Are they really ready for a Driver’s License?

Using the Driver Competency Assessment (DCA) to assess the level of risk of novice drivers
Driving Task Demands

1930’s
- physically demanding
- relatively simple system
- relatively simple vehicle
- operation

1990’s
- not physically demanding
- complex system
- complex vehicle operation

Physically Demanding
- perceptual
- cognitive
- attentional
- physical

Mentally Demanding
- perceptual
- cognitive
- attentional
- physical
Risk Assessment

Involves evaluating how a driver matches their cognitive, attentional and psychomotor skills with choice behaviors.*

*Sue McNeil - DCA2 course 1994
The national standards for Novice Teen Driver Education and Training Administrative Standards (NTDETAS) state that the driver should have a graduated license.
The standards also state “assessments of each student is critical to the learner’s success”.

Why shouldn’t a driver demonstrate their level of risk compared to the average driver?
The standards also state that potential instructors should be assessed. One of the benefits of this is to identify strengths, weaknesses, and biases which can be transferred to the learner driver.
Driver Competency Assessment (DCA)

- On-road driving assessment
- Measures crash potential:
  - Under normal driving conditions
  - Two types of distractor conditions
  - Simple and Complex environments
• Conducted systematically:
  • Standardized routes
  • Standardized scoring criteria
  • Using highly trained evaluators
  • Evaluators are constantly monitored
DCA

• Shows the level of risk of the driver compared to that of an average driver.

• Diagnostic Tool to help direct appropriate individualized remediation.
Driver Competency Assessment

Developed from research by Transport Canada in 1990-1992.
ON28558  Some  D0000000000000  City: Jenison
16/10/2013  Driver  DCA: 2G  Auto  Route: JnMI03

**DCA 2 Scores**

*Average = 5*

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<thead>
<tr>
<th>Score</th>
<th>Average</th>
<th>Variance</th>
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<tbody>
<tr>
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<td>HEA</td>
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<tr>
<td>JUN</td>
<td>5.33</td>
<td>2.06</td>
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<tr>
<td>VEH</td>
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<td>G Mean</td>
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**Task Loading Conditions**

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**Segments**

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Initial
After limited remediation
Three years later
Critical aspects in evaluating the driving task

• Speed

• Headway

• Junctions

• Vehicle Handling

• Dynamic Space Management

• Dynamic Time Management
Driving Characteristics:
All drivers are scored on 4 discreet variables: speed, headway, junctions, vehicle control, and two composite ones: dynamic time management and dynamic space management. Overall Ms. Driver's driving was slightly above average. Drivers can use either space or time to control their environment. Ms. Driver uses space more effectively than time (DSM - dynamic space management and DTM - dynamic time management). Space management was above average and time management was in the average range. Ms. Driver was in the upper end of the average range on junctions (JUN - junctions, understanding and use of the road system). On headway (HEA - headway, interaction with other road users) Ms. Driver scored in the average range. Ms. Driver was clearly above average on both speed (SPD - appropriateness of speed choices for road and traffic conditions) and vehicle (VEH - vehicle handling skills). With the exception of the high degree of variability found in junctions this driver's scores were relatively consistent within individual measures but less consistent between all measures taken suggesting that there are areas that could easily be improved that would raise her driving skill given that she scored higher on some variables.

Task Loading Conditions:
During the drive Ms. Driver was scored while driving normally, while following a set of written navigational instructions and pointing out a predetermined set of addresses and while counting backwards by threes. Ms. Driver showed no difference between driving normally and driving while wayfinding (multitasking), suggesting this driver has developed some coping strategies to deal with competing demands. Ms. Driver showed no difference between driving normally and driving while counting backwards (internal distraction) suggesting that Ms. Driver has developed some control over her allocation of attentional resources but it should be noted that this driver had difficulty completing the counting backwards task.

Segments:
While each segment was approximately three minutes long, some segments were more complex than others based on a predetermined set of criteria. Ms. Driver showed no differences between driving in complex and simple environments suggesting that she can handle both complex and simple driving situations equally.

Recommendations:
Ms. Driver is an average driver who could easily raise her overall driving performance. This driver should undergo remediation to raise her overall safety margins as found is the driver competency assessment specifically in the areas of headway, junctions and space and time management. This driver should be re-evaluated upon completion of remediation.
Helps Novices, How?

• Novice drivers often do not know how to appropriately determine their level of risk.

• Teens are told not to multi-task but they do not truly understand why they cannot.

• Gregerson concluded that novice driver’s need not only experience but also insight into their level of skills and abilities.

• The DCA gives drivers better insight into their own levels of risk.
Help families determine acceptable risk
DCA + Teen Progress

- The DCA helps families see progress of their teen.
- When a teen returns for Segment 2 a second assessment can demonstrate the progression of learning and create awareness for potential areas for continued focus.
Who uses the assessment?

• Novice drivers - DSAA accredited driving schools, non-accredited driving schools

• Mature drivers - medical community, courts

• Professional drivers - law enforcement, trucking, emergency responders, transit, public works, utilities (for pre-hire, “for cause" situations and to drive an individualized driver training program)
“Century Driving Group’s DCA assessment is a very valuable asset to our hiring process at INONTIME.

The assessment has given me an accurate description of many personal characteristics and driving skills than an applicant possesses; many of these positive or negative characteristics could be overlooked in a 30-minute drive with the same applicant in one of our trucks.

The data is very qualitative and has given us an accurate portrayal of each person that we have sent through this assessment.”

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