

# International Science Collaborations



Ingredients for Success





ARCTIC OCEAN



Classroom-307



ARCTIC CIRCLE



NORTH ATLANTIC OCEAN



ASIA

EQUATOR



AFRICA

SOUTH PACIFIC OCEAN



ARCTIC CIRCLE



Ingredients for success

Listen to learn



Encourage all opinions

Problems are best solved when there is diversity of opinion and experience in the process

- (1) Problem identification
- (2) Structuring the problem
- (3) Looking for possible solutions
- (4) Making a decision
- (5) Implementation

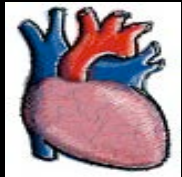


## Diversity: The case for improved performance

There's evidence from other industries that if you have just a male team, you can have a flawed product.



- **Air bags:** Early air bags based on the male body as the norm, were often deadly to women and children.



- **Heart valves:** Early heart valves were sized to fit male hearts.



- **Voice-recognition systems:** Early voice recognition systems were calibrated to selected voices, leaving other voices largely unheard.



# Define expectations and roles



# Battle the biases



# Battle the biases



Sherry Boger

Head of Intel Products Vietnam, HCMC

# Battle the biases



**Kumud Srinivasan**

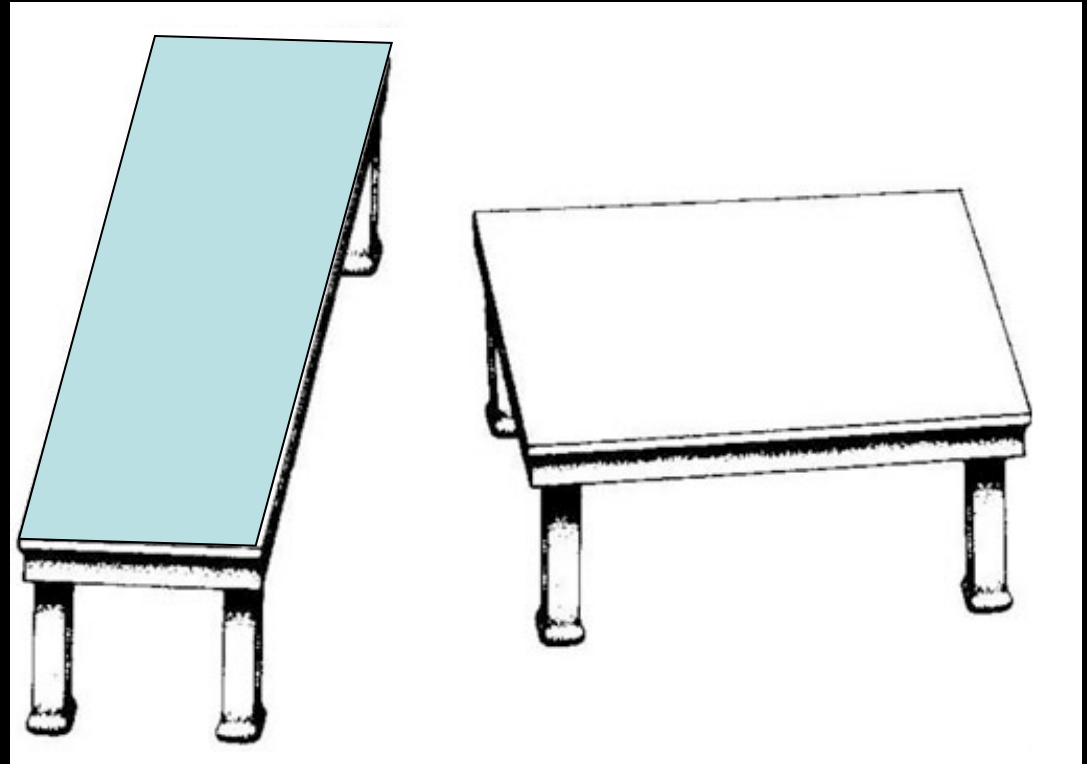
President, Intel India,  
Delhi, India

# Inherent Bias Test

Are these table tops the same dimensions?

YES!

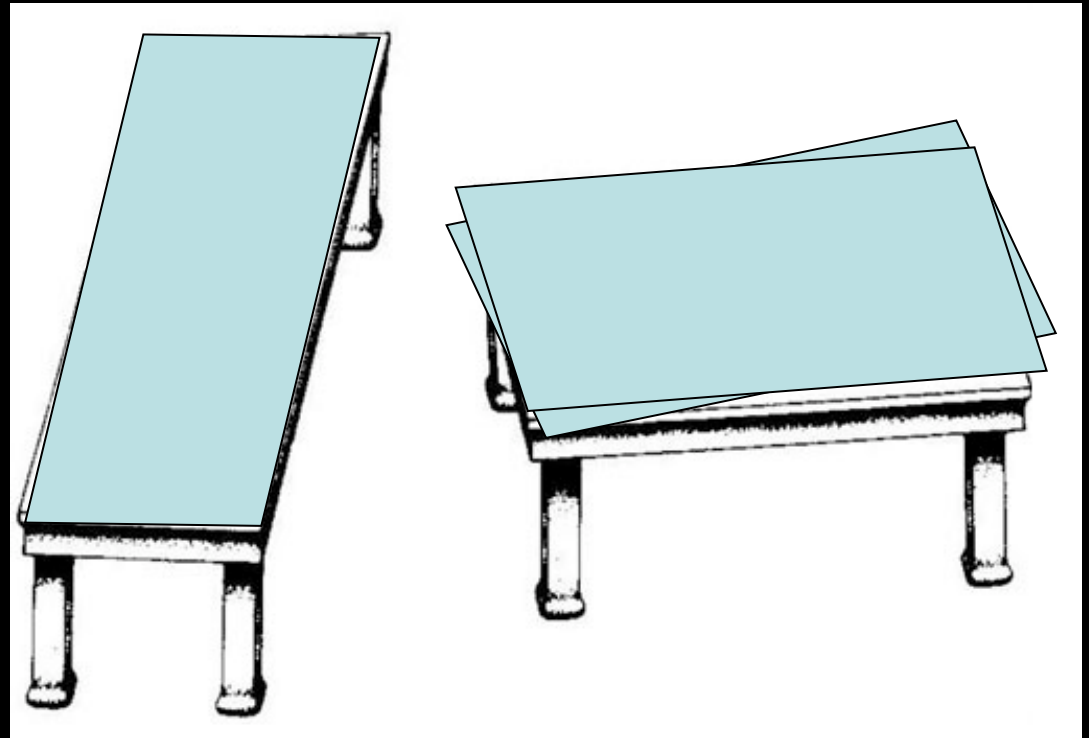
But your brain  
“tricks” you into  
thinking they’re  
different.



From Brian Nosek, University of Virginia.

# Inherent Bias Test

Are these table tops the same dimensions?



From Brian Nosek, University of Virginia.

# Implicit Association Test

So let's try a test to see if we as scientists have inherent biases about gender and science.

Male

Female

Grandpa



Male

Female

Man

Male

Female

Girl

Male

Female

Aunt

Male

Female

Wife

Male

Female

Uncle

Male

Female

Grandma

Male

Female

Son

Male

Female

Daughter



Male

Female

Woman

STOP

Female

Male

Son

Female

Male

Aunt

Female

Male

Father

Female

Male

Grandma

Female

Male

Father

Female

Male

Wife

Female

Male

Brother



Female

Male

Man

Female

Male

Daughter

Female

Male

Woman

STOP

Liberal Arts

Science

Physics

Liberal Arts

Science

Philosophy

Liberal Arts

Science

English

Liberal Arts

Science

Humanities

Liberal Arts

Science

Engineering



Liberal Arts

Science

Astronomy

Liberal Arts

Science

Latin

Liberal Arts

Science

Arts

Liberal Arts

Science

Chemistry

Liberal Arts

Science

Biology

STOP

Science

Liberal Arts

Philosophy

Science

Liberal Arts

Music

Science

Liberal Arts

Geology



Science

Liberal Arts

Biochemistry

Science

Liberal Arts

Humanities

Science

Liberal Arts

Neuroscience

Science

Liberal Arts

English

Science

Liberal Arts

Humanities

Science

Liberal Arts

Art

Science

Liberal Arts

Engineering

STOP

Male  
or  
Science

Female  
or  
Liberal Arts

Boy

*(Practice)*



Male  
or  
Science

Female  
or  
Liberal Arts

English

*(Practice)*

Male  
or  
Science

Female  
or  
Liberal Arts

Aunt

*(Practice)*

Male  
or  
Science

Female  
or  
Liberal Arts

Art

*STOP*

Male  
or  
Science

Female  
or  
Liberal Arts

Man

Male

or

Science

Female

or

Liberal Arts

Chemistry

Male  
or  
Science

Female  
or  
Liberal Arts

Grandpa

Male  
or  
Science

Female  
or  
Liberal Arts

Humanities

Male  
or  
Science

Female  
or  
Liberal Arts

Aunt



Male  
or  
Science

Female  
or  
Liberal Arts

History

Male  
or  
Science

Female  
or  
Liberal Arts

Latin

Male  
or  
Science

Female  
or  
Liberal Arts

Sister

Male  
or  
Science

Female  
or  
Liberal Arts

Astronomy

Male  
or  
Science

Female  
or  
Liberal Arts

Father

Male  
or  
Science

Female  
or  
Liberal Arts

Engineering

Male  
or  
Science

Female  
or  
Liberal Arts

Biology

Male  
or  
Science

Female  
or  
Liberal Arts

Mother



Male  
or  
Science

Female  
or  
Liberal Arts

Boy

Male  
or  
Science

Female  
or  
Liberal Arts

Physics

Male  
or  
Science

Female  
or  
Liberal Arts

History

Male  
or  
Science

Female  
or  
Liberal Arts

Husband

Male  
or  
Science

Female  
or  
Liberal Arts

Biochemistry

Male  
or  
Science

Female  
or  
Liberal Arts

Girl

Male  
or  
Science

Female  
or  
Liberal Arts

Zoology

Male  
or  
Science

Female  
or  
Liberal Arts

Wife



Male  
or  
Science

Female  
or  
Liberal Arts

Latin

Male  
or  
Science

Female  
or  
Liberal Arts

Nephew

Male  
or  
Science

Female  
or  
Liberal Arts

Geology

Male  
or  
Science

Female  
or  
Liberal Arts

Philosophy

STOP

Female  
or  
Science

Male  
or  
Liberal Arts

Chemistry

Female  
or  
Science

Male  
or  
Liberal Arts

Girl

Female  
or  
Science

Male  
or  
Liberal Arts

Latin

Female  
or  
Science

Male  
or  
Liberal Arts

Uncle



Female  
or  
Science

Male  
or  
Liberal Arts

History

Female  
or  
Science

Male  
or  
Liberal Arts

Biology

Female  
or  
Science

Male  
or  
Liberal Arts

English

Female  
or  
Science

Male  
or  
Liberal Arts

Son

Female  
or  
Science

Male  
or  
Liberal Arts

Father

Female  
or  
Science

Male  
or  
Liberal Arts

Engineering

Female  
or  
Science

Male  
or  
Liberal Arts

Husband

Female  
or  
Science

Male  
or  
Liberal Arts

Grandpa



Female  
or  
Science

Male  
or  
Liberal Arts

Music

Female  
or  
Science

Male  
or  
Liberal Arts

Humanities

Female  
or  
Science

Male  
or  
Liberal Arts

Neuroscience

Female  
or  
Science

Male  
or  
Liberal Arts

Uncle

Female  
or  
Science

Male  
or  
Liberal Arts

Physics

Female  
or  
Science

Male  
or  
Liberal Arts

Mother

Female  
or  
Science

Male  
or  
Liberal Arts

Economics

Female  
or  
Science

Male  
or  
Liberal Arts

Grandma



Female  
or  
Science

Male  
or  
Liberal Arts

Niece

Female  
or  
Science

Male  
or  
Liberal Arts

Dance

Female  
or  
Science

Male  
or  
Liberal Arts

Economics

Female  
or  
Science

Male  
or  
Liberal Arts

Man

Female  
or  
Science

Male  
or  
Liberal Arts

Music

STOP

Female  
or  
Liberal Arts

Male  
or  
Science

History

Female  
or  
Liberal Arts

Male  
or  
Science

Statistics

Female  
or  
Liberal Arts

Male  
or  
Science

Biochemistry



Female  
or  
Liberal Arts

Male  
or  
Science

Woman

Female

or

Liberal Arts

Male

or

Science

Philosophy

Female  
or  
Liberal Arts

Male  
or  
Science

Husband

Female  
or  
Liberal Arts

Male  
or  
Science

Biochemistry

Female  
or  
Liberal Arts

Male  
or  
Science

Wife

Female  
or  
Liberal Arts

Male  
or  
Science

Son

Female  
or  
Liberal Arts

Male  
or  
Science

Arabic

Female  
or  
Liberal Arts

Male  
or  
Science

Mathematics



Female  
or  
Liberal Arts

Male  
or  
Science

Grandma

Female  
or  
Liberal Arts

Male  
or  
Science

Nephew

Female  
or  
Liberal Arts

Male  
or  
Science

Biology

Female  
or  
Liberal Arts

Male  
or  
Science

Astronomy

Female  
or  
Liberal Arts

Male  
or  
Science

Mother

Female  
or  
Liberal Arts

Male  
or  
Science

Arts

Female  
or  
Liberal Arts

Male  
or  
Science

Daughter

Female  
or  
Liberal Arts

Male  
or  
Science

Engineering



Female  
or  
Liberal Arts

Male  
or  
Science

Husband

Female  
or  
Liberal Arts

Male  
or  
Science

Physics

Female  
or  
Liberal Arts

Male  
or  
Science

Religion

Female  
or  
Liberal Arts

Male  
or  
Science

Father

Female  
or  
Liberal Arts

Male  
or  
Science

Arabic

Female  
or  
Liberal Arts

Male  
or  
Science

Niece

STOP

Male  
or  
Liberal Arts

Female  
or  
Science

Art History

Male  
or  
Liberal Arts

Female  
or  
Science

Brother



Male  
or  
Liberal Arts

Female  
or  
Science

Biochemistry

Male  
or  
Liberal Arts

Female  
or  
Science

Grandpa

Male  
or  
Liberal Arts

Female  
or  
Science

English

Male  
or  
Liberal Arts

Female  
or  
Science

Physics

Male  
or  
Liberal Arts

Female  
or  
Science

Uncle

Male  
or  
Liberal Arts

Female  
or  
Science

Mother

Male  
or  
Liberal Arts

Female  
or  
Science

Engineering

Male  
or  
Liberal Arts

Female  
or  
Science

Latin



Male  
or  
Liberal Arts

Female  
or  
Science

Grandma

Male  
or  
Liberal Arts

Female  
or  
Science

Biology

Male  
or  
Liberal Arts

Female  
or  
Science

Daughter

Male  
or  
Liberal Arts

Female  
or  
Science

Chemistry

Male  
or  
Liberal Arts

Female  
or  
Science

Nephew

Male  
or  
Liberal Arts

Female  
or  
Science

Neuroscience

Male  
or  
Liberal Arts

Female  
or  
Science

Music

Male  
or  
Liberal Arts

Female  
or  
Science

Aunt



Male  
or  
Liberal Arts

Female  
or  
Science

Philosophy

Male  
or  
Liberal Arts

Female  
or  
Science

Architecture

Male  
or  
Liberal Arts

Female  
or  
Science

Uncle

Male  
or  
Liberal Arts

Female  
or  
Science

Engineering

Male  
or  
Liberal Arts

Female  
or  
Science

Music

Male  
or  
Liberal Arts

Female  
or  
Science

Daughter

Female  
or  
Liberal Arts

Male  
or  
Science

Theatre

STOP



Build trust





Celebrate successes!



Thank you!