EVERY OAKLAND CHILD READY FOR KINDERGARTEN
Today’s Professional Learning Community

1. What are the key skills that predict kindergarten readiness?
2. What programs and best-practices have a big impact on K-readiness?
3. How do we know if Oakland children are school ready?
Child Social-Emotional Development in Context
Skill Learning in Context

Oral Language & Literacy
Math
Science

Emotional Development
Social Interaction
Approaches to Learning
What are the consensus foundations of whole child development across state and federal standards?

- Oral Language and Literacy
- Cognition & General Knowledge (Math, Science, Social Studies)
- Social Emotional Development
- Approaches to Learning
- Creativity
- Technology
- Physical Development, Health & Safety
In early childhood, what domains and skills predict kindergarten readiness?

- Oral Language and Literacy
- Cognition & General Knowledge (Math, Science, Social Studies)
- Social Emotional Development
- Approaches to Learning
- Creativity
- Technology
- Physical Development, Health & Safety
Oral Language and Literacy: Definition

- The ability to listen, speak, read and write

- **Oral Language** is comprised of language comprehension (listen) and production (speak). Specific skills include:
  - Vocabulary
  - Conversation (questions)
  - Sentence Complexity (syntax)
  - Narrative/Exposition (fiction/fact)
  - Phonological awareness (rhyming, alliteration, blending, segmenting)

- **Literacy** is comprised of decoding (reading) and encoding (writing). Specific skills include:
  - Letter name identification
  - Letter sound correspondence
  - Concepts about print
  - Manual writing
# Oral Language and Literacy: Predictive Skills

## Oral Language:

<table>
<thead>
<tr>
<th>Skill</th>
<th>Predictor</th>
<th>Predicted Outcome</th>
</tr>
</thead>
</table>
| Vocabulary                 | Number of words (productive & receptive)      | Phonological Awareness  
Sentence complexity (syntax)  
Story/Expository comprehension  
Early reading proficiency  
Later reading comprehension  
Fewer problem behaviors |
| Conversation               | Amount of displaced (decontextualized) talk   | Vocabulary  
Early reading proficiency  
Abstract Reasoning |
| Sentence Complexity        | Correct word order  
Diversity in complexity               | Early reading proficiency |
| Narrative/Exposition       | Retell Comprehension                          | Vocabulary  
Early reading proficiency |
| Phonological Awareness     | Ability to rhyme  
Alliteration fluency                  | Alphabet knowledge  
Ability to segment words  
Spelling  
Early reading proficiency |
Oral Language and Literacy: Predictive Skills

- **Literacy:**

<table>
<thead>
<tr>
<th>Skill</th>
<th>Predictor</th>
<th>Predicted Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter Names</td>
<td>Letter name fluency*</td>
<td>Early reading proficiency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Early writing proficiency</td>
</tr>
<tr>
<td>Letter Sounds</td>
<td>Letter sound fluency*</td>
<td>Early reading proficiency</td>
</tr>
<tr>
<td>Concepts About Print</td>
<td>Book and text knowledge</td>
<td>Later reading comprehension</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spelling</td>
</tr>
<tr>
<td>Manual Writing</td>
<td>Ability to use a writing instrument</td>
<td>Fine Motor skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Later reading proficiency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Later math proficiency</td>
</tr>
</tbody>
</table>

*Fluency = Number of accurate responses in a set period of time*
Oral Language and Literacy: Effective Programs, Interventions & Best Practices

- What did we search for?
  - Programs, Interventions, Best Practices
  - 0-36 months and 3-5 years
  - Children, Parents, Caregivers, Practitioners

- How did we define ‘Effective’?
  - Rigorous evaluation design
  - Statistical significance
  - Size of difference between treatment and control (effect size)
    - Small (.01 to .30)
    - Medium (.31 to .79)
    - Large (over .80)
Oral Language and Literacy: Effective Programs, Interventions & Best Practices

- Programs & Interventions with LARGE Effects:
  - Exemplary Model of Early Reading Growth and Excellence (EMERGE)
  - Exceptional Coaching for Language and Literacy (EXCELL)
  - Literacy Environment Enrichment Program (LEEP)
  - Early Reading First
  - Words of Oral Reading and Language Development (WORLD)
  - Hear and Say Reading with Toddlers

- Best Practices with LARGE Effects:
  - Dialogic Reading
  - Interactive Book Reading
  - Alphabet Letter Instruction
  - Structured Language Input
  - Storybook Reading to Increase Print Awareness
  - Deictic Gesturing
Oral Language and Literacy: Effective Programs, Interventions & Best Practices

- Programs & Interventions with MEDIUM Effects:
  - Minnesota Reading Corps (based on SEEDS)
  - Parent Directed Language Intervention
  - DLM Early Childhood Express supplemented by Open Court Reading Pre-K
  - Play and Learning Strategies (PALS)
  - Literacy Express Preschool Curriculum (LEPC)
  - Sound Foundations
  - Parent-Child Home Program (PCHP)
  - Getting Ready
  - Learning Connections
  - Breakthrough to Literacy (BTL)
  - Bright Beginnings
  - Curiosity Corner
  - Let's Begin with Letter People
  - Ready, Set, Leap!
  - Waterford Early Reading Program
  - Reach Out and Read
  - Abecedarian Project
Oral Language and Literacy: Effective Programs, Interventions & Best Practices

- Best Practices with MEDIUM Effects:
  - Book Reading
  - Elaborative Reminiscing
  - Interactive Writing
  - Structured Language Input
  - Symbolic Gesturing
  - Parent Talk
  - Computer-Assisted Instruction Phonological Sensitivity
  - Video-based Dialogic Reading Training
  - Teacher Responsivity Education
Oral Language and Literacy: Effective Programs, Interventions & Best Practices

- Programs & Interventions with SMALL Effects:
  - Raising a Reader
  - Early Literacy and Learning Model
  - Project STAR (Sit Together and Read)
Oral Language and Literacy: “Active Ingredients”

- What activities have the biggest impact on child outcomes?
  - Active book reading and conversation (start early!)
  - Parent involvement (start early!)
  - Continuous assessments of child’s progress
  - Differentiated instruction
  - Small group instruction
  - Ongoing support for teachers for children’s specific skill development (coaching, PD)
Cognition & General Knowledge: Definition

- **Cognition & General Knowledge** is typically defined by three primary subdomains: Math, Science and Social Studies.

- **Math** is comprised of number sense, spatial cognition (geometry), patterns (algebra), and measurement. Specific skills include:
  - Cardinality
  - Ordinality (counting, one-to-one correspondence, number ID)
  - Relative set size
  - Operations
  - Shapes (composition and decomposition)
  - Mental rotation
  - Pattern recognition
  - Linear measure
### Cognition & General Knowledge: Predictive Skills

**Math:**

<table>
<thead>
<tr>
<th>Skill</th>
<th>Predictor</th>
<th>Predicted Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordinality (number)</td>
<td>Numeral recognition</td>
<td>Math proficiency Operations Math problem-solving K-science proficiency Early Reading skills</td>
</tr>
<tr>
<td></td>
<td>Count list fluency</td>
<td></td>
</tr>
<tr>
<td>Relative size (number)</td>
<td>Ability to visually discriminate</td>
<td>Math proficiency</td>
</tr>
<tr>
<td>Mental rotation (space)</td>
<td>Ability to rotate objects</td>
<td>Math proficiency</td>
</tr>
<tr>
<td>Shape (space)</td>
<td>Shape recognition</td>
<td>Math proficiency Early Reading skills Science proficiency</td>
</tr>
<tr>
<td>Patterns recognition (algebra)</td>
<td>Ability to identify patterns</td>
<td>Math proficiency Early Reading skills Science proficiency</td>
</tr>
</tbody>
</table>
Cognition & General Knowledge : Math
Effective Programs, Interventions & Best Practices

- Programs & Interventions with LARGE Effects:
  - Building Blocks

- Programs & Interventions with MEDIUM Effects:
  - Pre-K Mathematics

- Programs & Interventions with POSITIVE Effects:
  - MyTeachingPartner – Math & Science
  - Let’s Think! & Maths!
  - One-to-One Play
  - Linear Number Games
  - BedtimeMath*
Science is comprised of process skills related to the scientific method and content knowledge related to the natural sciences. Specific skills include:

- Observing
- *Asking questions
- *Generating hypotheses and predicting
- Experimentation or testing
- *Summarizing or analyzing data
- *Communicating results

- Critical thinking
- Logic and reasoning

- Earth Science (weather, environment, etc.)
- Space Science (planets, stars, etc.)
- Physical Science (gravity, velocity, etc.)
- Life Science (plants, animals, health, etc.)
- *Measurement and classification
**Cognition & General Knowledge: Predictive Skills**

**Science:**

<table>
<thead>
<tr>
<th>Skill</th>
<th>Predictor</th>
<th>Predicted Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific Method</td>
<td>Amount of exposure (earlier is better)</td>
<td>K-science Proficiency Achievement in formal science instruction</td>
</tr>
<tr>
<td></td>
<td>Size of scientific vocabulary (unique words)</td>
<td>K-science Proficiency Understanding of scientific concepts</td>
</tr>
<tr>
<td>Content Knowledge</td>
<td>Amount of knowledge</td>
<td>K-science Proficiency</td>
</tr>
</tbody>
</table>

![Venn Diagram](image-url)
Social-Emotional Development: Definition

- **Social-Emotional Development** is comprised of two subdomains, Emotional Development and Social Interaction.

- **Emotional Development** refers to children’s ability to regulate their emotions. Specific skills that enable emotion regulation include:
  - Emotion knowledge
  - Self-awareness
  - Self-confidence, independence & self-direction
  - Flexibility in changing environments
  - Perspective taking
  - Empathy

- **Social Interaction** refers to children’s development and maintenance of relationships with others. Specific skills that support positive social interactions include:
  - Awareness and respect for others
  - Following routines and rules
  - Concept of fairness
### Emotional Development:

<table>
<thead>
<tr>
<th>Skill</th>
<th>Predictor</th>
<th>Predicted Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotion knowledge</td>
<td>Understanding of self and other emotions</td>
<td>Later academic achievement</td>
</tr>
<tr>
<td>Emotion regulation</td>
<td>Ability to “appropriately” regulate emotions</td>
<td>Later academic achievement</td>
</tr>
</tbody>
</table>
# Social Emotional Development: Predictive Skills

## Social Interaction:

<table>
<thead>
<tr>
<th>Skill</th>
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<th>Predicted Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop &amp; maintain relationships with others</td>
<td>Ability to maintain positive relationships with peers</td>
<td>Math proficiency, Early Reading skills</td>
</tr>
<tr>
<td>Teacher-child relationship quality</td>
<td>Math proficiency, Early Reading skills</td>
<td></td>
</tr>
<tr>
<td>Parent-child relationship quality</td>
<td>Math proficiency, Early Reading skills</td>
<td>Approaches to Learning Positive classroom behaviors</td>
</tr>
</tbody>
</table>
Social-Emotional Development:
Effective Programs, Interventions & Best Practices

- Programs & Interventions with MEDIUM Effects:
  - Recognizing, Understanding, Labeling, Expressing and Regulating Emotions (RULER)
  - Positive Parenting Program (TripleP)
  - Incredible Years

- Best Practices with POSITIVE Effects:
  - Create a secure and predictable environment
  - Build positive teacher-child relationships
  - Promote positive social interactions (environmental strategies)
  - Help children manage their behavior
  - Individualize approaches to problem behavior
Approaches to Learning: Definition

- **Approaches to Learning** is comprised of the skills and behaviors children use to engage in learning, and is strongly tied to Social-Emotional Development. Specific skills and behaviors include:
  - Persistence
  - Attention
  - Motivation
  - Curiosity
  - Learning mindsets (incremental vs. entity)
  - Structured learning (goal setting, planning, organizing)
# Approaches to Learning: Predictive Skills

## Approaches to Learning:

<table>
<thead>
<tr>
<th>Skill</th>
<th>Predictor</th>
<th>Predicted Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence</td>
<td>Ability to stay on task/topic</td>
<td>Later academic success (math, science, reading)</td>
</tr>
<tr>
<td>Attention</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Approaches to Learning: Effective Programs, Interventions & Best Practices

- Welcome to the cutting edge!
“Active Ingredients” that have the biggest impact on child outcomes

- Start Early!!
- Active book reading and conversation
- Parent involvement
- Small group instruction
- Ongoing teacher support for children’s specific skill development (coaching, PD)
- Continuous quality assessments of child’s progress
Shared Definitions of Assessment

- Summative
- Formative
- Progress monitoring
- General Outcome Measure (GOM)
- Mastery Monitoring
- Benchmarking
- Valid
- Reliable
  - Test-retest
  - Inter-rater
- Authentic
- Inauthentic
- Observational
- Direct
- Subjective
- Objective
Reflecting on Our Role in the Development of Oakland Children’s K-Readiness

- How do we know if children are gaining these critical skills over time?
- How do we use existing assessments/data to evaluate growth?
- What do we want from a Kindergarten readiness assessment?
Closing

1. As a City, where are we: Red/Yellow/Green?

2. Stay Tuned for:
   - Family Interviews
   - Parent, Family Child Engagement Tool
   - More on Assessments
   - K-2 Literature Review

3. Evaluation and Closing Thoughts