“INTELLIGENT.FAHREN” – EXPERIENCES OF THE AUSTRIAN “MOMO” - PROJECT IN INITIATING A NEW WAY OF COPING WITH SPEED

Günter A. Schmidt & Lilo Schmidt

somo. social sciences mobility research and consultancy
Vienna, Austria
e-mail: Schmidt.somo@plus.at

A habit cannot be tossed out the window, it must be coaxed down the stairs a step at a time.
(Mark Twain)

PREMARKS

We thank ICTCT and the local organisers for being at Brno, a town with some remarkable historical personalities and buildings.

We want to present some of our reflections about speed behaviour in transport and how to influence it.

Those of you attending the Corfu – meeting will already be familiar with our social sciences approach and the concept of the “Momo” – project (Schmidt, L. & Schmidt, G.A. 2000). “Momo” should be understood as an experiment to initiate a new way of coping with time and speed as a traffic participant. Today we want to discuss our concrete experiences when teaching our special driving style “intelligent.fahren” (intelligent.driving”) and our special mobility education. For those of you, which are especially interested in practice, we can offer the opportunity to see the video film we produced about this case study together with pupils, teachers and driving teachers.

Talking about speed ensures a vivid and controversy debate wherever you do it. Sense and effect of speed limitations, risk of speeding, connection between noise and level of speed in certain urban and rural areas... discussing these topics can change friends into enemies within a very short time.

Despite of this we hope, that this ICTCT- workshop will give inspirations for fruitful multidisciplinary research and practice in the field of transport and can give an impulse to reduce speed for improving not only traffic safety, but also health and well-being especially for the inhabitants of Brno and the Czech Republic.

1. INTRODUCTION

In Austria there is a lot to do for improving transport safety. The following three transparencies are taken from a presentation of Prof. Gerd Sammer from the Institute for
Transport Sciences at the University of Agricultural Sciences, Vienna at the Austrian Enquete for the National Safety Program in January 2001. They shall give you an impression of different levels of transport safety in some European countries and demonstrate the role of speed in traffic accidents in Austria.

**Graph 1: Death per million/capita EU**

First we will show you a comparison of death per million capita in different European countries. You can see: UK is twice as save as Austria.

**Folie 2: Accident causes Austria**

<table>
<thead>
<tr>
<th>Ursachen von Straßenverkehrs unfällen mit Getöteten in Jahr 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>nicht angepasste Geschwindigkeit 36%</td>
</tr>
<tr>
<td>Vorrangverletzung 12%</td>
</tr>
<tr>
<td>Unachtsamkeit 9%</td>
</tr>
<tr>
<td>Unbekannt, sonstiges 32%</td>
</tr>
<tr>
<td>Überholen 11%</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Analysing accident causes in Austria presents the following situation: More than one third of all death are directly due to “maladapted speed”, followed by “ignoring the right of way”. Accidents by “overtaking” – 11 percent – are obviously very often influenced by mistakes in coping with high speed. Caused by “carelessness” are 9 percent and “Unknown, other Causes” are nearly one third of all killed persons on Austrian roads. Summarising one can suppose that at least approximately one of two persons died as traffic participant because of speed problems.

The next graph demonstrates the effectiveness of lower speed for traffic safety in Austria. The most dramatic reduction in the number of persons killed in traffic accidents per year are due to such legal measures influencing directly speed behaviour or by reducing injury severeness, which is dependant from driven speed.
Graph 3: Persons killed in traffic 1961–2000

Entwicklung des Unfallgeschehens in Österreich, Getötete im Straßenverkehr

- Tempo 100 auf B-Str.
- Tempo 130 auf Autobahnen
- Sturzhelmtragepflicht
- Laserpistol
- Gurtenpflicht ohne Strafsanktionen
- Gurtenpflicht mit Strafsanktionen
- 0,5‰-Grenze
- Führerschein auf Probe
A high risk group in traffic are young people especially due to speeding. 18-25 years old car drivers are involved in ca. 67% of the most severe traffic accidents, although they are only 11% of the car drivers. 30% of all injured persons and 28% of all killed persons on the road are between 15 and 24 years old, this age group being only 12.4% of the population. Especially for this high accident risk group we conducted the Austrian “Momo” – project.

**Personal learning history, personal values and existing habits in real life situations** must be taken into account if you want to achieve substantial and sustainable change.

Social sciences contribution to **a change in understanding and influencing speed and spatial mobility** is important not only because of the still lasting lack of transport safety but also for achieving the targets of public health, well-being, deceleration of climate change and the Agenda 21.

**Lower speed and a change in mode of transport are crucial** for improving traffic safety as well as the other targets mentioned above.

### 2. OUR APPROACH — “MOMO. MODEL PROJECT MOBILITY EDUCATION”

The following principles are substantial for our social sciences approach:

**Initiate** new perceptions of traffic participation by **concrete experiences** in every day life situations like working place or school.

**Rely** on the **subjective significancy of experiencing** independancy, time saving, comfort, cost benefits and on realising the effect on health and well-being. It is more convincing than traditional traffic safety appeals.

**Use sensible periods in real life situations** for initiating habit change.

Crucial for the learning history of traffic participation is the moment before and during visiting a driving school. **Teach young people by combining mobility education in school and driving school**.

See our case study: „Momo. Model project mobility education.”

The following table gives an overview of our case study (Schmidt, G.A., Schmidt, L. & Drunecky, G., 1999):

<table>
<thead>
<tr>
<th>„Momo. Model project mobility education“</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target groups</strong></td>
</tr>
<tr>
<td>‣ pupils (14 – 18 years)</td>
</tr>
<tr>
<td>‣ teachers</td>
</tr>
<tr>
<td>‣ driving-teachers</td>
</tr>
<tr>
<td>‣ parents</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>2 Model areas:</strong></td>
</tr>
<tr>
<td>- Vienna</td>
</tr>
<tr>
<td>- Salzburg</td>
</tr>
</tbody>
</table>
Targets

- networking school – driving school – parents
- promoting social competence in
  - communication with other road users
  - choice of mode of transport
  - driving style
- learning „intelligent.fahren“
- learning resistance to speeding: „calmness“

Methods of evaluation (before and after)

- group discussion
- interviews
- written questionnaire
- controlling fuel consumption

3. THE CONCEPT OF “INTELLIGENT. FAHREN” (“INTELLIGENT. DRIVING”)

The name “intelligent.fahren” for this type of driving was created by pupils and driving teachers participating in this project. Intelligent driving means taking into account known effects of speed and driving style on economy, ecology and traffic safety. We understand “intelligent.fahren” as a kind of responsible acting in transport.

If you want to change individual speed behaviour, you have to consider the following five conditions for responsible acting (see Schmidt, 1994):

Conditions for responsible acting

- knowledge about modes of traffic participation and their consequences
- value orientation, e.g. “life”, “health”
- creation of infrastructures
- providing materialistic & idealistic incentives
- experiencing pleasant consequences

In our special mobility education we took into account, that speed choice and traffic participation which is compatible with transport safety, well-being, health and sustainability
demands that people are aware of the consequences of their choice of speed and transport mode, that means that they act responsible.

We tried to create knowledge for the pupils, teachers, driving teachers and parents of the amount of energy, the emission of CO₂, noise and air pollution, personal and public costs, and accident risk depending on speed and on different modes of transportation.

We tried to promote awareness of the links between these effects of transport and values like life, health, well-being, nature, long term economy. This can promote responsible acting in the field of transport.

Normal road users are primarily interested in independence, comfort, time saving and cost benefits, it is up to the decision makers to create infrastructure which promotes lower speed and guarantees suitable feasibilities for walking, cycling and public transport. In our project teachers and pupils tried to achieve certain changes in infrastructure near their school by talking with the responsible local authorities.

We are aware of the limitations of possible actions at this level. To provide as well materialistic as idealistic incentives there must be higher prices for fuel, for parking, more facilities for pedestrians and cyclists. Public information campaigns and social field experiments or special ecotax systems can work as incentives for a speed reduction and preventing the automatic car use for the every day trips.

We tried to take into account that concrete experiences of the target group are very important: each person which changes its habit must experience pleasant consequences. Only this promotes the desired change.

To give you some idea what we did I shall now introduce to you our eco-driving style "intelligent.fahren". Please keep in mind that this is not only a technical lesson. Crucial for this learning process is a certain value orientation and lifestyle. We called the resulting attitude "calmness", an attitude which is not typical for drivers today, not only if they are very young.

<table>
<thead>
<tr>
<th>Elements of “intelligent.fahren”</th>
</tr>
</thead>
<tbody>
<tr>
<td>ecological and economical driving</td>
</tr>
<tr>
<td>planning every trip with sufficient timebudget</td>
</tr>
<tr>
<td>start without accelerator</td>
</tr>
<tr>
<td>highest possible gear</td>
</tr>
<tr>
<td>looking wide in front</td>
</tr>
<tr>
<td>keeping sufficient distance</td>
</tr>
<tr>
<td>avoid superfluous braking</td>
</tr>
</tbody>
</table>

The eco - driving style was originally developed more than 20 years ago by the former Institute of Traffic Education at the Technical University of Berlin together with the German Umweltbundesamt and later on adapted for driver training and traffic education in schools (Bongard 1996, Walk 1999). Central for our Momo -project was the training of involved teachers, driving teachers and the communication with the parents.
We learned that there existed a typical way of getting acquainted with this project:

- Fascination and compliance
- Scepticism (“does not work”) or affirmation (“that is the way I am driving since a long time”)

Only the own experience with the demonstration of the driving style and personally trying combined with the reflection of these experiences in group discussions motivated to participate in learning “intelligent.fahren”. The feedback from the board computer was crucial for the learning process.

In line with other similar projects in different countries we could save 10 – 33 % of fuel, depending on type of car and pre-existing driving habits. By practising “intelligent.fahren” combined with our special mobility education a resistance to social pressure for speeding was obtained, “calmness” developed. One feels like an expert, a pioneer or something like that.

4. CONCLUSIONS

Finally we want to present our conclusions from the “Momo - project” which are partly influenced by our work in a WHO group for preparing the London Charta on Transport, Environment and Health (Schmidt, L., Forward, S., Littig, B. & Flade, A., 1999).

Promote acceptance of measures taken to regulate and restrict speed and car use by creating research and action programs that promote physical active modes of transport like cycling, walking and inline skating.

Build bridges between the fields of health, traffic safety and environmental concern and promote research on life quality, life style and mobility patterns.

The best effect will be achieved if action programs are initiated at a local or regional level and when networking with schools, driving schools, parents and firms is done.

Social desirable learning processes of economical and ecological driving style demand that all cars have obligatory board computers to give a feedback on actual and average fuel consumption.

One can rely on multiplicator effects, if one initiates field experiments with the social sciences approach. Discussing own experiences with groups of driving teachers, teachers, parents - and also with journalists, policemen and professional drivers - in one’s own social surroundings influences other persons, e.g. in trying and cultivating eco-driving by “intelligent.fahren”.

5. FINAL REMARKS

A successful changing of habits in transport – especially changing speed behaviour - demands a certain spirit on a local, regional, national and international level.

Successful speed management strategies and implementation needs coordinated multidisciplinary measures at the level of planning, law, sociological, pedagogical and psychological analyses, interventions and evaluation.
I want to cite once more one of my favourite authors: Antoine de St. Exupery. He told us, what to do if you want men to build a real good boat. Rather than teach them certain handicraft skills in detail evoke their yearning for the wide ocean.

Transferred to our topic of speed management strategies and implementation that means:

Being interested in promotion of transport safety and reducing speed in transport keep in mind the still existing yearn for calm and cosy places. Let people experience to pass and to reach such places as pedestrians and cyclists. This opens another perspective on the topic speed.

**Graph 4: Examples of moderate physical activity**

**EXAMPLES OF MODERATE amounts of activity**

- Washing and waxing a car for 45-60 minutes
- Washing windows or floors for 45-60 minutes
- Walking 1 ¼ miles in 35 minutes (20 min/mile)
- Basketball (shooting baskets) for 30 minutes
- Bicycling 5 miles in 30 minutes
- Raking leaves for 30 minutes
- Walking 2 miles in 30 minutes (15 min/mile)
- Basketball (playing a game) for 15-20 minutes
- Bicycling 4 miles in 15 minutes
- Jumping rope for 15 minutes
- Running 1 ½ miles in 15 minutes (10 min/mile)
- Shoveling snow for 15 minutes
- Stairwalking for 15 minutes
Speeding by feet or by cycle is not only less dangerous than by car, it can guarantee benefits for health and time saving at the same moment. The results of a famous study from the U.S. Department of Health and Human Services (1996) about the effects of moderate amounts of daily physical activity (using approximately 150 calories of energy per day) on health show this. If you walk or cycle faster you can not only save precious minutes e.g. at the daily way to and back from work but at the same time reduce the risk of e.g. heart disease, diabetes, high blood pressure, depression and certain types of cancer and you can promote wellbeing and a sustainable social and environmental development.

REFERENCES


VIDEO

somo. sozialwissenschaftliche mobilitätsforschung und beratung & VideoFilm Sattler (1999). "intelligent. mobi". Ein Film im Auftrag des Bundesministeriums für Bildung, Wissenschaft und Kultur, Wien (VHS Video, 18 Minuten)