

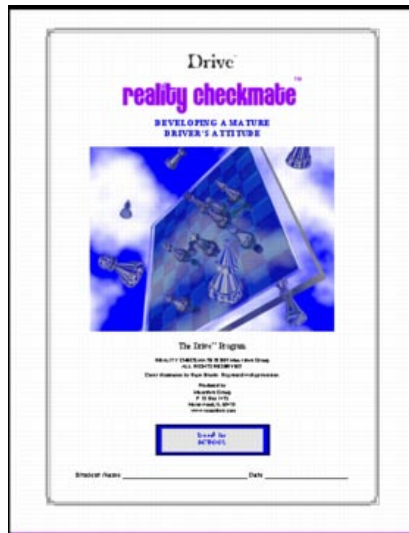
The DRIVE<sup>®</sup> for School Program  
based on Ownership Learning<sup>®</sup>



**OREGON III**

# QUALITATIVE ANALYSIS

IMPACT AND EFFECTIVENESS  
OF THE  
*DRIVE<sup>®</sup> REALITY CHECKMATE<sup>™</sup>*  
*CHALLENGE BOOK*



P. O. Box 1472  
Homewood, Illinois 60430  
(708) 957-4704

[www.moorshire.com](http://www.moorshire.com)

May not be quoted, copied or reproduced, either manually, electronically  
or by any copying, scanning, photographic or computer device,  
without the expressed written permission of Moorshire Group.

© Moorshire Group. ALL RIGHTS RESERVED.

**THE DRIVE<sup>®</sup> FOR SCHOOL PROGRAM: Qualitative Evaluation Results**

© Moorshire Group. ALL RIGHTS RESERVED.

**Test Group----- 06-007**  
**Institution ----- Public High School**  
**Location ----- Oregon**  
**Students surveyed ----- 38 (37 valid)**

Background: Group activity was held on successive Saturdays. Before taking the survey, no review was allowed of what was discussed in the groups. Although surveys are confidential, without a space for names, the teacher noted that many students put their names on the surveys, “I think because they wished to claim their part in doing a program they liked.”

Analysis

**Factors**

**Percentage Raw #**

Recognition (6 scenarios (situations) discussed in three [3] separate group sessions)

% of all situations recognized (remembered) as previously discussed in groups.....	<b>88.3</b>	<b>196/222</b>
% of students recognizing 3 out of 6 situations (50.0%) discussed in groups.....	<b>100.0</b>	<b>37/37</b>
% of students recognizing 4 out of 6 situations (66.3%) discussed in groups.....	<b>100.0</b>	<b>37/37</b>
% of students recognizing 5 out of 6 situations (83.3%) discussed in groups.....	<b>89.2</b>	<b>33/37</b>

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

<b>Time Lapse</b>	<b>Animals</b>	<b>Jogger</b>	<b>Unexpected</b>	<b>Weather</b>	<b>Road Rage</b>	<b>Expressway</b>
<b>21 days</b> (02/04) (3.0 weeks) Session 1	<b>36/37</b> <b>(97.3%)</b>	<b>30/37</b> <b>(81.1%)</b>				
<b>14 days</b> (02/11) (2.0 weeks) Session 2			<b>36/37</b> <b>(97.3%)</b>	<b>33/37</b> <b>(89.2%)</b>		
<b>7 days</b> (02/18) (1.0 week) Session 3					<b>36/37</b> <b>(97.3%)</b>	<b>25/37</b> <b>(67.6%)</b>

Situations occurring while driving

% of students involved in one or more situations while driving .....	<b>89.2</b>	<b>33/37</b>
Total number of situations occurring while driving .....	---	<b>83</b>

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

% of all situations where students reacted per group discussion.....	<b>74.7</b>	<b>62/83</b>
% of students who reacted to at least one situation per group discussion .....	<b>93.9</b>	<b>31/33</b>

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

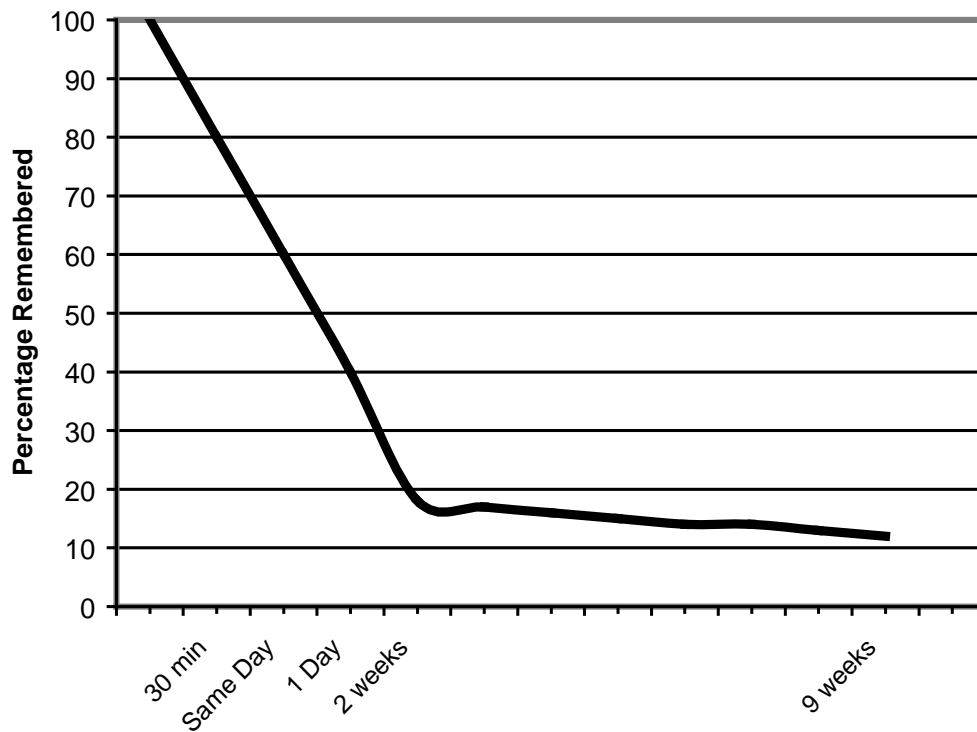
<b>Time Lapse</b>	<b>Animals</b>	<b>Jogger</b>	<b>Unexpected</b>	<b>Weather</b>	<b>Road Rage</b>	<b>Expressway</b>
<b>21 days</b> (02/04) (3.0 weeks) Session 1	<b>13/19</b> <b>(68.4%)</b>	<b>12/14</b> <b>(85.7%)</b>				
<b>14 days</b> (02/11) (2.0 weeks) Session 2			<b>5/9</b> <b>(55.6%)</b>	<b>20/23</b> <b>(86.9%)</b>		
<b>7 days</b> (02/18) (1.0 week) Session 3					<b>5/8</b> <b>(62.5%)</b>	<b>7/10</b> <b>(70.0%)</b>

Drive<sup>®</sup> and Ownership Learning<sup>®</sup> are trademarks of Moorshire Group and are registered with the U.S. Patent and Trademark Office.

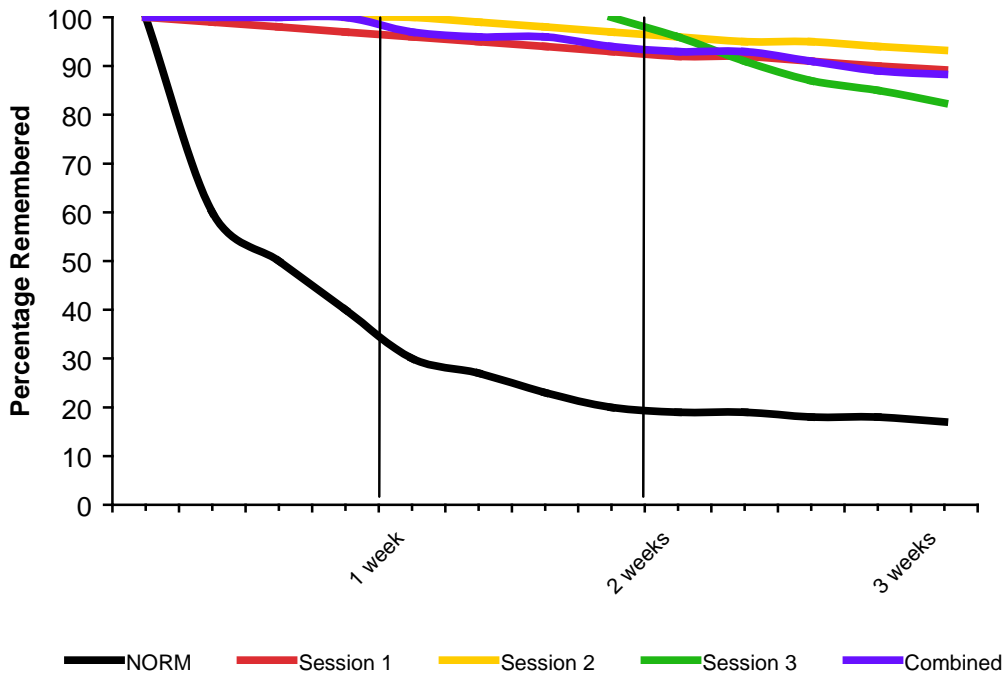
## Forgetting Curve

Below is the well-known Ebbinghaus Forgetting Curve, upon which the Drive<sup>®</sup> 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.

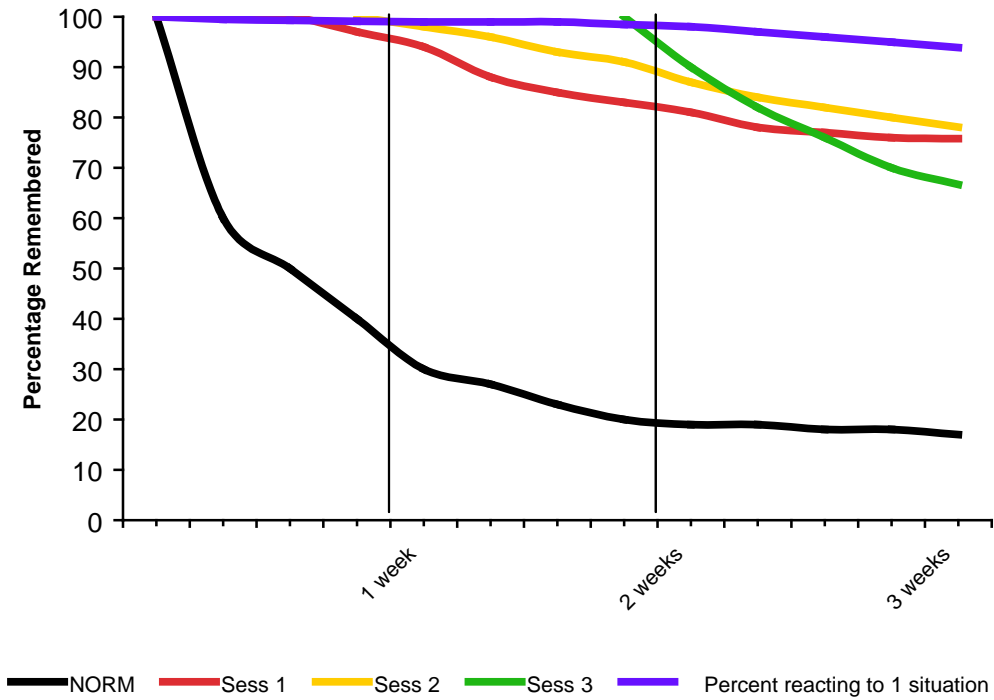
## Forgetting Curve



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



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



## Discussion

### **Recognition**

- The proctored survey, which lists **15** possible situations (and an illustration of each) that could be assigned in the classroom using the Drive<sup>®</sup> for School Program's Reality Checkmate™ Challenge Book, was conducted as follows: **21** days (**3.0** weeks) after groups discussed Animals and Jogger; **14** days (**2.0** weeks) after discussing Unexpected and Weather; **7** days (**1.0** week) after discussing Road Rage and Expressway. The Forgetting Curve points to memory retention of just **40%** after 24 hours and only **20%** after just two weeks following a learning venue. For this class, of a possible **222** scenarios that could be recognized by the students (**6** total scenarios discussed x **37** students surveyed), students remembered **88.3%** of them after lapses of **1**, **2** and **3** weeks. In a more direct comparison with the Forgetting Curve for information remembered after 2 weeks, of the **2** scenarios discussed (Animals, Jogger), **97.3%** and **89.2%** of the class recognized (remembered) these scenarios respectively – or more than **300%** over the expected Forgetting Curve retention rate of **20%** for the same **2-week** time frame.
- Even after a 3 week time lapse before taking the survey, **97.3%** and **81.1%** of the students remembered Animals and Jogger respectively, for an average of **89.2%** recognition, or almost **9** out of **10** students. As previously mentioned, after a 2-week time lapse, recognition percentages improved to **97.3%** and **89.2%** respectively, or an average of **93.2%**. As might be predicted from the effectiveness of the Drive<sup>®</sup> Program group activity, for a 1-week time lapse, Road Rage was remembered at a high rate (**97.3%**), although just as high as Unexpected (2-week time lapse) and Animals (3-week time lapse). Curiously, for Expressway, which was discussed with Road Rage 1 week before survey, recognition was **67.6%** -- lower than Road Rage but still much higher than predicted from the Forgetting Curve. Experience in surveying students for recognition and recall involving the Drive Program suggests that particular topics seem to “appeal” more to teen interest, ownership and therefore memory. Experiencing assigned scenarios when driving also contributes to recognition (memory reinforcement): Of the **10** students who experienced Expressway, **7** remembered what to do and did it (**70%**), which no doubt reinforced recognizing this scenario when taking the survey. (See Recall, below.) Just as important, how a group discussion evolves plays into aiding or inhibiting memory retention, including enthusiasm, personal interest and participation.
- About **40%** of the class, including the student with the invalid survey, checked at least one scenario on the survey that was not covered in any of their **3** group sessions. Parking, Railroad and Frustration were the **3** most common ones, and it is posited that these were covered in class separately from the Drive Program group activity but nonetheless became identified with the exercises.

### **Situations occurring while driving**

- When driving a motor vehicle, a very high percentage – almost **9** out of **10** students (**89.2%**) – were involved in at least **1** driving situation that they had discussed in their groups using the Drive<sup>®</sup> for School Program's Challenge Book. The most frequent occurrence was Weather (**23** out of **37** students), which should not be surprising given the Oregon climate.
- As has been found in other Drive<sup>®</sup> Program evaluations, teachers have been successful in choosing scenarios related to the particular driving environments of the students. After Weather, the next two most frequent occurrences were Animals and Jogger. 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 **83** driving situation occurrences involving scenarios discussed by students, in **62** of them (**74.7%**) the students recalled what to do and then did it – **3** out of every **4** students. For the total number of students encountering situations they discussed, **83.8%** (**31** out of **37**) 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. 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 **150%** to more than **300%** greater than the expected Forgetting Curve predictions.
- In the case of Weather, alluded to above, it is possible that the large frequency of this occurrence – **23** students involved out of the **33** who remembered discussing it in their groups (**69.7%**) – may have assisted in helping to recognize the scenario when filling out the survey. In other words, *the driving situation triggered the memory* – which is exactly the goal of education. Most important from a driver safety perspective, **20** of those **23** students (**86.9%**) said they recalled what to do in this situation and then did it.

### Conclusions

- The Reality Checkmate™ Challenge Book learning experience, based on Moorshire Group’s Ownership Learning® techniques, positively impacted remembering the scenarios discussed, recalling what to do in a given situation and then actually executing those behaviors and actions.
- Of the **6** scenarios discussed by all **37** students, **88.3%** were recognized (remembered) **1, 2** and **3** weeks after discussing them in groups. Almost **9** out of **10** students remembered **5** of the **6** scenarios.
- Of the **33** students exposed to at least **1** driving situation when behind-the-wheel that they discussed in their groups, **31** of them recalled what to do and then did it: **93.9%**, or more than **9** out of **10** students. This finding alone is critical to developing positive driving attitudes to establish safe habits and reduce crashes.
- Where a large frequency of certain situations occurred for this class of **37** students surveyed – **23** experienced a Weather situation; **19** an Animal, **14** a Jogger – remembering what to do and then doing it based on the Drive Program group activities was **225%** to more than **300%** of what might be expected from the Forgetting Curve. (Weather: **86.9%**; Animals: **68.4%**; Jogger: **85.7%**.)
- Because review and repetition increase the development of prolonged and permanent memory, students encountering the same driving 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® for School Program. Why? By taking “ownership” of the concepts they developed during the Reality Checkmate™ Challenge Book experience, students have the best chance of practicing what they taught themselves.

\*