

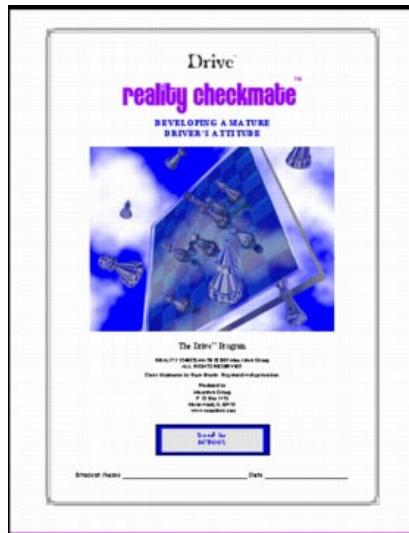
The DRIVE[®] for School Program
based on Ownership Learning[®]



KANSAS III

QUALITATIVE ANALYSIS

IMPACT AND EFFECTIVENESS
OF THE
DRIVE[®] REALITY CHECKMATE[™]
CHALLENGE BOOK



Funded by the Bureau of Traffic Safety, Kansas Department of Transportation

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THE DRIVE® FOR SCHOOL PROGRAM: Qualitative Evaluation Results

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Test Group-----06-013
Institution-----Public High School
Location-----Kansas
Students surveyed-----13

Background: No review was allowed between the group sessions in class and the taking of the survey.

Analysis

Factors	Percentage	Raw #
<u>Recognition</u> (4 situations discussed in two separate group sessions)		
% of all situations recognized as previously discussed in groups.....	98.1	51/52
% of students recognizing all situations previously discussed.....	92.3	12/13

CHART 1: RECOGNITION (% students) vs. Time Lapse

Time Lapse	School Bus	Parking	Hazard	Unexpected
9 days (06/07) (1.3 weeks) Session 1	13/13 (100.0%)	13/13 (100.0%)		
3 days (06/14) (0.4 weeks) Session 2			12/13 (92.3%)	13/13 (100.0%)

Situations occurring while driving

% of students involved in one or more situations while driving.....	61.5	8/13
Total number of situations occurring while driving.....	---	14

Recall (Reacting to the situation per decisions through group discussions)

% of all situations where students reacted per group discussion	92.9	13/14
% of students who reacted to at least one situation per group discussion.....	100.0	8/8

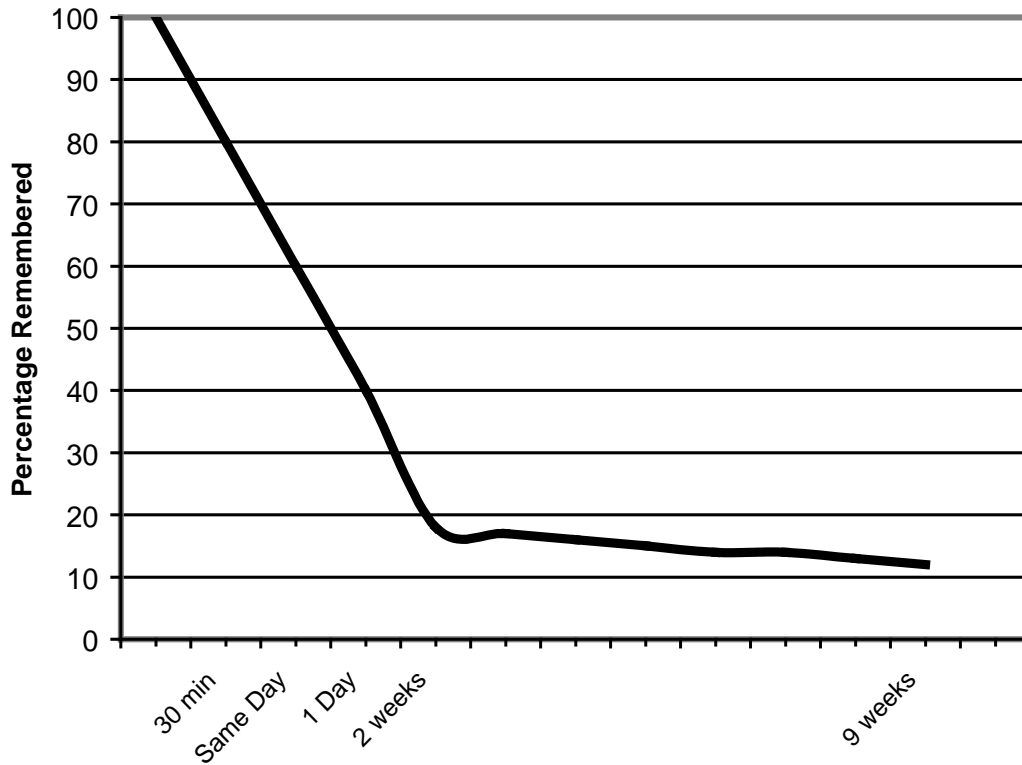
CHART 2: RECALL (% students) vs. Time Lapse

Time Lapse	School Bus	Parking	Hazard	Unexpected
9 days (06/07) (1.3 weeks) Session 1	2/2 (100.0%)	3/4 (75.0%)		
3 days (06/14) (0.4 weeks) Session 2			4/4 (100.0%)	4/4 (100.0%)

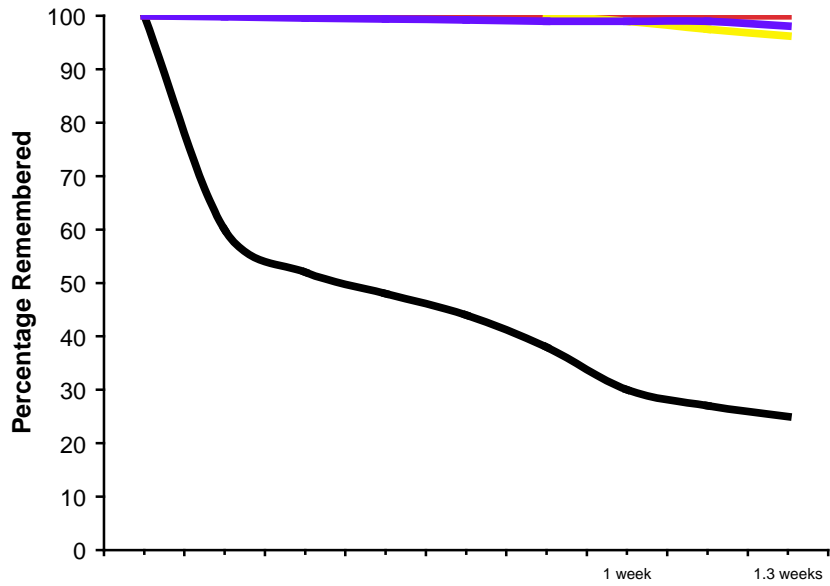
Forgetting Curve

Below is the well-known Ebbinghaus Forgetting Curve, upon which the Drive Program results for Recognition and Recall are compared and contrasted in the subsequent two graphs. The Curve is given as the NORM. More than **22%** of what is “learned” in a teaching experience is forgotten in the first 30 minutes; **40%** is forgotten in the first 24 hours; and **70%** in the first week. To be an effective learning tool (as compared to ‘teaching tool’, which relates to short-term memorization to pass a test), students must be able to remember both what they learned and then apply it to those driving situations when they are behind-the-wheel. That necessarily means greatly *exceeding* the extremely low memory rate of less than 20% by the end of a 2-week period.

Forgetting Curve

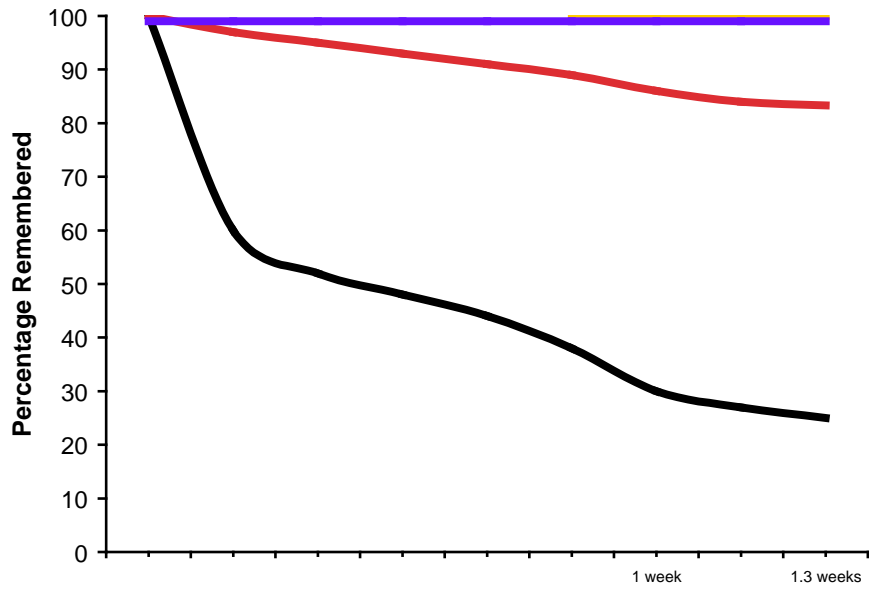


Forgetting Curve vs. Drive®: RECOGNITION
 (% students recognizing situations)



— NORM — Session 1 — Session 2 — Combined

Forgetting Curve vs. Drive®: RECALL
 (% students reacting to situations)



— NORM — Sess 1 — Sess 2 — Percent reacting to 1 situation

Discussion

Recognition

- The survey, which lists 15 possible situations (and an illustration of each) that can be assigned in the classroom using the Drive[®] for School Program's Reality Checkmate[™] Challenge Book, was taken **9** days after groups discussed School Bus and Parking, and **3** days after discussing Hazard and Unexpected. All but one student (**98.1%**) recognized all **4** situations as having been discussed in their groups when they were surveyed, without any class review of those situations prior to taking the survey.
- Although this high recognition number may suggest a relation to the short time period between group discussions and the survey, it should be noted that (a) there was no review of the situations prior to the survey, and (b) the ability to remember drops to just over **40%** after **24** hours and **30%** after **1** week if no review of the initial exposure to material is held. It is clear that recognition is part of that memory loss.

Situations occurring while driving

- **Eight** of **13** students (**61.5%**) were involved in at least one situation when driving a motor vehicle that they discussed in their groups using the Drive[®] for School Program's Challenge Book. The fact that these occurred in the period of about a week after discussing them attests to the frequency of these particular driving situations in their geography.

Recall

- The Forgetting Curve is such that just **24** hours after a learning experience, only a little more than **40%** of the information *learned* is recalled if not reinforced by review. After **2** weeks, memory loss increases to where less than **20%** can be recalled.
- Given these facts, and knowing that 'review' is impossible during a driving occurrence, **92.9%** of all situations confronted by students (**13** out of **14**) were handled based on what they recalled learning in their groups using the Drive[®] for School Program, without benefit of review. Moreover, it is most telling that a full **100%** of all students confronted with at least **1** situation reacted based on what they recalled from their group experience: they remembered to apply what they learned.
- The one situation occurring where the student could not recall what to do was Parking. Driver education teachers often state that this is a skill requiring a lot of practice before mastering.

Conclusion

- Students had near-perfect (**98.1%**) recognition of scenarios discussed in their groups the previous **7** and **9** days, or more than **290%** over the expected norm for this time frame. Indeed, all students but one named every one of them. Factors influencing this result could include the small number of scenarios (**4**) and the relatively short time span between group discussions and the survey. However, the Forgetting Curve suggests that about **70%** or more of what was imparted in a learning experience should be forgotten **9** days later. Hence, the near-perfect scores strongly suggest that Ownership Learning[®] techniques used from the Drive[®] Program were the major factor.
- Recall rates were between **178%** and **233%** over the normal Forgetting Curve at this time period between learning experience and surveying for the **2** sessions.
- A full **100%** of the students recalled what to do and did it in at least **1** situation.
- The learning experience as conceived and structured by the Drive[®] Program through the Reality Checkmate[™] Challenge Book positively impacted both the memories of what to do in a given situation and then actually executing those behaviors and actions.
- Because review and repetition increase the development of prolonged memory, students encountering the same situations in the future will not only know what to do, but will exhibit the correct, safe behavior during those occurrences as learned during their group exercises using the Drive[®] for School Program.

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