

Research Laboratory: Exercises #2 and #3

Combined Basic RiderCourse

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The presentation summarizes results a recently completed Research Laboratory conducted by MSF. The field research, conducted over 3 months at 2 different locations, compared student and class results from two different configurations of Exercises #2 and #3 in the Basic RiderCourse. The curriculum modification, suggested by two MSF RCTs, was implemented using the same RiderCoaches over the length of the project. Impartial observers tallied outcomes during the course on 3 or 4 students considered to be “average beginning students.” The students also provided feedback. In summary, two significant differences were observed between the two configurations. The combined condition had significantly more tip overs and incidents. The modification did not appear to add value to the learning experience for the students. As a result, the curriculum modification was deemed less safe than the original BRC configuration and will not be recommended by MSF.



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• Summary •

- Purpose and scope of the project
- Research methodology
- Analyses and results
- Final report and recommendations



Project Purpose

- Analyze the efficacy of combining Exercises 2 and 3 of the MSF's Basic *RiderCourse*.
- This change was suggested by J.T. Smith, Tennessee and Mark Weiss, Arizona

Rationale:

- Combining exercises may be a mechanism to support more effective and efficient development of beginning riding skills.



J.T. Smith and Mark Weiss

“The
Instigators
&
The Research
Associate”



*Just how
hot does it
get in
Phoenix in
April?*



Scope of Project

- Developed the 3-month protocol for project development, data collection, analysis, and reporting
- Developed the measurements for observations and survey feedback based on the protocol
- Collected data at 2 training locations



Primary Research Questions

1. Do riders in the Combined condition gain a comparable level of awareness, knowledge, and skill?
2. Do riders who complete the Combined BRC have a comparable overall experience?
3. Overall, does the Combined BRC fulfill the safety, learning, and service objective of the MSF and its delivery partners?



Tennessee Range Cards

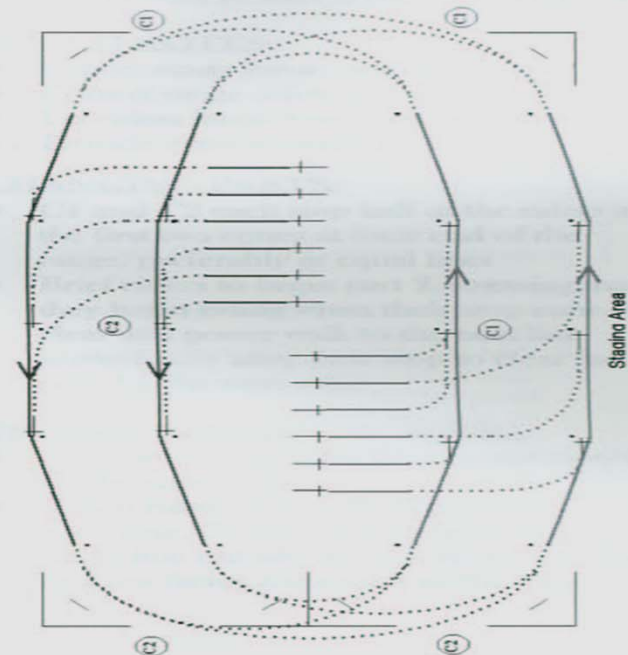
Exercise 2

35 minutes – Riding Demo, Simulate Practice, 3 Parts

1. Read objective
 - To be able to use the friction zone with control
2. Explain range setup
 - Two lanes of cones on each side of range, for a total of four lanes
3. Provide instructions
 - Part 1 - Group Rocking
 - On signal, mount and start engine
 - On signal, squeeze clutch and shift to 1st gear
 - On signal, use friction zone to rock back-and-forth in place repeatedly
 - Do not release clutch fully
 - Use minimal throttle
 - Part 2 – Walking, Backing and Stopping
 - On signal, squeeze the clutch lever and walk forward, keeping your head and eyes up.
 - When signaled, stop using the front brake smoothly
 - When signaled, turn your head to look behind and walk backward
 - Stop smoothly when signaled
 - Repeat as signaled
 - Part 3 - Power Walking
 - On signal and when your next stop cone is open, power walk to the next cone
 - Keep feet on ground, not on footrests
 - Upon reaching target cone, stop using the front brake smoothly
 - When at the last cone in your lane, check for an opening in either lane at the other side, and power walk to the first cone in the next open lane
 - Repeat as signaled
4. Provide demo of posture and three parts
 - Note evaluations and provide signals
 - Keep right wrist down and use steady throttle
 - Keep clutch lever covered
 - Keep head and eyes up
 - Keep knees against tank
 - Don't cover front brake lever while using throttle
 - Maintain a safety margin
5. Provide Simulated Practice of friction zone

Using the Friction Zone

6. Conduct exercise
 - During Part 1 - Group Rocking, watch riders needing individual coaching. Ensure all riders have good friction zone control before moving to Part 2
 - During Part 2 - position riders in pairs to their Part-3 start cones
7. Stop riders individually at the Part-3 start cones.
8. Debrief at midrange





Exercise #1





Combined Exercise #2





Combined Exercise #3





Hypotheses

- If the curriculum change was to be successful, these differences would be observed:
 - Decrease the student's frustration levels with finding neutral and pushing the motorcycle.
 - Fewer complaints about mechanical problems.
 - Students should display more positive overall attitudes.
 - Fewer class delays, fewer starts and stops.

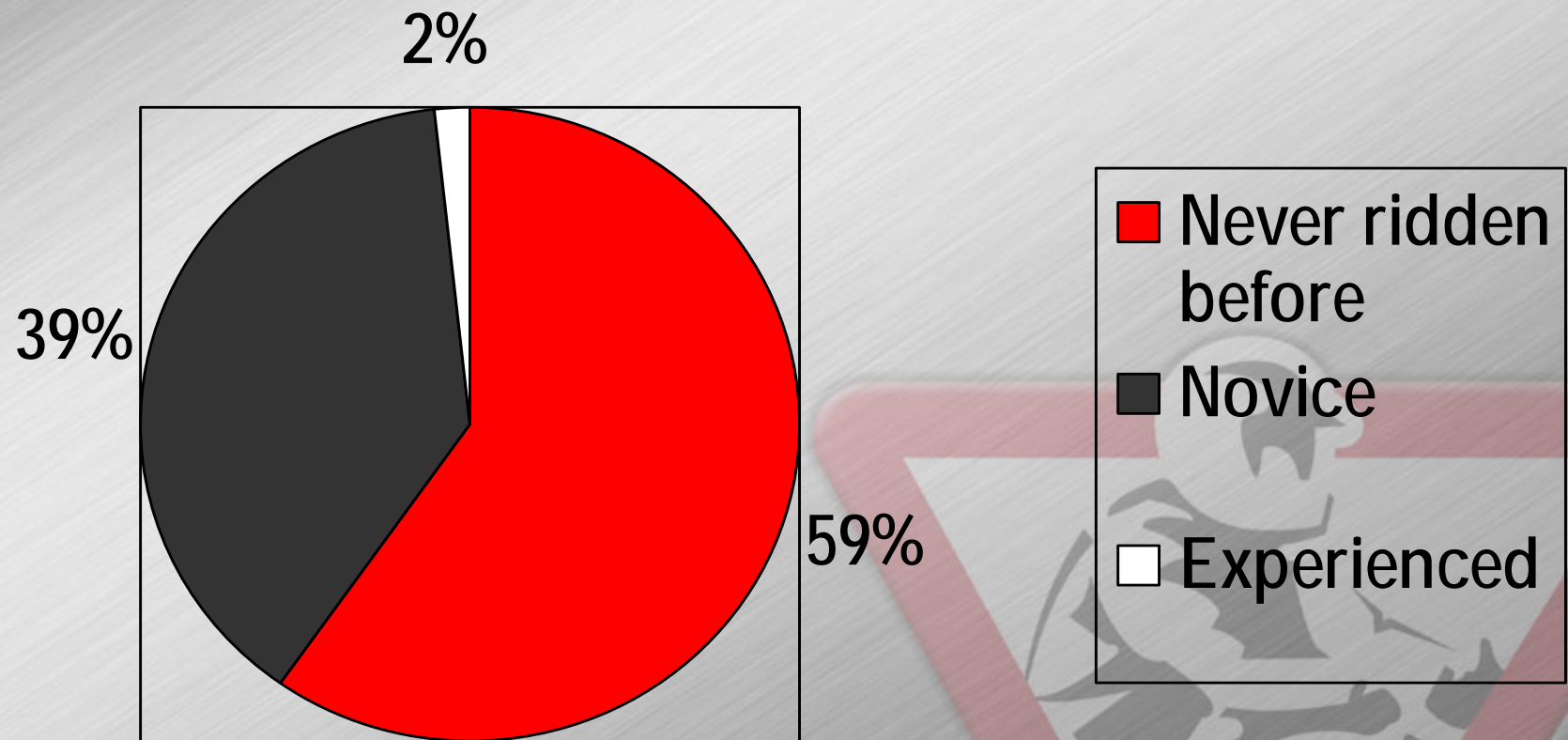


Participants:

- 64 students who had enrolled in an MSF Basic *RiderCourse* were asked to participate.
- 32 students from AZ, 32 students from CA (41 male, 23 female)
- Students were chosen as “the 3 or 4 average beginning students” in each class.



Participants' Experience Level





RiderCoaches and Observers

Individual observations recorded on each participant regarding:

- Ability to find neutral
- Clutch and throttle control
- Frustration and fatigue levels
- Number of stalls
- Complaints about the motorcycle
- Overall attitude
- Class delays
- Frequency of stops and starts



Student Self-report

Each participant reported on the following:

- Experience level
- Clutch and Throttle control
- Frustration and Fatigue levels
- Ability to find neutral
- Number of times stalled
- Complaints about the motorcycles



Class Observations

Both RiderCoaches and the Observers recorded information on the class regarding:

- Number of tip-overs
- Number of incidents
- Number counseled-out
- Amount of down time
- Frequency of stops and starts
- Control traffic flow





Procedures

- Two training locations, one in AZ and one in CA.
- Data collection from April 9 through June 19.
- The same two RiderCoaches at each location participated throughout the project.
- Observers tried not to disrupt training once informed consent was given.



Procedures continued

- During Exercise 2, consensus between observer and RiderCoaches on who could be included as a participant.
- Observer began recording information immediately.
- At the conclusion of Range 1, student was asked to complete the questionnaire.
- At the conclusion of Range 1, each RiderCoach completed the questionnaire.



RC and Observer Variables

Independent:

- Training location
- Course Type

Dependent:

- Ability to find neutral
- Gained control
- Clutch control
- Throttle control
- Number of stalls
- Level of frustration
- Skill level
- Progression

No Significant Differences



Student Variables

Independent:

- Training location
- Course Type

Dependent:

- Gained control
- Find neutral
- Clutch control
- Throttle control
- Stalls
- Frustration level
- Fatigue level
- Concerns about motorcycle

No Significant Differences



Class Variables

Independent:

- Rater
- Training Location
- Course Type

Dependent:

- Number of tip-overs
- Number of incidents
- Number counseled-out
- Amount of down time
- Frequency of stops and starts
- Control traffic flow



Results for Class Data

Multivariate Test for Significance

(This test is used to minimize Type II error with a large number of dependent variables.)

- Significant difference between Course Type, ($F=3.19, p=.024$).
- No significant differences between locations or interaction effect (course X location).



Differences in Course Type

Within Course Type:

- Significant difference in the total number of **tip-overs** ($F=7.71, p=.01$), where more students tipped-over in the Combined versus the Standard condition.
- Significant difference in the total number of **incidents** ($F=5.61, p=.03$), as there were more incidents in the Combined versus the Standard condition.



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Summary

- 3 month project at 2 locations measuring the Combined versus the Standard Basic RiderCourse.
- A total of 64 participants during 16 classes.
- Multiple measures.
- Only significant difference between Combined and Standard was in the total number of tip-overs and incidents.



Recommendations

- The proposed curriculum change appears to be less safe for students.
- The proposed curriculum change does not appear to add value to the learning experience for the students.
- Too much “bike bonding” experience may be lost for the beginner student.
- The proposed curriculum change will not be recommended by MSF.



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Thank You!

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