

# The State of Early Learning Standards for Mathematics in the Big Ten States:

## The Need for Consistent and Data-Based Expectations

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# First Steps...

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## Alignment Between Children’s Numeracy Performance, the Kindergarten Common Core State Standards for Mathematics, and State-Level Early Learning Standards

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## When do preschoolers learn specific mathematics skills? Mapping the development of early numeracy knowledge



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# Limitations of Existing Early Learning Standards

- Most states developed their own early learning standards as they developed state-funded PreK programs
- Development of standards was done in different ways, with different groups, and different goals
- In some states, there is an extreme overlap between PreK and K standards (e.g., NC has an overlap of 62% for Numeracy)

# Comparison of Standards Across Big 10 States

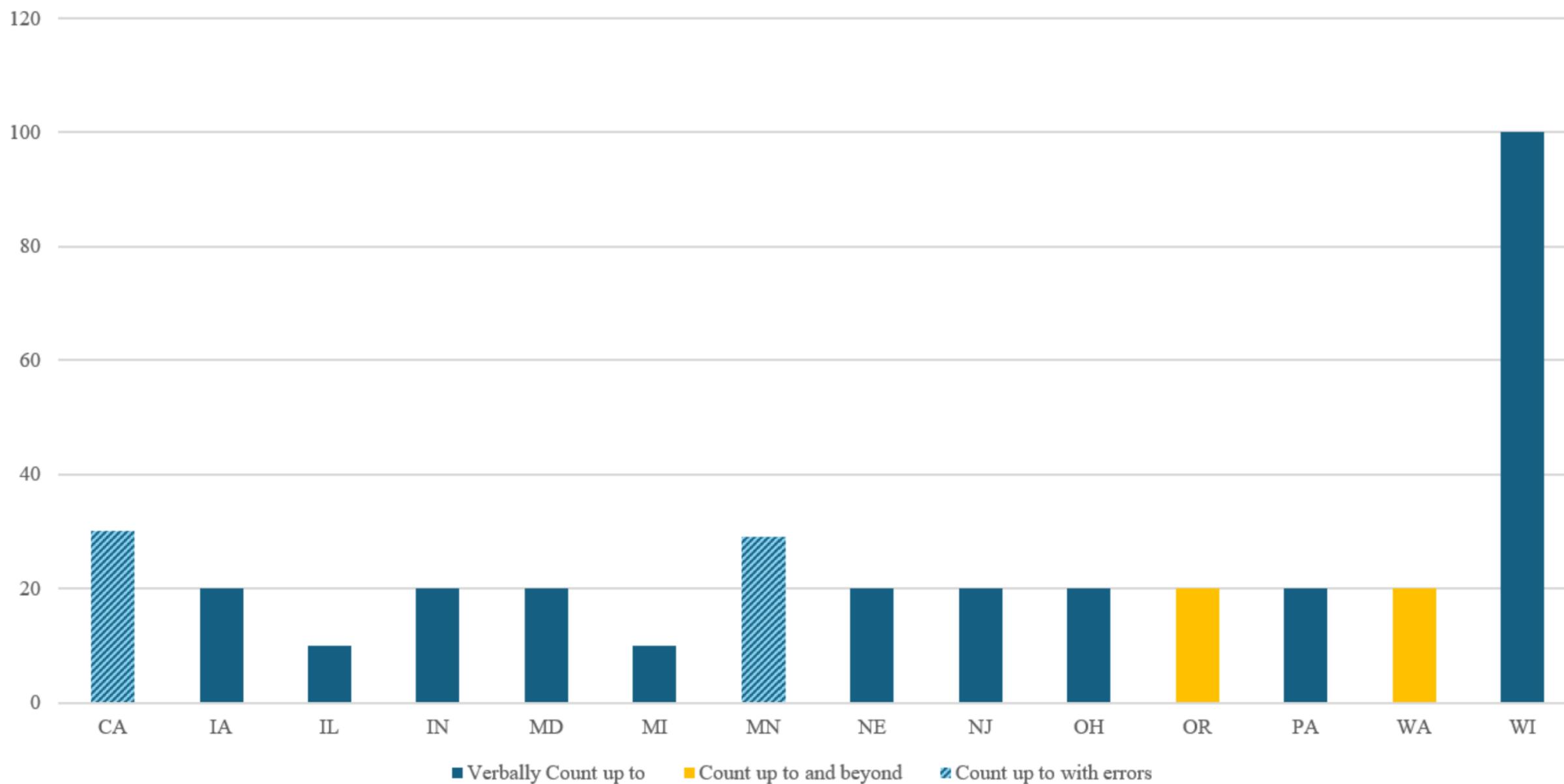
- Definitions of Age Range
- Level of Expectation
- Precision of Language
- Inclusion of Content

# Definitions of Age Range

- Varying age range
  - Illinois – 3 to 5 years old
  - Washington – 0 to 5 years old
- Varying age brackets
  - California – 3 to 4.5 and 4 to 5.5
  - Iowa – Preschool (3-5)
  - Minnesota – 3-4 years old, 4-5 years old

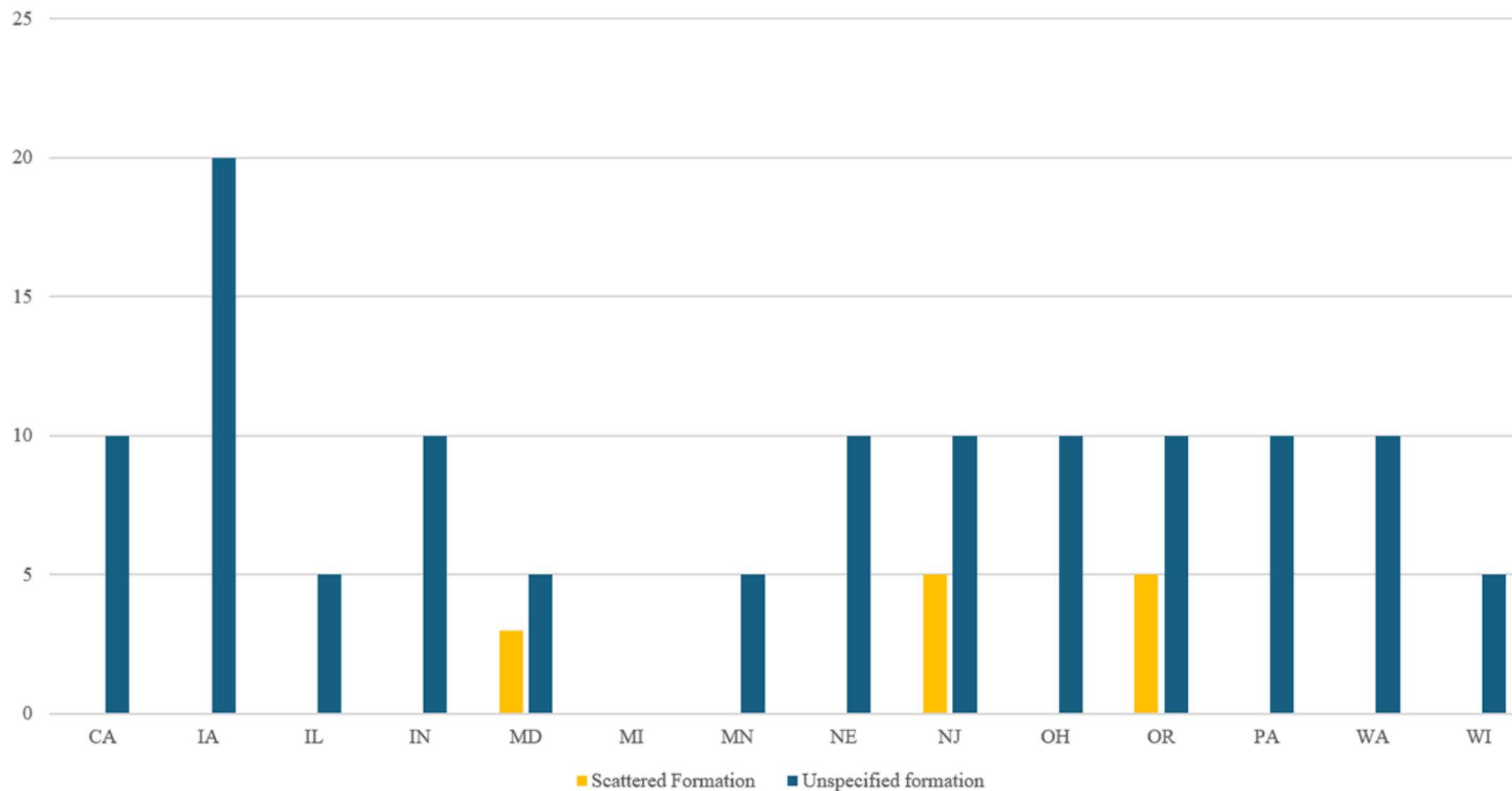
# Variation in Level of Standards

Figure 1. Standards for verbal counting across the 14 Big Ten states



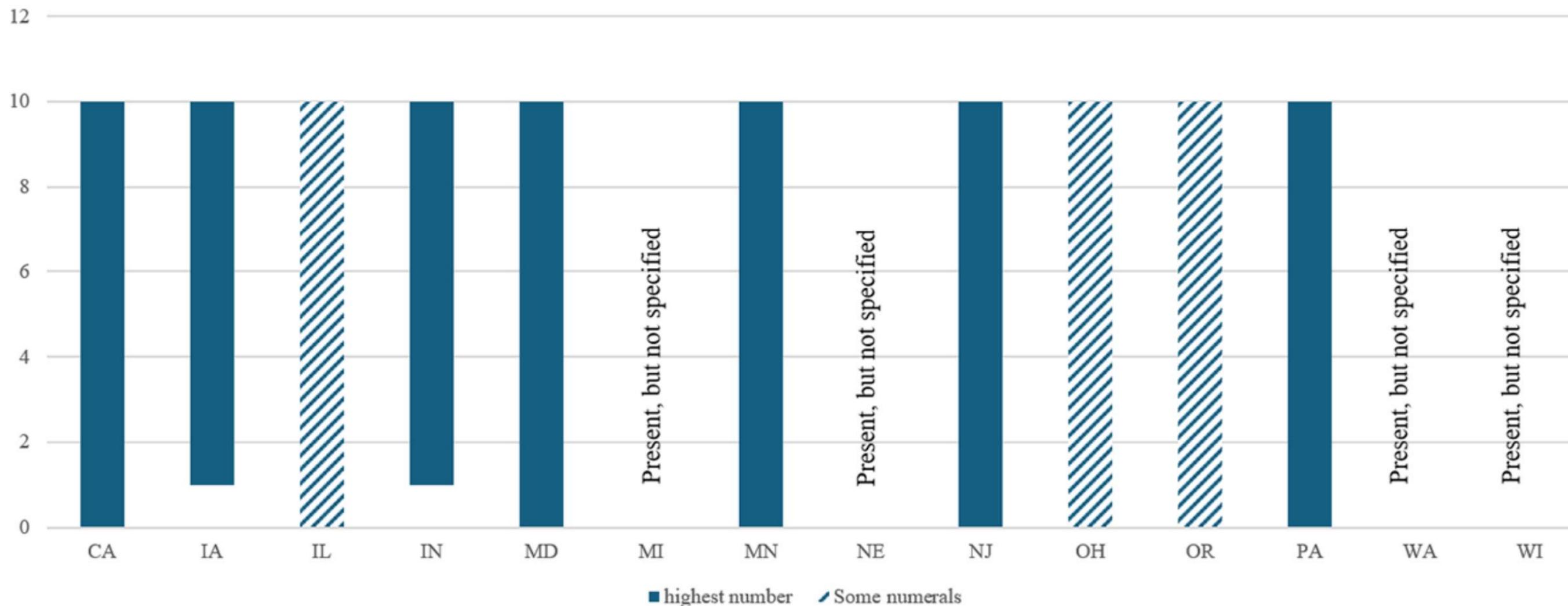
# Variation in Level of Standards

Figure 2. Counting objects standards across 14 Big Ten states



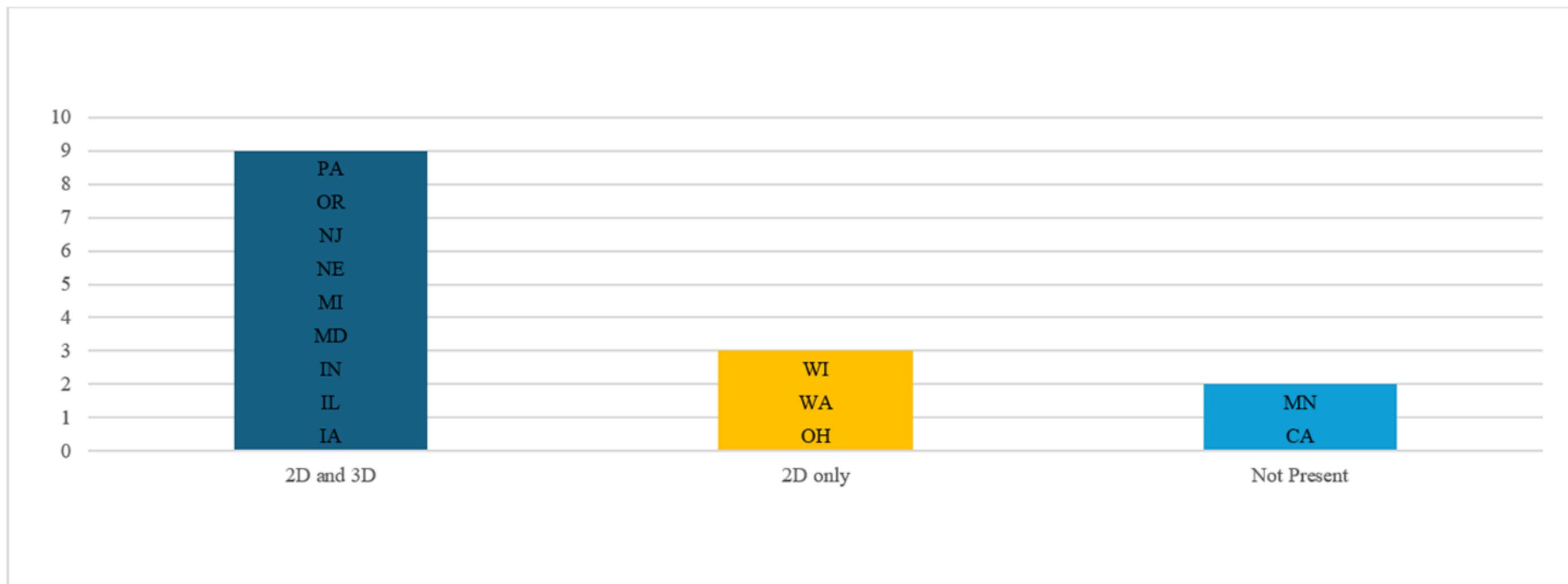
# Variation in Precision of Language

Figure 3. Standards for *naming numerals* across the 14 Big Ten states



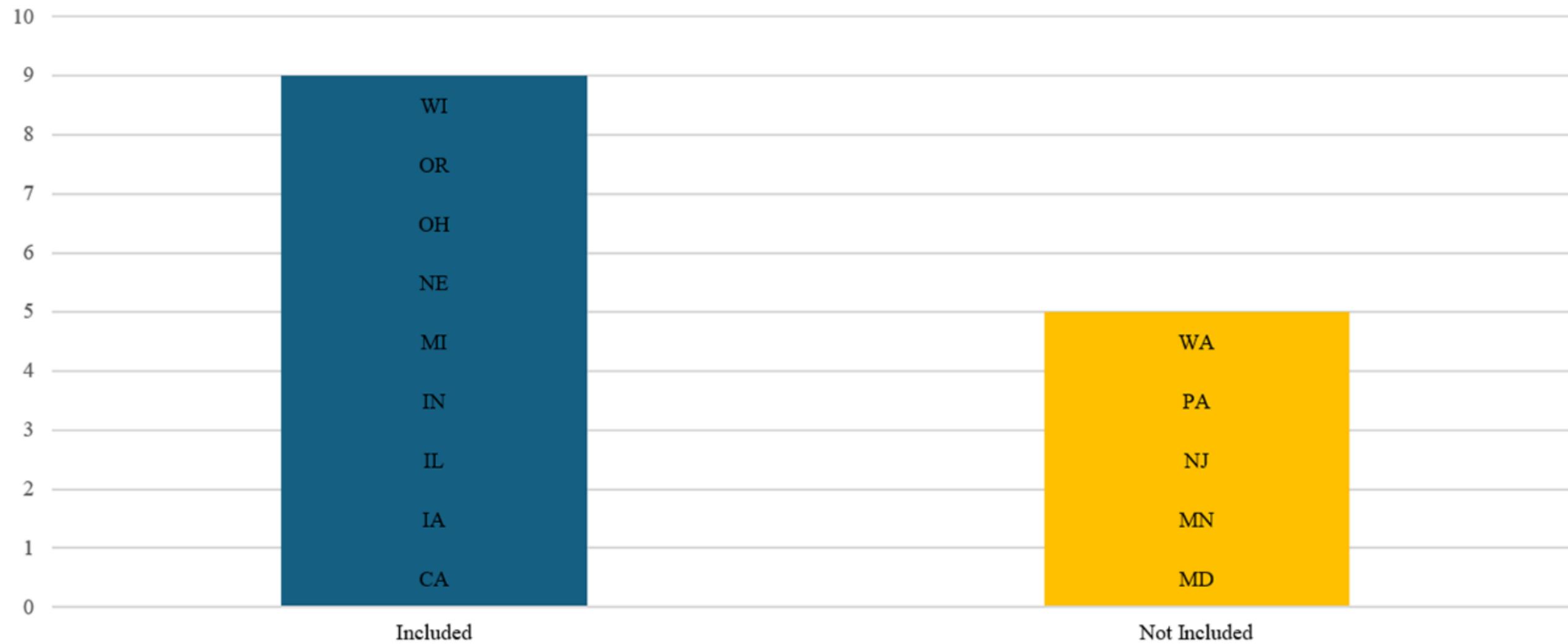
# Variation in Inclusion of Content

Figure 4. Standards for comparing and sorting shapes for the 14 Big Ten states



# Variation in Inclusion of Content

Figure 5. Standards for extending patterns across the 14 Big 10 states



# Inconsistency in the Inconsistency

Table 4. Consistency across standards for 14 Big Ten states

	Verbal Counting	Counting Objects	Naming Numerals	Compare/Sort Shapes	Extend Patterns	Total Consistency
California		X	X		X	3
Illinois				X	X	2
Indiana	X	X		X	X	4
Iowa	X			X	X	3
Maryland	X		X		X	3
Michigan				X	X	2
Minnesota			X			1
Nebraska	X	X		X	X	4
New Jersey	X	X	X	X		4
Ohio	X	X			X	3
Oregon		X		X	X	3
Pennsylvania	X	X	X	X		4
Washington		X				1
Wisconsin					X	1

# Key Takeaways

1. Early learning standards are intended to lay a foundation for school readiness and long-term success.
2. Each state organizes the ages/developmental stages they include in their early learning standards in different ways.
3. Early learning standards in mathematics vary substantially across Big Ten states in their *level of expectation, precision, and inclusion of content*.
4. There is limited work in the field that empirically identifies what mathematics skills children should acquire prior to kindergarten entry.
5. Collaborative work across states that brings together evidence-based decision making on setting early learning standards in math is needed.

# THANK YOU

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