

ROAD SAFETY EDUCATION IN MOROCCAN PRIMARY SCHOOLS: A SITUATIONAL ANALYSIS

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ABSTRACT

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To help reduce the number of road injuries and fatalities, several road safety education activities are organized by schools. However, their effectiveness has not been researched sufficiently at the national level. The aim of this work was therefore to assess the circumstances in which these activities are organized and to determine the extent to which they contribute to the development of students' knowledge of road safety. Data collection was carried out through a questionnaire that was delivered to the directors of 105 schools in the Daraa-Tafilalet Regional Academy. The "pre-test/post-test" method was used to study the impact of a road safety education activity on students' knowledge. The results of this study reveal that schools are limited to commemorating national safe driving day. School directors ensure the participation of all students and the involvement of actors such as national security and the royal gendarmerie. As for civil society associations, their involvement remains insufficient. The training of educational actors in the conduct of road safety workshops, the involvement of parents and the adoption of interactive strategies centered on the pupil are means likely to develop pupils' knowledge and behavior.

Keywords: Education, Road safety, Morocco.

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INTRODUCTION

Today, human civilization has made great progress thanks to inventions and innovations in the various fields of life. In the transport sector, for example, several adequate means have been manufactured to facilitate easy and fast travel. However, the increase in the number of road users has led to an increase in traffic accidents, both in number and severity. In addition to the enormous material damage, road accidents killed 1.35 million people and injured tens of millions worldwide in 2016 (WHO, 2018). Since its sixty-second session, the United Nations has regarded road traffic accidents as a global crisis. Halving the number of road traffic deaths is one of the sustainable development goals set by this international organization.

According to the directorate of transport and road Safety (2017), traffic accidents cause more than 3,500 deaths and 12,000 serious injuries annually in Morocco. Statistical data show that 6.11% of deaths are children under 14 year olds. Increased efforts by all actors involved are needed to design new and effective policies to make our roads safer. It is in this spirit that the kingdom has put in place a national road safety strategy 2017-2026 to combat traffic accidents in all their forms. The objective is to reduce by half the number of deaths caused by traffic by 2026.

Measures to reduce road accidents, both their frequency and severity, have focused on three areas: modifying human behaviour, improving road infrastructure, and improving vehicle safety (Wegman, 2017). Educating primary school children about road safety is a practice recommended by several experts (Hamilton et al., 2005; Wegman, 2017).

Aware of the importance of this subject, the Moroccan Ministry of Education has adopted an educational and participatory approach based on two axes:

- Integration of road safety education concepts into curricula and carrier subjects.
- School life activities based on a participatory approach by all partners.

As part of the implementation of the 2011-2013 integrated strategic emergency plan, thematic pamphlets for students, a reference guide for educational frameworks and a guide to commemorate National Road Safety Day have been prepared.

Moroccan schools are involved in road safety education through multiple activities. However, the effectiveness of these activities is not assessed. The objective of this study is to determine the extent to which these activities contribute to improving students' knowledge of road safety.

METHOD

In order to study the road safety education activities organized by schools, we conducted a questionnaire survey among 105 school directors at the regional academy of education and training of Daraa -Tafilalet in 2017. This tool consists of 32 questions about the activities

organised in each school. In order to study the impact of road safety education activities on learners' knowledge of this subject, we proceeded as follows:

- Pre-test: Prior to the intervention, a pre-test was administered to 30 sixth grade of the primary cycle to determine their prior knowledge of road safety.
- Intervention: A road safety education activity was conducted using a video for the benefit of those students (Table 1).
- Post-test: after the activity, a second test was administered to the students in order to check the evolution of their knowledge.

Statistical processing of the data was carried out using the student t-test to compare student averages at the pre-test and post-test levels.

Table 1. Description of the road safety education activity organised for the students.

Support used	Content	Beneficiaries
Awareness Video	<ul style="list-style-type: none"> - Consequences of road accidents ; - Meaning of signs and signals; <li style="padding-left: 20px;">- How to cross a road? - Road safety rules for cycling users - Safety rules for bus and coach passengers (school transport). 	30 sixth-grade students

FINDINGS

Our results show that the majority of schools organise only one road safety education activity per year (Table 2). This is the commemoration of national road safety day, which coincides annually with February 18. Very few schools (2.85%) organise more than two out-of-town events. The main reason for this organization is the implementation of official instructions (82.22%) as shown in Figure 1. Rarely do schools take the initiative. The directors explain this by the time constraints and the curriculum load.

Table 2. Number of road safety education activities organized by schools during the school years 2015/2016 and 2016/2017.

Number of activities	0	1	2	3	4 or more
School year 2015/2016	17,14%	58,1%	21%	2,85%	0
School year 2016/2017	14,28%	65,714%	17,14%	2,85%	0

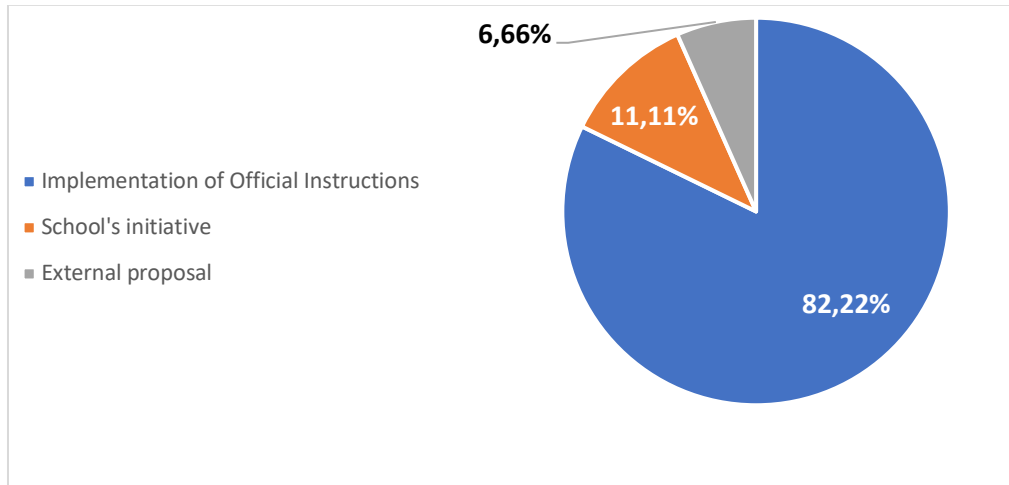


Figure 1. Reasons for the organisation of road safety education activities by schools

A single road safety education activity is not enough for children to acquire the knowledge necessary to road safely. Teachers and school directors need to be persuaded about the important role they can play in this regard. The supervisory ministry is also called upon to train teachers in this area. Elkington et al. (2000) recommend that road safety education should be delivered by teachers who have been trained. This recommendation is confirmed by Dragutinovic et al. (2006) and Elliott (2000), who cited the professional development and support of teachers as a fundamental principle of road safety education. This education is one of the most important ways for children to become more aware of road hazards and behave appropriately as pedestrians, cyclists or passengers (Ben-Bassat et al., 2016). Although increasing children's knowledge of road safety does not necessarily mean improving children's behavior in real-life situations (Zeedyk et al., 2001), it is at least necessary that they have a clear understanding of the basic rules of road safety (Eshaghabadi et al., 2016). The establishment of road safety clubs at school level is required.

Concerning the beneficiaries of road safety education activities, most schools (49.52%) ensure the participation of all students (Figure 2). However, other schools choose students from certain classrooms (32.38%) or a few students from different classrooms (12.38%). The Criteria for selecting beneficiaries are mainly the representativeness of all school levels (38.46%) and all classrooms (30.77%). To these two criteria must be added the willingness and age of the student, but with low rates (Figure 3).

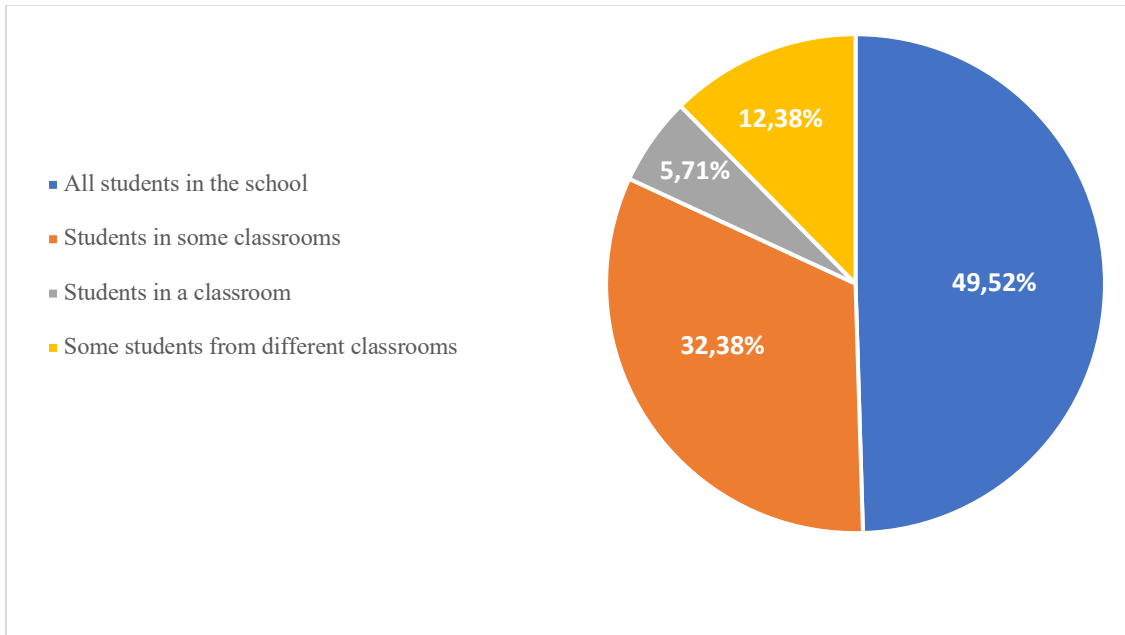


Figure 2. Beneficiaries of road safety education activities organised in 2016/2017

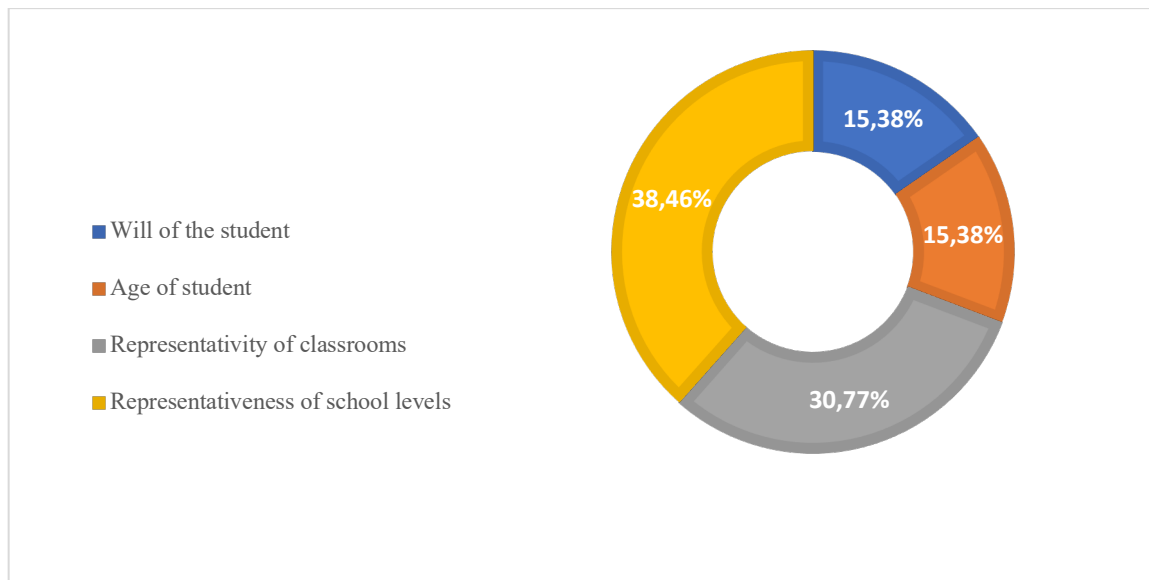


Figure 3. Criteria for selecting the beneficiaries of road safety education activities organised in schools

We find that most schools prefer the representation of different classes and levels to road safety education activities. Similarly, Dragutinovic et al. (2006) point out those children should start learning about road safety at the age of 4 or 5. Booth et al. (1997) also support curricula that should be delivered regularly throughout a child's schooling to reinforce existing concepts and introduce new skills as children develop. The Walksafe program consisted of daily half-hour

sessions including classroom instruction and video (Days 1 and 3), outdoor stimulation (Days 2 and 4) and a poster contest (Day 5), during Walksafe week (Hotz et al, 2004). This program demonstrated the evolution of pedestrian safety knowledge among students in Kindergarten to Grade 5.

The schools involve their partners in road safety education activities, especially the national safety authority and the Royal Gendarmerie (Figure 4). The participation of civil protection and civil society associations in these events remains low. Schools should engage the students' families through parents' associations (Booth et al., 1997). Indeed, there is also a wealth of data on road safety that supports this point by recommending that parents should be involved in educating their children in this area (Rothengatter, 1984). Parents are in the best position to provide effective practice on the road (Thomson et al., 1998) and support learning in the classroom. A study by Stevens, Olson, Gaffney, Tosteson et al. (2002) found that educating parents at home is an effective way to increase the use of bicycle helmets by adolescents.

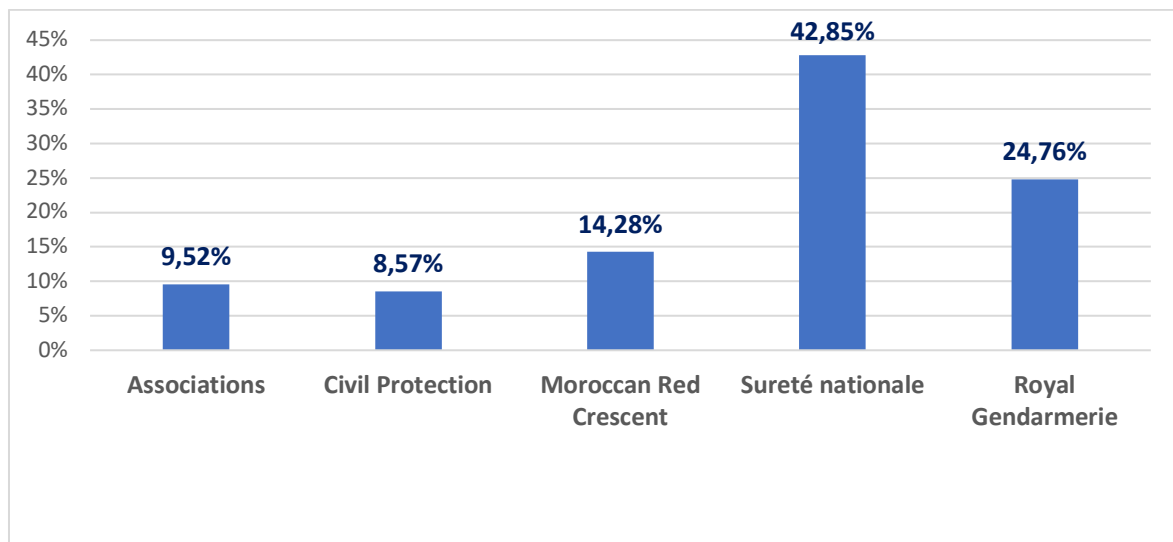


Figure 4. School partners in the organisation of road safety education activities

Comparison of student pre-test and post-test averages (Table 3) reveals that the intervention has led to changes in students' knowledge of road safety. In a similar study, Thomson et al. (1998) reported that after road safety education, five-year-olds improved their perception of the safest places to cross the road. Learning through video allows for better assimilation and understanding compared to traditional learning methods. This medium offers both the possibility of repetition and the greatest attractiveness. This finding is in accordance with the results of Bruce and McGrath (2005), who reported that interactive strategies give good results.

Similarly, Hotz et al. (2004) used interactive strategies, including videos, in their study showing an improvement in pedestrian safety knowledge among students in Kindergarten to Grade 5. Putting students in real traffic situations is important. Indeed, Elkington and Hunter (2003) recommend that skills development should be at the focus of road safety education, and that these skills should be better developed during road practice.

Table 3. Comparison of pre-test and post-test student averages.

Test	Number of students	Average	Standard deviation	t value	Significance value	Significance level
Pre-Test	30	5.3	1.25	8.21	0.000	Significant difference at 0.001
Post- test		8.26	1.74			

CONCLUSION

The results of this study reveal that the majority of schools limit themselves to only one road safety education activity per year as part of the commemoration of National Road Safety Day. Initiatives by schools in this regard remain limited. The directors are aware of the importance of these activities and ensure the participation of all students. They also ensure the involvement of other actors such as the national security forces and the Royal Gendarmerie. While the commitment of civil society associations remains insufficient. The results of this work also show that road safety education activities, using interactive tools, allow the progression of students' knowledge on this subject.

RECOMMENDATIONS

In order for schools to play a greater role in road safety education, we have made the following recommendations:

- Training of educational actors in the effective running of this activity.
- Establishment of road safety education clubs in all schools to ensure the regular organisation of activities.
- Involvement of parents' associations to support learning at school.
- Adoption of interactive and student-centred strategies to develop students' road safety knowledge and behavior.

REFERENCES

- Ben-Bassat, T., & Avnieli, S. (2016). The effect of a road safety educational program for kindergarten children on their parents' behavior and knowledge. *Accident Analysis & Prevention*, 95, 78–85.
- Booth, M. L. & Samdal, O. (1997). Health promoting schools in Australia: models and measurement. *Australian and New Zealand Journal of Public Health*, 21(4), 365-370.
- Bruce, B. & McGrath, P. (2005). Group interventions for the prevention of injuries in young children: a systematic review. *Injury Prevention*, 11(3), 143-147.
- Dragutinovic, N. & Twisk, D. (2006). *The effectiveness of road safety education. A literature review*. Leidschendam, The Netherlands: SWOV Institute for Road Safety Research.
- Elkington, J. & Hunter, K. (2003). *Expanding our concept of best practice in road safety education- a review of current evidence and practice*. Road Safety Research, Policing and Education Conference; Australia.
- Elkington, J., Hunter K. & McKay, L. (2000). A systematic review of the evidence on preventing injuries to young people (15-24 years). *Sydney: Youthsafe*.
- Elliott, B. (2000). Review of good practice: children and road safety education. Perth: Western Australian Department of Transport, Office of Road Safety.
- Hamilton, G., Cross, D., Resnicow, K., & Hall M. (2005). A school-based harm minimization smoking intervention trial: outcome results. *Addiction*, 100, 689-700.
- Hotz, G. A., Cohn, S. M., Castelblanco, A., Colston S., Thomas M. & Weiss A. (2004). WalkSafe: a school-based pedestrian safety intervention program. *Traffic Injury Prevention*, 5, 382-389.
- Road Transport and Road Safety Directorate. (2017). National Road Safety Strategy 2017-2026.
- Rothengatter, T. (1984). A behavioural approach to improving traffic behaviour of young children. *Ergonomics*, 27(2), 147-160.
- Stevens, M. M., Olson, A. L., Gaffney, C. A., Tosteson, T. D., Mott, L. A. & Starr, P. (2002). A pediatric, practice-based, randomized trial of drinking and smoking prevention and bicycle helmet, gun, and seatbelt safety promotion. *Pediatrics*, 109(3), 490-497.
- Thomson, J. A., Ampofo-Boateng, K., Lee, D. N., Grieve, R., Pitcairn, T. K. & Dementre, J. D. (1998). The effectiveness of parents in promoting the development of road crossing skills in young children. *British Journal of Educational Psychology*, 68, 475-491.
- Wegman, F. (2017). The future of road safety : A worldwide perspective. *IATSS Research*, 40(2), 66–71.



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World Health Organization (2018). Global Status Report on Road Safety.