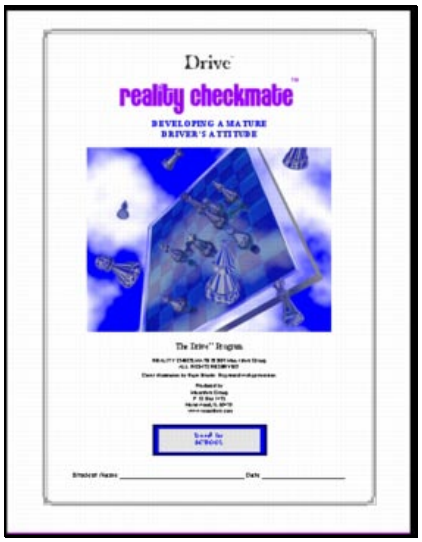
The DRIVE® for School Program
based on Ownership Learning®

WISCONSIN I

QUALITATIVE ANALYSIS

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



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THE DRIVE® FOR SCHOOL PROGRAM: Qualitative Evaluation Results

Test Group---------- 06-008
Institution---------- Public High School
Location---------- Wisconsin
Students surveyed ----- 15 (14 valid)

Background: The class was divided into groups and assigned a large number of scenarios (**11** in all) on **4** different days. **Three** of the **4** group exercises were conducted over a short period of time: **7** days. The **fourth** group did the last assigned scenarios **1** week later. Surveying then occurred more than 1 month after the last set of scenarios was discussed in groups, and almost **7 weeks** after the first set of scenarios were covered. No review was allowed between group activities and the day of the survey.

Analysis

Factors	**Percentage**	**Raw #**
Recognition (**11** scenarios (situations) discussed in **four** [**4**] separate group sessions)		
% of all situations recognized (remembered) as previously discussed in groups	72.1	111/154
% of students recognizing **6** out of **11** situations (**54.5%)** discussed in groups	85.7	12/14
% of students recognizing **7** out of **11** situations (**63.6%)** discussed in groups	78.6	11/14
% of students recognizing **10** out of **11** situations (**90.9%)** discussed in groups	35.7	5/14

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

Time Lapse	School Bus	Jogger	Animals	Parking	Crosswalk	Expressway	Road Rage	Police	Railroad	Hazard	Construction
48 days (6.9 weeks) Session 1	10/14 (71.4%)										
42 days (6.0 weeks) Session 2		12/14 (85.7%)	13/14 (92.9%)								
41 days (5.9 week) Session 3				6/14 (42.9%)	13/14 (92.9%)	8/14 (57.1%)	13/14 (92.9%)				
35 days (5.0 week) Session 4								7/14 (50.0%)	8/14 (57.1%)	11/14 (78.6%)	10/14 (71.4%)

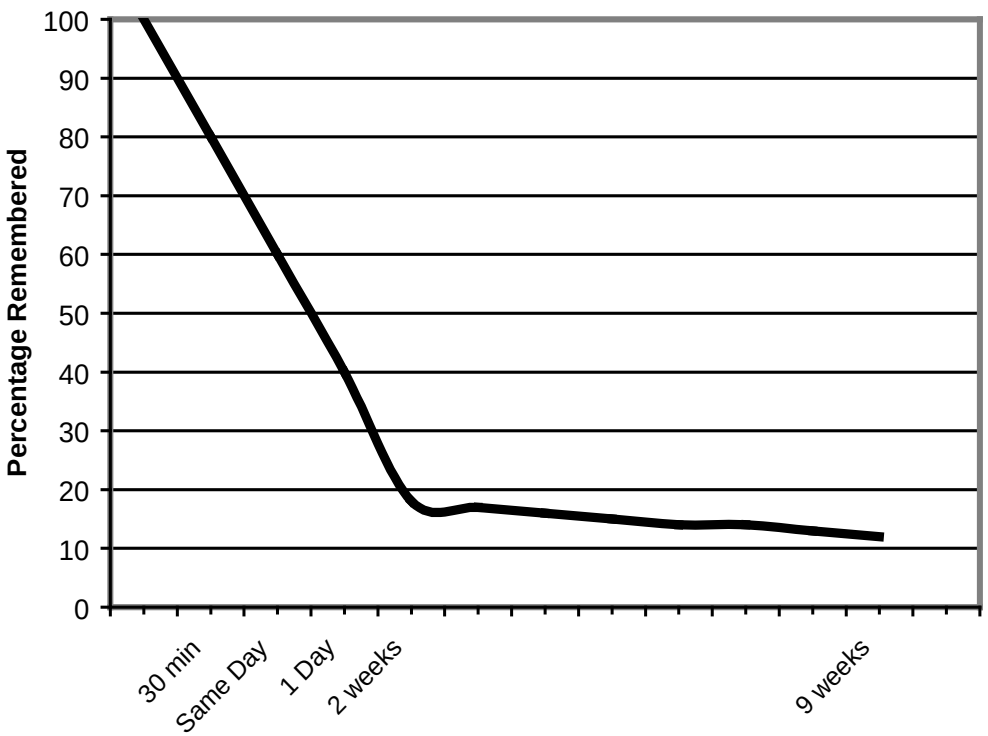
Situations occurring while driving		
% of students involved in one or more situations while driving	78.6	11/14
Total number of situations occurring while driving	---	42
Recall (Reacting to the driving situation per decisions reached through group discussions)		
% of all situations where students reacted per group discussion	73.8	31/42
% of students who reacted to at least one situation per group discussion	78.6	11/14

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

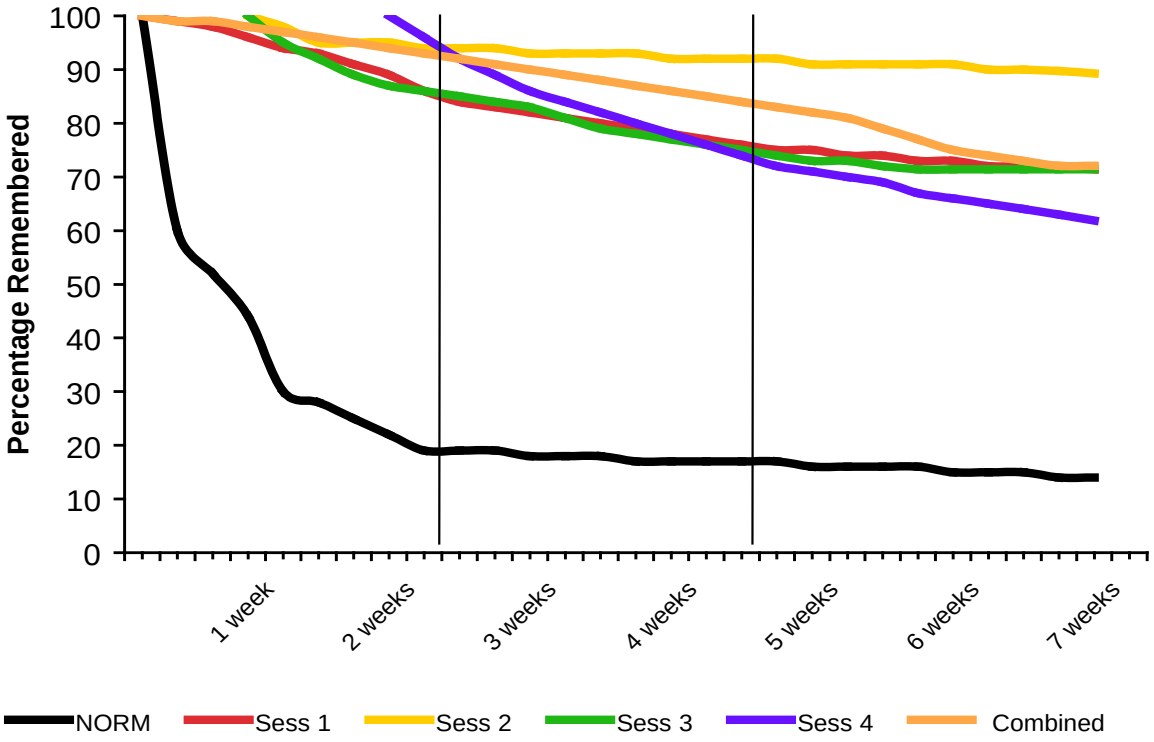
Time Lapse	School Bus	Jogger	Animals	Parking	Crosswalk	Expressway	Road Rage	Police	Railroad	Hazard	Construction
48 days (04/18) (6.9 weeks) Session 1	3/3 (100.0%)										
42 days (04/24) (6.0 weeks) Session 2		6/7 (85.7%)	6/9 (66.7%)								
41 days (04/25) (5.9 week) Session 3				0/1 (0.0%)	2/3 (66.7%)	0/3 (0.0%)	3/4 (75.0%)				
35 days (05/01) (5.0 week) Session 4								0/0 (0.0%)	1/1 (100.0%)	5/6 (83.3%)	5/5 (100.0%)

Forgetting Curve

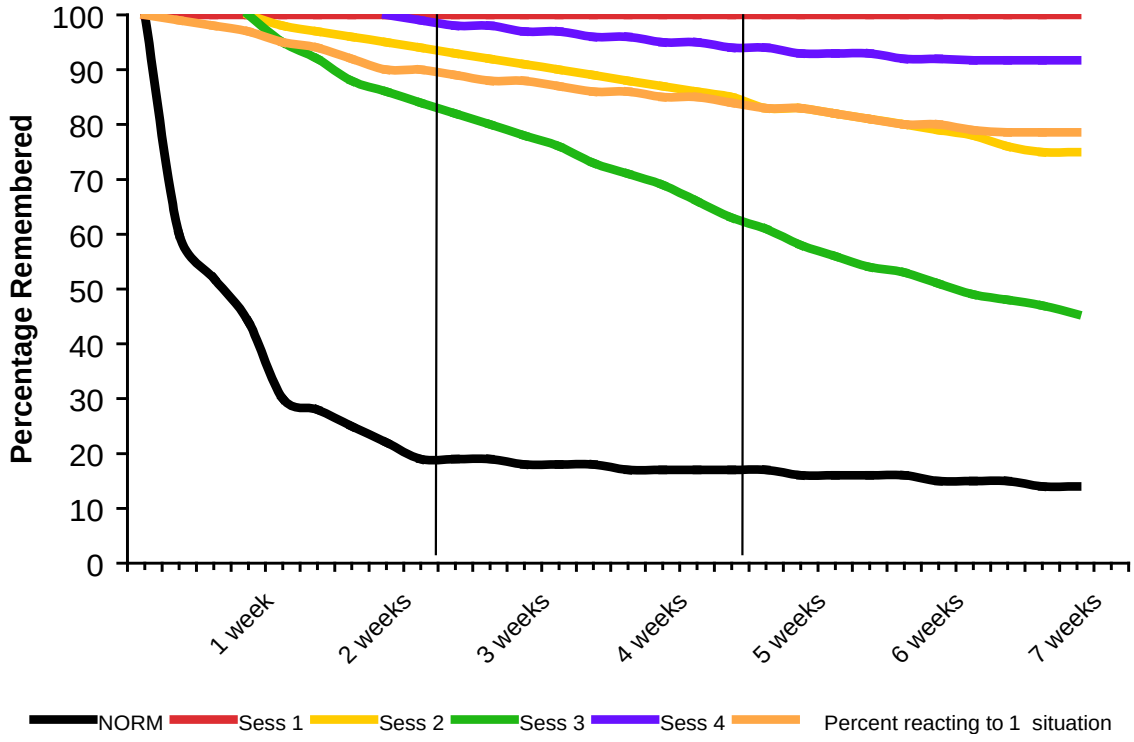
Below is the well-known Ebbinghaus Forgetting Curve, upon which the Drive® for School Program results for Recognition and Recall are compared and contrasted in the subsequent two graphs. The Curve is given as the NORM. More than **22%** of what is "learned" in a teaching experience is forgotten in the 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 vs. Drive®: RECOGNITION
(% students recognizing situations)



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



Discussion

Recognition

- The 2-page survey, which lists 15 possible scenarios, or driving *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 conducted as follows: **48** days (**6.9** weeks) after groups discussed School Bus; **42** days (**6.0** weeks) after discussing Jogger and Animals; **41** days (**5.9** weeks) after discussing Parking, Crosswalk, Expressway and Road Rage; **35** days (**5.0** weeks) after discussing Police, Railroad, Hazard and Construction. The *Forgetting Curve* (see above) points to memory retention of just **40%** after 24 hours and less than **20%** after just two weeks following a learning venue. For this class, of a possible **154** scenarios that could be recognized by the students (**11** total scenarios discussed x **14** students surveyed), students remembered **72.1%** of them combined after lapses of **6.9**, **6.0**, **5.9** and **5.0** weeks.
- In a more direct comparison with the Forgetting Curve *vs.* the different sessions held using the Drive® for School Program, rather than only remembering less than **20%** of the scenarios after a longer period of time than **2** weeks predicted by the Curve, students actually could remember **71.4%** after **6.9** weeks; **89.3%** after **6.0** weeks; **71.4%** after **5.9** weeks; and **64.3%** after **5.0** weeks. These results are approximately **250%**, **350%**, **250%** and **225%** more than what would be expected.
- Specific scenarios had a higher percentage of recognition, regardless of time lapses: Jogger (**85.3%**), Animals (**92.9%**), Crosswalk (**92.9%**), and Road Rage (**92.9%**); this has not been an uncommon occurrence in other class surveys. For the current class, these correspond almost exactly to the high recall rate found among students who encountered these scenarios and then remembered what to do. (See below) Thus, it is probable that the experience encountered when driving reinforced the memory of group discussion using the Drive® Program, and vice versa. The only slight anomaly was Construction, which was remembered by **10** out of **14** students yet when encountered behind the wheel was recalled and applied by every student involved in that situation (**5** out of **5**).
- Several students checked scenarios that were not assigned, although experience has shown that the way this was done on their individual surveys did not indicate that the entire survey was invalid. One student (**No. 9**) did turn in an invalid survey.

Situations occurring while driving

- When driving a motor vehicle, a very high percentage – almost **8** out of **10** students (**78.6%**) – were involved in at least **1** driving situation that they had discussed in their groups using the Drive® Program's Challenge Book. The most frequent occurrence was Animals (**9** out of **14** students), which should not be surprising given the large rural areas in Wisconsin.
- As has been found in other evaluations of the Drive® Program, teachers have been successful in choosing scenarios related to the particular driving environments of the students. After Animals, the next two most frequent occurrences were Jogger and Hazard. This in turn supports the premise that the scenarios offered are often common occurrences most likely to happen to novice drivers before they graduate high school.

Recall

- Of the **42** driving situation occurrences involving scenarios discussed by students, in **31** of them (**73.8%**) the students recalled what to do and then did it – almost **3** out of every **4** students. For the total number of students encountering situations they discussed, **78.6%** (**11** out of **14**) recalled what to do and did it in at least one circumstance. This stands in marked contrast to the **20%** or less memory retention after just two weeks of a learning venue, and almost **300%** of the expected result. More significantly, simple memory (passive) does not necessarily equate to remembering what to do and then *doing it* (active). This measurement demonstrates that learning was translated into action based on discussing and remembering the positive steps to take during a driving situation.
- For this class, time lapse was not a factor in determining the percentage of driving situations that elicited responses based on what was learned during the group discussions. (See Chart 2, above.) Recall percentages ranged from **55.6%** (Unexpected) to **86.9%.** These results range from more than **150%** to over **300%** greater than the expected Forgetting Curve predictions.

- In the cases of Parking (**1** student) and Expressway (**3** students), none of these **4** students recalled what to do when faced with these situations. This could be environmental – there may not be many parking or expressway situations where the students lived – or some other factor. Clearly, it negatively impacted the results for Session **3**. (See RECALL chart, above.) Conversely, for School Bus (**3** students), Railroad (**1** student) and Construction (**5** students), all students encountering these situations recalled what to do and then did it. Again this could relate to environment and familiarity with such occurrences – knowledge prior to even taking driver education classes or practicing behind-the-wheel – although knowing what to do would have come from their Drive® for School Program discussions. Experience has shown, however, that students seem to have greater affinities to certain scenarios when it comes to both recognition and recall. However, there are other factors, including group dynamics, time and the way the teacher runs the exercise, to name but a few.

Conclusions

- The Reality Checkmate™ Challenge Book learning experience, based on Moorshire Group's Ownership Learning® techniques, positively impacted both the memories of what to do in a given situation and then actually executing those behaviors and actions.
- Of the **11** scenarios discussed, **72.1%** were recognized (remembered) roughly **5** to **7** weeks after discussing them in groups. This is more than **250%** of what would be expected from the Forgetting Curve.
- Of the **14** students exposed to at least **1** driving situation when behind-the-wheel that they discussed in their groups, **11** of them recalled what to do and then did it: **78.6%.**
- Because review and repetition increase the development of prolonged and permanent memory, students encountering the same situations in the future – in effect 'reviewing' and 'repeating' them *through experience* – 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 Program.

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