

Some of the Theory behind National Motorcycle Training Motorcycle Safety Curricula

National Motorcycle Training

This paper outlines the theory used by National Motorcycle Training for all the curricula we have produced. The information contained herein will assist interested parties to better understand the motivations for our programs. Additionally, this paper is a resource for programs aimed at reducing the morbidity (a fatality being the ultimate morbidity) and hardship caused by the unnecessary mishaps suffered by participants in motorcycling activities.

We encourage you to duplicate and share this information. Our mission includes having this and other related information available to all who are concerned with improving the well being of our community!⁶

This theory:

- Is well tested and can be easily understood and put to use.
- Has helped reduce unnecessary morbidity for motorcyclists and non-motorcyclists.
- Can be evaluated and measurements can be taken to quantify the effectiveness of curricula developed using this theory.

The postulates of our theory are!:

1. Understand the difference between safety training and skill training and apply this appropriately in the educational process.
2. Define appropriate morbidity rates and monitor rates through ongoing measurements.
3. Define five groups of participants and manage each group separately and appropriately (note group order is of increasing importance):
 - Expert-time
 - Ongoing-time
 - Learners-time
 - Beginners-time
 - Pre-beginners-time
4. Allow separation within groups when stratification occurs among participants.
5. Identify and have countermeasures to reduce the unnecessary mishaps.

A brief review of the 5 postulates:

Postulate 1 (Difference): Understand the difference between safety training and skill training and apply this appropriately in the educational process:

Not knowing how, or not having the rudimentary skills, to operate any device or equipment can lead to unnecessary mishaps. Rudimentary operational skills to use any device or equipment as intended by the designer are universally accepted as an element to

risk management. The prevention of mishaps due to lack of rudimentary skills for using the equipment is a key objective in any safety program.

However, skills training above these rudimentary operations training INCREASE the participant's capacity to take on more risk. It is important for participants to be taught to recognize and understand this principle. This is the very principle causing expert riders to experience higher morbidity rates than ongoing riders.

An operator's increase in skill coincides with the operator's capacity and/or acceptance to take on more risk.

Applied example of Postulate 1:

After completing the 1st set of braking exercises in the begin2ride course, the students have learned the rudimentary technique of squeezing the front brake and avoiding unintentional throttle roll-on while braking. This can be considered safety training. After completing the 2nd set of braking exercises in the begin2ride course, the students have developed confidence in braking and are willing to ride significantly faster. Often at this point they are unaware of cornering techniques and many of the traction conditions that affect braking technique. These students who now have improved skills and confidence (or over confidence) in their braking and stopping are now likely to take on more risks, even unknown and unnecessary risk.

Developing excellent physical cornering technique increases the risk of a street rider entering a blind turn at a speed that creates unnecessary risk and increased chance of morbidity.

Postulate 2 (Measure): Define appropriate morbidity rates and monitor rates through ongoing measurements:

This neither needs to be difficult nor complex². In motorcycling, it is well understood that morbidity rates are linearly related to fatality rates.³ Participants should be told about these rates and be given the current and target values.

- Although any mishap that causes any injury to the participant can be counted, we define the point of morbidity to be an injury that causes a change in lifestyle, whether the change is temporary or permanent. In military terms, we define morbidity to have occurred when it affects mission readiness.
- We will typically monitor the fatality rate for a particular group. It is often advantageous to average rates over time periods to reduce seasonal effects⁴.
- Under the best real-life conditions in any activity such as motorcycling, there is some minimum morbidity rate. Accept this rate and set the target rate realistically above this ideal minimum rate. Tell participants (and also help the public become well aware of) the value of the current rates and target rates.

Applied Postulate 2:

A change in the motorcycle licensing procedure can be measured by changes in the ratio of mishaps of licensed riders to mishaps of all riders. For example, since the

change in licensing procedure in California in 1994, the percent of fatalities of licensed motorcyclists climbed steadily from approximately 40% of all riders killed to above 60%².

Serious beginner training incident rate: Counting morbid incidents that result in an insurance claim and dividing that number by total trained. The industry average is about 28 per 5000 trained⁵, whereas begin2ride is less than 8 per 5000 trained.

Postulate 3 (Group): Define five groups of participants and manage each group separately and appropriately:

We know a one-size-fits-all approach to motorcycle safety training does not work¹. We also know that having too many curricula for every conceivable skill level or interest is impossible to manage. We have found it is useful to break the continuum of possible participants into five groups, with the boundaries between the groups being chosen with the best care possible. Keep in mind that we are not using the one-size-fits-all approach so the boundaries as we define them may not fit every case every time.

We start with grouping the most skillful and experienced riders because safety training has the least impact on that group. We then work towards the groups that safety training can have the greatest impact, the individuals becoming interested in motorcycling.

The group of “Expert-time” riders: This level of riding is not attainable to everyone. There are almost as many ways to arrive at this level as there are expert riders. Although expert riders may use different training, there is no such thing as expert training. This group has a higher incidence of morbidity than the ongoing-time riders. We will not try to define this group quantitatively. We will only say that ongoing-time riders know these expert-time riders when they see them. An example of this expert group are professional racers, who although are expert, routinely experience morbid mishaps much more often than the ongoing-riders group.

The group of “Ongoing-time” riders: This group is the largest group and will have the longest exposure in time to motorcycling risks. Lifelong motorcyclists stay in this group for a lifetime. There are many different ways to get to this level. This group has some morbidity rate that we will define as the “acceptable” or “realistic” rate. This group’s morbidity rate is the same for all members of the ongoing-time. The morbidity rate for this group is the same for every member, now matter how they completed their learners-time.

We will include riders in this group with the following parameters: they have been riding for more than six months; they have more than 500 miles in the last six months; and, most importantly, they can demonstrate the two quantifiable intermediate skills, controlled quick-stops under different conditions, and low speed stability and control.

The group of “Learners-time” riders: This group consists of the highest risk group for morbid injuries. However, there are ways to mitigate many of the risks for this group. The highest risk time for this group is starting with their first street ride and lasts a minimum of six months and 500 miles. The end of this high-risk learners-time is not a sharp conclusion. We define the high-risk learners-time as ending when riders have more than 500 miles and more than six months regular street riding, in addition to being able to

demonstrate the quantifiable intermediate skills, controlled quick-stops under different conditions, and low speed stability and control.

The group of “Beginners-time” riders: This group has made a decision to actively start gathering information and knowledge to participate in motorcycling activities. This is a high-risk time. There are many unnecessary risks that can be avoided during this time. Any safety program can have big effects during this time.

It is crucial for these beginners-time riders to have the rudimentary skills and knowledge of motorcycling. They should be completely familiar with these rudimentary skills before they enter their learners-time. We define the beginners-time ending with the beginning of their regular street riding.

Also crucial during this beginners-time is that participants are allowed to make an informed choice to not enter the learners-time. During safety training beginners should not simply be encouraged to ride. The beginner should be taught that the choice not to ride is an excellent way to avoid the high risks associated with the learners-time.

The group “Pre-beginners-time”: This is everyone who may become interested in motorcycling activities. Although this is a nebulous definition, we must start somewhere. Individuals in this group often receive information below the fully conscious level of thinking and analyzing. Information and encouragement for taking on motorcycling may come from advertising, friends and acquaintances, popular culture, and other sources.

It is crucial in risk reduction for the individuals in this pre-beginners-time (if they decide to enter their beginners-time) to be guided to a program specifically designed for the beginners-time. These individuals must be encouraged away from on-street riding until they have completed their rudimentary skill training and knowledge accumulation.

Applied example of Postulate 3:

For pre-beginners-time: Target this group with appropriate information including the high risks of riding motorcycles in the street. Compare street riding risks with other risks of common activities. Teach this group the lesson that if they decide to enter street riding, the effort, time and resources they will need to devote to learning and participating in motorcycling is higher than they currently expect.

For beginners-time: The begin2ride program.

For learners-time: The continue2ride program.

For transitioning from learners-time to ongoing-time: The test2ride program.

For ongoing-time: There is not much effective safety training for this group, however, there is much available and accessible skills training for this group.

For expert-time: Individual treatment of safety issues for this group.

Postulate 4 (Stratify): Allow separation within groups when stratification occurs among participants:

This is important both for educational principles as well as minimizing mishaps during training. Individuals properly assigned to the correct group will experience some stratification within that group as training progresses. Of course, all people learn in different ways and at different rates.

Allowing what we will call different skill levels (sub-groups) inside each group is crucial in managing the entire program's risk to students as well as enhancing the educational effectiveness of the program.

Applied example of Postulate 4:

There are three separately scheduled sessions in the begin2ride program. At the end of Session 1, the instructor assigns the student to one of these options: Repeat Session 1, go on to Session 2, skip ahead and challenge Session 3, or guidance customized to an individual that does not fit in with the first three options. This way all students in Session 2 are of similar skills and abilities. This greatly reduces the chance of mishaps and greatly increases the effectiveness of the education and enjoyment during training.

Postulate 5 (Unnecessary)): Identify and have countermeasures to reduce the unnecessary mishaps:

There are a great number of unnecessary mishaps. Identifying and prioritizing the problem areas is crucial when assigning resources to mitigate unnecessary mishaps. Unnecessary mishaps occur both during training programs as well as while street riding.

Recognize that we can do something about the unnecessary mishaps. Once unnecessary mishaps have been identified, countermeasures can be created and executed. This is the genesis of safety training.

Applied example of Postulate 5:

During training example: Footwear used by experienced motorcyclists for touring is inappropriate for students in the beginner courses. The requirement for begin2ride students to use appropriate athletic shoes while learning to ride in a parking lot has mitigated mishaps caused by inappropriate foot positioning on the smaller training motorcycles.

During the first six months of riding example: Inadvertently rolling on the throttle while trying to brake, causing panic and more errors, can be eliminated through proper training.

By measurements^{1,2,3,4}, we know that the paradigm that prevails in current motorcycle safety programs has caused increased motorcyclists morbidity rates throughout the United States. Our hope is that some or all the postulates we use will gain broader appeal throughout the motorcycle safety industry. We know that using these postulates and principles will help shift the current paradigm to one that will decrease the motorcycling morbidity rates.

Please feel free to contact us anytime regarding any of these matters. Our curriculum is open source and free to use and copy.⁶

References:

Phone 877-234-4627. Mission Statement Link:
<http://www.nmcti.org>

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