The Basis of Traffic Safety Education

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PhD

1 Theoretical basis of Traffic Safety Education

In modern driver training curricula, the central learning goals in addition to vehicle control and knowledge of traffic rules are anticipation, interaction, risk recognition, self-assessment and self-control skills. Keskinen (1996) has presented an additional layer of motivational and self-regulatory abilities to this framework and it has already been taken into use in the curricula in some countries. All in all, this matrix, called GDE for Goals for Driver Education (Hatakka, Keskinen, Glad, Gregersen, Hernetkoski 2002), attempts to comprise all the factors that need to be considered in modern driver training.

It is the starting premise of the Traffic Safety Education Wiki that this GDE model is easily transferable to traffic safety education perspective as it is taught to people of all ages. The following table is a representation of the model as it could be altered to more generally describe the skills and knowledge required from all traffic users.

The idea of this model is that the higher hierarchical levels consist of the conscious and subconscious choices that affect a person's behaviour in traffic. The highest level factors, such as one's lifestyle choices relating to traffic (car hobby, sports bicycling, jogging) affect the lower level functions in the model. For example, a young male who builds his identity around his moped hobby and seeks the acceptance of his peer group, will choose his driving routes and traffic behaviour as set by the reference group (other young male moped drivers), even going as far as modifying his vehicle to go faster than the legislated speed limit for that type of vehicle (e.g. 40kph in Finland). This peer and social pressure thus affects the goal setting of an individual driver. The traffic accidents of many male drivers in Finland are related to problems in the higher levels of the hierarchy, while women's accidents are mostly related to problems in the lower levels, such as problems with manual control skills (see Keskinen, 1996; Laapotti & Keskinen, 1998).
Table 1. Goals for Traffic Safety Education, GTSE (Adapted from the GDE model by Peräaho, Keskinen & Hatakka 2003)

<table>
<thead>
<tr>
<th>Hierarchical level of behaviour (task level):</th>
<th>Central contents of traffic safety education:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals for life and skills for living (general)</td>
<td>Skills and knowledge</td>
</tr>
<tr>
<td>Knowledge of the effects of lifestyle, age, values, group norms etc. on traffic behaviour and the skills to control them.</td>
<td>Knowledge of the risks of life goals and values, behaviour, social pressure, sensation seeking etc. on traffic behaviour and the skills to control them.</td>
</tr>
<tr>
<td>Knowledge of factors that affect a trip, such as the goals of the trip, choice of route, social pressure on decisions, importance of trip etc. as well as the skill to see alternatives to the choices.</td>
<td>Knowledge of the risks of trip goal, social pressure etc. and the skill to manage these risks.</td>
</tr>
<tr>
<td>Basic knowledge and skills related to traffic rules, signalling and safety measures etc.</td>
<td>Knowledge of unsuitable behaviour in traffic, carelessness of traffic rules and other people, slipperiness or otherwise difficult conditions and the skills to control these risks.</td>
</tr>
<tr>
<td>Basic skills and knowledge of the handling of the vehicle, shoes and their characteristics (anti-skid properties etc.).</td>
<td>Knowledge of the risks involved in vehicle control, safety belt usage, safety reflector use and the skills to control these risks.</td>
</tr>
</tbody>
</table>

In the Traffic Safety Education Wiki project, the main focus of the traffic safety curricula is on the two highest levels of behaviour. Thus, it is not the main goal of the project to create teaching material that concerns the control skills of bicycles or mopeds, wearing of proper footwear on slippery ice or the knowledge of traffic rules. Rather, the aim is to create material that helps traffic instructors to teach their students self-regulate their behaviour by providing them with understanding of the factors that affect their everyday behaviour in traffic. In some cases, of course, these higher level thinking skills can be taught through lower level skills – but it is important to clearly show the higher level aims of each training unit or lesson.
2 Teaching Principles

2.1 Structuring of training and learner-centredness

When the training of traffic safety issues is structured into study modules, it gives a chance to focus on specific issues for each course. These modules can then be taught to students in an increasing order of difficulty; starting from basic traffic safety issues and moving onto the training of higher level meta-cognitive and self-regulatory skills. It is evident that different age groups require different kinds of focus inside the learning modules; small children are less capable of self-regulation than young adults usually are. Therefore, the specific learning assignments and group exercises for these learner groups will be very different.

People learn in different ways and different kinds of learning tasks are effective with different kinds of people. This is true not only in the context of small children vs. teenagers and young adults, but also between individual learners in the same age groups. Each learner have their unique characteristics, their own kind of previous knowledge and skills, attitudes and values, depending on the social environment (family, friends and culture) in which they have grown and participated in. Because of this, it is necessary for traffic safety instructors to use multiple education methods in order to benefit different kinds of learners – and to take into account the cultural environment in which the education is provided.

2.2 Learning is an active process

The modern learning theories stress that it is important to make the learners participate and be in an active role in their own learning. It is not enough to “pour knowledge” onto the learners in a traditional behaviourist manner (giving lectures, stating rules, writing down notes etc.). Rather, in active learning, the learners will be engaged in problem solving tasks, information gathering, writing assignments and essays, group discussions, demonstrations and self-assessment assignments.

In this kind of a context, the teacher is no longer an authority figure – rather, the teacher is an expert on the topic who can guide the learners in their learning tasks, make sure that they find good
information sources and are not side-tracked or lost (e.g. to poor information sources) in their quest for knowledge.

3 Traffic safety education curriculum

The Traffic Safety Education Wiki project develops a traffic safety curriculum, with four different target groups. These four target groups of the curriculum are: pre-school children (0-6 years), school children (7-12 years), teenagers (13-17 years) and young adults (18-30 years). The ages included in the descriptions are tentative and depends on the culture in which the curriculum is implemented: the main differences are basically that (1) pre-school children include those age groups that have not yet entered the official school system and will receive their traffic safety education from their parents, community and in day-care centres. (2) School children refers to an age group that has entered the education system, but are not yet allowed to drive a moped or other motored vehicles on public roads. In essence, they will move around by walking, on a bicycle, by being a passenger in their caretakers' car or by using public transportation systems. The third group (3) teenagers are young children who are of the age when they are allowed to start riding motored vehicles such as mopeds or tractors on public roads. However, not all of them choose to use motored vehicles in their transportation needs. The fourth group, (4) young adults, refers to those who have reached the age then they could receive their driver's license and participate in traffic in their everyday lives, but are not yet hindered by the physically detrimental effects of old age. Again, it should be noted that not everyone in this group chooses to get a driver’s license.

The structure of the study modules presented in this project is clarified in the following:

**Module Name:** A clear name of the study module

**Goals and Objectives:** Determines the goals and objectives of the study module

**Strategies and activities:** Details the teaching strategies and gives examples of activities and learning assignments that can be used to reach the goals of the study module

The descriptions can also include tentative recommendations to the time used on each study module, but it is the responsibility of the teachers to determine the starting level of their students
and the training and education that they require.

It is the goal of the ProCadrin project that the learning assignments are varied enough to be used in the education of most subject studies by classroom teachers. Thus, there will be learning assignments that are best used in physics classroom and other assignments that can be in biology classroom or as a part of physical education.

3.1 Nature of learning units

The following is an excerpt from the report of the IFD – Instructor for Driving project report (LdV Pilot Project from 2000-2002), which functions well as a central principle of the ProCadrin project.

“The lesson should be practical and focused. Preference will be given to lessons that can be completed in a reasonable length of time with minimal preparation.

Preference will be given to lessons that provide strategies or activities that can be used across the grades and curriculum. A lesson with a narrow focus will likely not be given as much consideration as an activity that could be used across multiple grades.

The lesson should be clearly written and include step-by-step directions; it should be understandable to anyone who reads it. We suggest that submitters ask someone who is totally unfamiliar with the lesson to read it before it is submitted. Is there anything that person doesn't understand? If so, clarify it before submitting the lesson.

The lesson should include descriptions of any special materials required. If your lesson includes materials that are not readily available or cost significant money, the chance that lesson will be published is less likely than if the materials required are readily available. Do not submit lessons the intent of which is to promote a particular book or product.

The lesson might be completely original or it might have been adapted from another source. If the lesson is adapted, it should include some original elements. Whenever possible, the original source should be credited in the appropriate space on the submittal form.”
3.2 Combining the learning goals and assignments with the GTSE

While the main goal of the Traffic Safety Education Wiki is to recognise and disseminate the general aims and best practices of traffic safety education, it is also important to share and disseminate individual teaching methods that teachers use to educate students and learners about traffic safety issues. As the basic principle of the Traffic Safety Education Wiki project is that it is most important to try to influence the higher level thinking of the learners, it is useful to note down, for each learning task, which level and age group it is best suited for. In order to do this, the project team will use the following chart, which will easily visualise the focus of each learning assignment.

Table 2: Training methods and assignments categorised in view of the learning goal and target group

<table>
<thead>
<tr>
<th>Goals for life and skills for living (general)</th>
<th>Goals and context of travel (particular route, trip)</th>
<th>Management of traffic situations (particular situation)</th>
<th>Tactile/manual control (particular task)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6 year olds (pre-school)</td>
<td>7-12 year olds (school-age, no motored vehicle license)</td>
<td>13-17 year olds (teenagers, moped, tractor or other light motored vehicles)</td>
<td>18-30 year olds (young adults, driving license)</td>
</tr>
</tbody>
</table>

The focus of each learning assignment or teaching method – the age group and the level of thinking – can be pinpointed in the above table. Naturally, some assignments of methods may be useful for more than one age group. In these cases, it is perfectly suitable to mark down one or more age groups for that particular task. However, in cases where an assignment or method may affect multiple levels of thinking (higher order thinking activated through lower level tasks), it should naturally be the higher level thinking that is marked down on the table.

It is important for the end users of these curricula and teaching materials – the traffic safety teachers – to understand that it is not enough to merely carry out various teaching activities routinely. Rather,
they need to focus on educating the students and their higher thinking skills even though the assignments themselves may be related to physical everyday behaviour (observing traffic signs or signals, knowing the meaning of traffic signs etc.). This can be done through open discussion where the teacher can discuss, for example, the reasons why traffic rules have been created and what could happen if no one observed them.

Sources:
