviours.”

VicRoads engaged the Child Health Promotion Research Centre to undertake this work.

One part of this evaluation was to evaluate the effectiveness of the pedestrian components of *Kids on the Move* (Book 2 – Prep to Year 2) and the DVD, *A Child's World of Traffic*, including:

- impact of the resources on pedestrian safety knowledge, understanding and self-reported behaviours in parents
- effectiveness of the resources as parent education tools.

Given the VicRoads study and the time since development and implementation of the resource, the TAC engaged the Child Health Promotion Research Centre to undertake a study to determine the extent to which the resource has been implemented in Victorian schools.

METHOD

VicRoads Study

A cross sectional **survey** of **1404** parents of Year 1 to Year 3 students was conducted. The purpose of the survey was to determine the parents' awareness of *Kids on the Move* and related resources and to assess any impacts on parents' knowledge, understanding and behaviours that may have occurred as a result of such exposure.

In depth telephone interviews were conducted with 22 parents in both metropolitan and rural areas. The main purpose of the interviews was to ask parents about the effectiveness of *Kids on the Move Book 2* and *A Child's World of Traffic* as parent education tools.

Case studies of four schools demonstrating best practice implementation of *Kids on the Move* and *A Child's World of Traffic* were developed. The case studies provide a description of how and why implementation of the program is successful, obstacles to implementation and factors that contributed to the successful implementation of *Kids on the Move* and *A Child's World of Traffic* in the school.

TAC Study

A cross-sectional **study** was conducted in **39 schools and involved 145 teachers**. Data were collected from three sources:

- A school profile document to collect information on schools, classes, teachers and numbers of students in relation to using the KOTM resource (36 profiles collected);
- A SPO feedback form to understand the level of professional development and TSE support provided and barriers to implementing the core resource (9 feedback forms collected); and

- A self-complete survey by teachers to understand awareness of the approach, the core resources, feedback and implementation of the resource and other TSE programs (completed by 145 teachers, 89 from Prep-Year 2 and 56 from Year 5/6 teachers).

RESULTS AND DISCUSSION

VicRoads Study

Key findings - survey

The effectiveness of the resources was tested by comparing parents who were and were not “exposed” to the resources. Exposure was defined as having received two or more activity sheets and/or having watched the DVD.

Exposed parents were:

- 1.8 times more likely than unexposed parents to report holding their child’s hand when crossing roads;
- 2.3 times more likely to report teaching their child about staying safe every/most times when walking with their child;
- 1.6 times more likely to use the STOP, LOOK, LISTEN, THINK procedure when walking with their child; and
- 1.7 times more likely to report their child continued to look and listen while crossing roads;

than those not exposed to the resources.

Key findings – telephone interviews

The parents who participated in the in-depth telephone interviews reported that the *Kids on the Move* activities were informative and they were able to identify the key messages for traffic safety education. All parents praised the content of the *A Child’s World of Traffic* DVD.

Key findings - case studies

The case studies identified the following critical factors for high implementation of TSE in the case study schools to be:

- school-based leadership
- an established history of whole-school responses including the teaching of TSE
- staff interest in TSE; and
- a hazardous school traffic environment.

Key recommendations

1. Improve awareness raising and dissemination of resources. (Teacher implementation of the Kids on the Move take home activities and the DVD and usage of the resources in general is low). One recommendation in the report is to include more professional development for teachers that links TSE with literacy and numeracy concepts in a cross curriculum format.

2. Based on this research, the content of the resources does not need updating, however the inclusion of more learner-centered practical activities would add further value. (Parents particularly enjoyed the practical activities which asked the child to explore local streets with their parents)
3. Adapting the resources for use with interactive whiteboards and other ICT applications is recommended. Teachers felt that ICT activities would complement the resource and encourage teachers to use the *Kids on the Move* resource.

TAC Study

Implementation of TSE and *Kids on the Move*

The majority of schools that participated in the study were from the Government sector, about half were in the Melbourne metropolitan area and the average number of students attending each school was 260. Three in ten schools had a specific traffic safety policy or guidelines (29%), two in ten listed TSE in their top five priorities (22%) and eight in ten had traffic safety concerns (81%). The teachers were mostly female, with 11-12 years teaching experience and relatively few (14%) had attended TSE professional development in the period 2007-2010.

The most common whole-of-school activities undertaken by the schools in 2010 were providing parents with traffic safety information (68%), in particular at transition to primary school meetings (46%), promoting cycling (64%) and school bus safety (44%). Schools also mentioned participation in annual walking to school or cycling events.

The *Kids on the Move* resource was implemented in almost 50% in one or more year between 2007 and 2010. Overall, 61% of the 145 teachers indicated they had taught TSE in 2007-2010.

In 2007-2010, almost 30% of teachers had implemented the *Kids on the Move* resource. Prep-Year 2 teachers who implemented the materials, tended to do so in more than one year. Of the twenty teachers who had used the materials and had taught Prep-Year 2 in their current school, 15 used the *Kids on the Move* resource in two or more years and six to some extent in all four years.

Prep-Year 2 teachers who implemented the *Kids on the Move* resource in 2010 taught an average of six of the eight core activities and one of the six take home activities. On average the Prep-Year 2 teachers implemented at least one core activity from each of the four modules. Year 5 and 6 teachers who implemented the resource in 2010, taught one and six of the eight core activities respectively.

Satisfaction with the *Kids on the Move* resource

The majority of teachers who implemented *Kids on the Move* expressed satisfaction with the materials (86%-96% satisfied with each module taught). Positive aspects of the materials mentioned by several teachers were:

- Well-structured and easy to use, teacher-friendly
- Clear instructions and messages for children

- Up-to-date and comprehensive with useful and practical activities
- Relevant to student needs
- Age appropriate and engaging, children enjoyed the activities

Barriers to implementation of TSE and *Kids on the Move*

The primary reason given by teachers for not implementing TSE was a lack of time. Other reasons given were that TSE was not a priority or not the responsibility of the particular teacher e.g. another teacher in the school such as the Physical Education teacher or another teacher within the year level had this responsibility.

Schools in which *Kids on the Move* was significantly less likely to be implemented were smaller schools, schools where more than a quarter of the students travelled to/from school by bus and schools that did not have a history of traffic concerns. Barriers to TSE implementation identified by the SPO were changes in staff (particularly the Principal), the absence of an advocate for TSE in the school, the crowded curriculum, competing priorities and lack of awareness of the resource.

Implementation and satisfaction with the *A Child's World of Traffic DVD*

Distribution of the DVD to all or most parents was the most common means of dissemination. Teachers who used the DVD in this way reported that parents found it useful or very useful. The best characteristics of the DVD according to the teachers were that it provided clear, relevant information from a child's perspective, in a manner that was easy for the children to understand and enjoy and was useful in encouraging families to discuss road safety together. Whilst some teachers felt the dissemination strategy of loaning the DVD to parents had been successful, others (including one SPO) commented that this approach did not work as the DVDs went missing. Two-thirds of the teachers had not utilised the resource as they were unaware of it.

Understanding of the 'core and enrichment' approach

Very few teachers implementing the *Kids on the Move* resource had an understanding of the core and enrichment approach with only a few teachers being able to describe the nature of this approach.

Other TSE programs implemented

The most common other TSE resource implemented in 2007-2010 in Prep-Year 2 was a Victoria Police visit and for Year 5/6 it was Bike Ed, followed by a "Walking School Bus" and a Victoria Police visit. Other activities used were teaching the students to use the school crossing and "Walk to School" days.

The SPO model

Involvement by the SPO in whole-of-school activities in 2009/10 was limited in most schools and was mainly related to supporting staff in providing traffic safety information to parents, emphasising school bus safety and promoting cycling. Professional development (PD) activities for school staff, in particular presentation and distribution of *Kids on the Move* and training workshops, were undertaken to a larger extent in 2007/08 (when the resource was new) than more in recent years. Such PD activities were conducted in about 40% of the sample schools in 2007/08 and 19% in 2009/10.

Supportive school staff (particularly senior staff), a traffic safety 'champion' in the school and willingness by staff to promote traffic safety were all factors identified by the SPO as assisting them to fulfil their role. Barriers mentioned were the numbers of schools and distances between schools in their regions, changes in staff and lack of communication between staff in schools which contributed to teachers' lack of awareness of the resource.

CONCLUSION

Data from the DEECD indicates that 99 per cent of all Victorian primary schools have the core traffic safety education resource, *Kids on the Move*. As implementation has reached saturation, it is important to maintain TSE delivery by providing ongoing support for schools to utilise the core resources

The TAC and DEECD sought around 100 schools to participate in the TAC study. However, the time commitment to participate, despite relief teacher support funding, meant around 40% of the target was achieved. Given the small number of schools able to participate in this study, caution must be taken when considering the results.

The VicRoads study into the effect of the resource on improved pedestrian safety behaviours is promising, with the results showing a significant association between exposure to *Kids on the Move* and positive self-reported road safety behaviours in parents such as holding their child's hand when crossing the road.

Feedback on the teaching materials is also positive.

The results of these studies clearly provide an opportunity for the key traffic safety agencies to develop a concerted centralised communications strategy to promote the resource to schools, enabling the SPO to focus on quality professional development in their schools' communities.

The DEECD, TAC and VicRoads will lead the development of a TSE web portal, which will be the one stop shop for Victorian teachers and parents to access resources and information. It will also provide the means to develop and promote ICT based resources, which was one of the recommendations in the VicRoads study.

Promoted effectively, the TSE portal will help to raise awareness of the evidence-based TSE resources and programs on offer in Victoria.

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