

Objective: To exchange information on developments and best practice in road safety education

Subject: Traffic Safety Education

Keywords: Learning and teaching, pedagogy, learning communities, whole school change, traffic safety education

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Abstract:

Title: The Principles of Learning and Teaching in Traffic Safety Education

Learning and teaching are complex, multifaceted and highly interconnected activities. There is a renewed focus within education on how students learn, and the implications of this for pedagogy. The first part of this paper describes the elements of the recently developed Principles of Learning and Teaching P-12 in Victoria. The Principles support schools to:

- “build consistent, comprehensive and improved pedagogical approaches, while still allowing flexibility, innovation and local decision making at the school level
- focus teaching to meet the diverse needs of students
- strengthen learning communities within and beyond the school.”

The second part of the paper argues that, while the Principles are applicable across all key learning areas and all stages of learning, Traffic Safety Education activities exemplify the Principles extremely well. The paper illustrates how Traffic Safety Education activities align with the different elements of the Principles. The paper shows that Traffic Safety Education activities, such as assessing risks and defining safety for self and others, emphasise the building of rich meanings and deep thinking rather than completing tasks. Students in Traffic Safety Education classrooms are seen to be intellectually engaged by real experiences; they feel a sense of empowerment and collaboration with their peers, their teachers and their whole school community. Schools that tackle the harm minimization and prevention approaches embedded in effective Traffic Safety Education activities are characterized in this paper as rewarding and reality-based ‘learning communities’.

From the outset I wish to acknowledge that this paper is not so much my own as it is a reworking and compilation of materials produced by others. It draws largely for its ideas and much of its wording on the work done by my colleagues in the Student Learning Division within the Victorian Department of Education & Training and the Victorian Curriculum and Assessment Authority. I must also thank the Traffic Safety Education Professional Development Leaders, a small but dedicated group of consultants, whom I manage to support all Victorian schools to include Traffic Safety Education in their curriculum, for their suggestions on Traffic Safety Education examples and activities.

The structure of this paper provides an explication of each of the Principles of Learning and Teaching P-12 (PoLT), together with examples of how Traffic Safety Education activities can exemplify the elements of each principle.

The PoLT were developed by the Student Learning Division to support the Victorian Essential Learning Standards (VELS). The VELS were developed by the Victorian Curriculum and Assessment Authority to provide an overarching set of guidelines for the curriculum. The PoLT should also be considered in conjunction with the Curriculum Planning Guidelines and the advice on Assessment and on Reporting.

The Principles aim to capture the essence of effective learning and teaching and provide a basis for teachers to review and develop their teaching practices. The Principles, and the training and materials that support them, build on the work that has already been developed through the Science in Schools (SIS) and [Middle Years Pedagogy Research and Development \(MYPRAD\)](#) initiatives. Similar work is also being undertaken through the [Improving Middle Years Maths and Science \(IMYMS\)](#) and [Science Innovation and Technology \(SIT\)](#). For PoLT the approach has however been extended to include all key learning areas and stages of learning.

The Principles (outlined in Appendix 1) promote a transformative approach to teaching and learning where the teacher facilitates the student to own the learning.

Principle 1 is “ The learning environment is supportive and productive.” By implementing this principle, the teacher builds positive relationships with and values each student. Through teacher modelling and classroom strategies based on cooperation and mutual support, an environment is created where students feel comfortable to pursue inquiries and express themselves. They take responsibility for their learning and are prepared to pursue and try out new ideas.

This principle promotes respect, value and care for and amongst students. Teachers will take time to get to know and understand students, in an educational sense but also in a wider social and personal sense. The classroom is a place where different opinions are respected, accepted and where students feel safe and valued. Primarily students should feel supported to be confident to contribute ideas without fear of being ‘put down’. It includes the notion of students moving ‘outside the square’ with their thinking and learning; not settling for the ‘ordinary’ but trying out new ideas and practices. Teachers value the different abilities of their students and acknowledge and value the effort each student puts into improving their work.

Traffic Safety Education activities demonstrate this principle when:

- during a unit on the consequences of road trauma, student opinion on current community attitudes to the road toll and drink driving is sought, and students are encouraged to talk about the complexities of the issues and their own opinions. When students talk of their own crash or near miss experiences everyone listens even if they disagree with the views being expressed.
- a design task is framed around students' needs and interests, and the teacher is open to their differing ideas and helps them work through the design brief.
- students establish contact via email with a sister school in an overseas country, exchanging information with a view to exploring and comparing a particular social aspect of both countries (eg, traffic problems, population problems, family issues etc).
- students are supported through the use of video analysis to evaluate the offensive drink driving and partying behaviours and to develop defensive strategies to counter these.

Principle 2 is “The learning environment promotes independence, interdependence and self motivation.” Here, teachers model practices that support students to work in an autonomous manner, to be involved in decision making within the classroom in relation to what and how they learn and are encouraged to take responsibility for their learning. Team building skills are also explicitly taught. Students learn to collaborate, negotiate and contribute to joint assignments and experience the sharing of roles, responsibilities and ownership. The teacher structures learning experiences in which the students to make choices and take responsibility for their learning. In this way students explore how they learn, learners about learning. Students actively participate in the negotiation of roles, responsibilities and outcomes.

Traffic Safety Education activities demonstrate this principle when:

- Students are encouraged to be involved in determining what traffic issues most affect their school and to address a safety promotion strategy, including how their successful they are, that is to design their own assessment tasks. All students then share the responsibility for the design and implementation of the strategy, including who does what and why. They organise into groups assigned particular aspects of the strategy. They consult community experts, draw up a budget, and develop proposals for sponsorship for materials from local industries.
- The Fit To Drive Project for years 10-12 involves the school and students working with university undergraduates to deliver peer education sessions on youth and driving.

Principle 3 is “Students' needs, backgrounds, perspectives and interests are reflected in the learning program”. This principle ensures students' lives and interests are reflected in the learning sequences. A variety of teaching strategies are used to accommodate the range of abilities and interests, and to encourage diversity and autonomy. When students feel that the learning activities relate to their experiences and abilities the classroom is an interesting place and their learning potential is maximised. Teachers can draw on student competencies to untap potential future learning opportunities. This principle refers to different ways students might approach learning. A effective teacher surveys students to determine their learning preferences and styles. Students are identified as predominantly visual, auditory and kinaesthetic learners. A variety of tasks is then developed using Gardner's the variety of ways ideas are represented and the need to approach and demonstrate learning using different media and representational modes. Diverse approaches allow students to experience diverse ways of learning and knowing, and targeted support for individuals, based on teacher monitoring. Contemporary learning theories emphasise the importance of prior knowledge and beliefs in framing learning and to use Multiple Intelligences as a guide. Negotiated tasks further increase student choice. Teachers can also enlist students' capabilities and interests associated with contemporary technologies

Traffic Safety Education activities demonstrate this principle when:

- a physics unit focuses on bicycle safety, and investigations include the design of tyres, the science underlying an efficient braking system and experiments on stopping distances and helmet protection levels
- a language unit on types of transport embraces the diversity of cultural backgrounds within the classroom by encouraging students to share experiences of particular events unique to their own culture and events that are celebrated in a variety of ways by different cultures. Students use the internet to search for examples of different forms of transport and road rules
- a unit on contemporary social issues requires students to analyse the lyrics of a song about the death of a student in a “Muck-up Day” road crash
- students teach a rap dance, “Doing the bus stop”, to the rest of the class
- the teacher uses traffic safety story books in reading groups, strategically formed to cater for the different stages of reading competence and linked to their use of different types of transport
- the teacher establishes a peer support network within the class for travelling to and from school
- cross-age tutoring, such as the secondary students providing bicycle education lessons and advice to students about school transport arrangements at orientation day to the students from the feeder primary schools

- students use a CD ROM with stories and activities on road safety based at varying levels so they can work at their own pace – the RoadSmart resource provides a series of reading and interactive activities for P-2, _ and 5/6 students
- students design and create their own video clip about the use of vehicles and road signs around their school.

Principle 4 is “Students are challenged and supported to develop deep levels of thinking and application”. This principle sees that students must be challenged to explore, question and engage with significant ideas and practices, so that they move beyond superficial understandings to develop higher order, flexible thinking. Learning sequences should give sufficient time for key ideas to provide a scaffold on which to properly examine issues and concepts. Links are made across subject areas to demonstrate relevance and connectedness with what is being taught and how key ideas can apply to a range of situations. This principle involves the development of learning tasks designed to encourage and support students to move beyond their current understandings and think more deeply about ideas and practice. Teacher questions are open-ended and designed to promote depth and breadth of knowledge and understanding. Teachers emphasise engagement with ideas and practice through exploration to facilitate higher order thinking skills that may be described in various ways, but encompass such things as interpretation, analysis, and application. It refers to the development of knowledge of ways of reasoning with evidence, particular to the discipline area. There has been considerable recent attention paid to lateral and creative thinking, as part of ‘higher order’ thinking and a ‘thinking oriented curriculum’. Many schools have made this a major focus of teaching and learning policy. There are a number of elements of ‘creativity’ including flexible and unusual thinking, and facility with generating ideas.

Traffic Safety Education activities demonstrate this principle when:

- students investigate road safety as an issue in their local area and over time develop messages to go to parents in the school newsletter and/or letters to the local council engineer and web pages devoted to this issue.
- a mix of short-term investigations and open-ended longitudinal projects are developed in consultation with students. For example, as part of Civics and Citizenship, students consider and devise strategies for overcoming the school's pick-up and drop-off traffic problem
- students evaluate the success of road safety advertising campaign seen on TV or heard on radio and then develop their own advertising campaign tailoring it for a target audience.
- a mathematics class explores potential solutions to the problem of students at the school needing to cross a busy road, collecting data on traffic flow and student location, and mathematically modelling different proposals.
- Tasks are set around a ‘What would happen if ...?’ format. For example, Physical Education students are asked to generate one change in the learner driver rules that will substantially affect youth, and to speculate on changes it would cause over time.

Principle 5 is “Assessment practices are an integral part of teaching and learning”. Assessment contributes to planning at a number of levels. Monitoring of student learning is continuous and encompasses a variety of aspects of understanding and practice. Assessment criteria are explicit and feedback is designed to support students' further learning and encourage them to monitor and take responsibility for their own learning. Teachers need to design assessment tasks that require students to demonstrate knowledge and skills at many levels including lower order processes such as basic comprehension and higher order processes such as synthesis and evaluation. It involves the assessment of a variety of forms of knowledge and practice such as reasoning skills, values and orientations. Appropriate positive feedback has been found to be critically important in improving student outcomes. Feedback can be provided by other students, or through community engagement. Teaching sequences and teaching strategies need to be sufficiently flexible to respond to information coming from both informal and formal assessment.

Traffic Safety Education activities demonstrate this principle when:

- Students develop a timeline recalling all the traffic “incidents they and their family have been involved in. Time is provided at the end of a session for teachers and students to reflect on progress, problems encountered and solved and to consider how things could be done differently or the same.
- students present their understandings of the road toll as a narrative, an annotated drawing, a role play etc.
- a model of the road network is used to assess research skills (reading), planning, constructing, testing, evaluating skills (Technology), presenting (Speaking and Listening) and Procedural Writing Skills (writing about how they used the safe route, crossed the road, etc).
- students develop codes of conduct for bus use, in consultation with the whole school community and bus drivers and bus companies.
- students maintain a portfolio of safe places to cross the road in their locality. Whilst the portfolio would contain some compulsory whole class pieces, students could make decisions about other pieces to be included that relate to their own streets.
- a teacher stops a teaching session on speed and the road toll when it becomes clear that most students in her class confuse safety with over-confidence, and incorrectly believe that off road driving is an effective learning process. She initiates a discussion, then a series of literature searches to explore these ideas.

Principle 6 is “Learning connects strongly with communities and practice beyond the classroom”. Student learning needs to make a variety of links between the classroom program and the local and broader community, leading to students developing a rich view of knowledge and practice, including social and ethical issues. This principle concerns relevance and connectedness, and also the communal nature of learning. Contemporaneous links need to be made to the parent community, the school community in general, local and national and global communities.

Traffic Safety Education activities demonstrate this principle when:

- students investigate alternative use of vacant land in their local area for a bike path and play area. They prepare feasibility studies and write reports which are presented to the local council for consideration.
- students build a solar powered vehicle to race at the Maryborough Breakthrough.
- students are encouraged to develop a network of contacts within the school and wider community to access information on road safety and to investigate solutions to traffic problems around the school
- a Year 9 unit on motion involves a trip to the local fun park where students take measurements of the acceleration and speed of rides with data logging equipment. The students take the measurements back to school to analyse
- students use CrashStats online to investigate crashes around their school and locality. They generate maps and models to illustrate their findings.

Traffic Safety Education activities enhance any area of the curriculum without being an add-on. Traffic Safety Education programs integrate with the students’ lives – what student does not travel to school? Traffic Safety Education programs match the stages of schooling because different activities (passenger, pedestrian, public transport (bus, train and tram), bicycle and pre-licence education) match their lives as they become more independent road users. Traffic Safety Education programs readily exemplify the Principles of Learning and Teaching.

APPENDIX 1

The Principles of Learning and Teaching P-12

Students learn best when:

1. The learning environment is supportive and productive.
In learning environments that reflect this principle the teacher:
 - 1.1 builds positive relationships through knowing and valuing each student
 - 1.2 promotes a culture of value and respect for individuals and their communities
 - 1.3 uses strategies that promote students' self-confidence and willingness to take risks with their learning
 - 1.4 ensures each student experiences success through structured support, the valuing of effort, and recognition of their work.

2. The learning environment promotes independence, interdependence and self motivation.
In learning environments that reflect this principle the teacher:
 - 2.1 encourages and supports students to take responsibility for their learning
 - 2.2 uses strategies that build skills of productive collaboration.

3. Students' needs, backgrounds, perspectives and interests are reflected in the learning program.
In learning environments that reflect this principle the teacher:
 - 3.1 uses strategies that are flexible and responsive to the values, needs and interests of individual students
 - 3.2 uses a range of strategies that support the different ways of thinking and learning
 - 3.3 builds on students' prior experiences, knowledge and skills
 - 3.4 capitalises on students' experience of a technology rich world.

4. Students are challenged and supported to develop deep levels of thinking and application.
In learning environments that reflect this principle the teacher:
 - 4.1 plans sequences to promote sustained learning that builds over time and emphasises connections between ideas
 - 4.2 promotes substantive discussion of ideas
 - 4.3 emphasises the quality of learning with high expectations of achievement

- 4.4 uses strategies that challenge and support students to question and reflect
- 4.5 uses strategies to develop investigating and problem solving skills
- 4.6 uses strategies to foster imagination and creativity.

5. Assessment practices are an integral part of teaching and learning.
In learning environments that reflect this principle the teacher:

- 5.1 designs assessment practices that reflect the full range of learning program objectives
- 5.2 ensures that students receive frequent constructive feedback that supports further learning
- 5.3 makes assessment criteria explicit
- 5.4 uses assessment practices that encourage reflection and self assessment
- 5.5 uses evidence from assessment to inform planning and teaching.

6. Learning connects strongly with communities and practice beyond the classroom.

In learning environments that reflect this principle the teacher:

- 6.1 supports students to engage with contemporary knowledge and practice
- 6.2 plans for students to interact with local and broader communities and community practices
- 6.3 uses technologies in ways that reflect professional and community practices.

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