

# Measuring Student Progress on Goals in Public Schools: Results from Two Large Intervention Projects

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# Goals of the presentation

- Describe the Goal Attainment Scaling (GAS) process & how it was used as a measure in a large scale study
- Describe the quality of the IEP goals at baseline for adolescents with ASD in 60 high schools
- Review the results for the GAS measure in the study
- Discuss implications of the results for supervisors and consultants working in the schools



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## Goal Attainment Scaling in a Large Scale RCT for High School Students with ASD

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**Center funded by IES awarded to**

**Kara Hume & Sam Odom**

**University of North Carolina, Chapel Hill**

**CRCT (Intervention & Services As Usual) across**

**3 sites – NC, WI, CA,**

**20 schools each -60 total- in**

**2 cohorts of 10 for 2 years**

**with up to 12 students in each school**

**or 546 students with ASD across the spectrum**

**For more than 4 decades, educators have struggled with the limitations of traditional assessment methods for monitoring the quality and impact of educational programs of children with disabilities.**

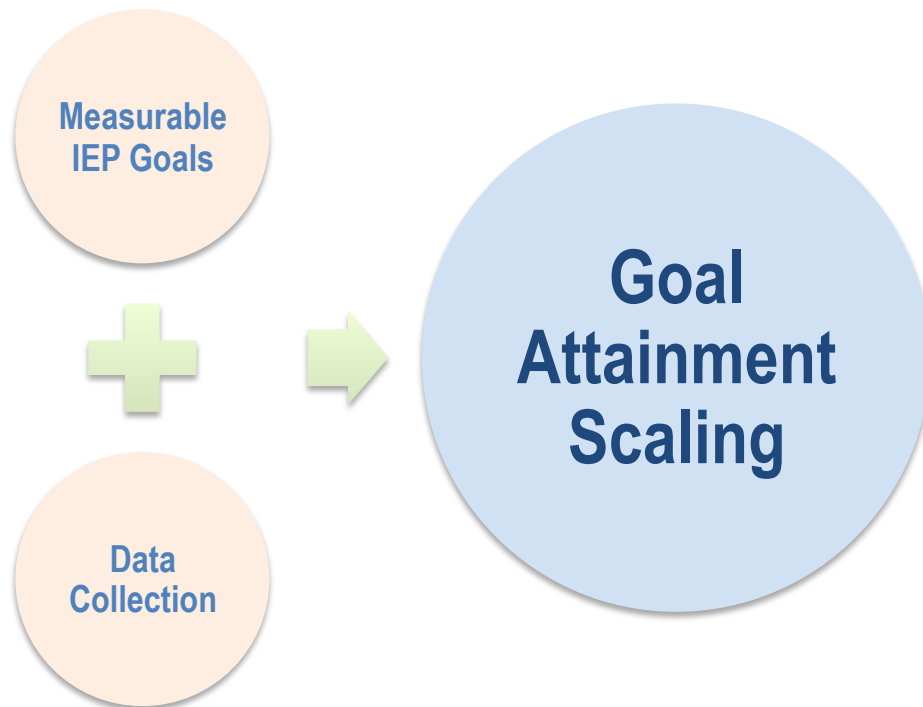
**“Alternative measurement approaches are necessary and crucial for monitoring progress and measuring outcomes of essential skills for students in special education, such as those with autism.”** (Ruble et al. 2012)



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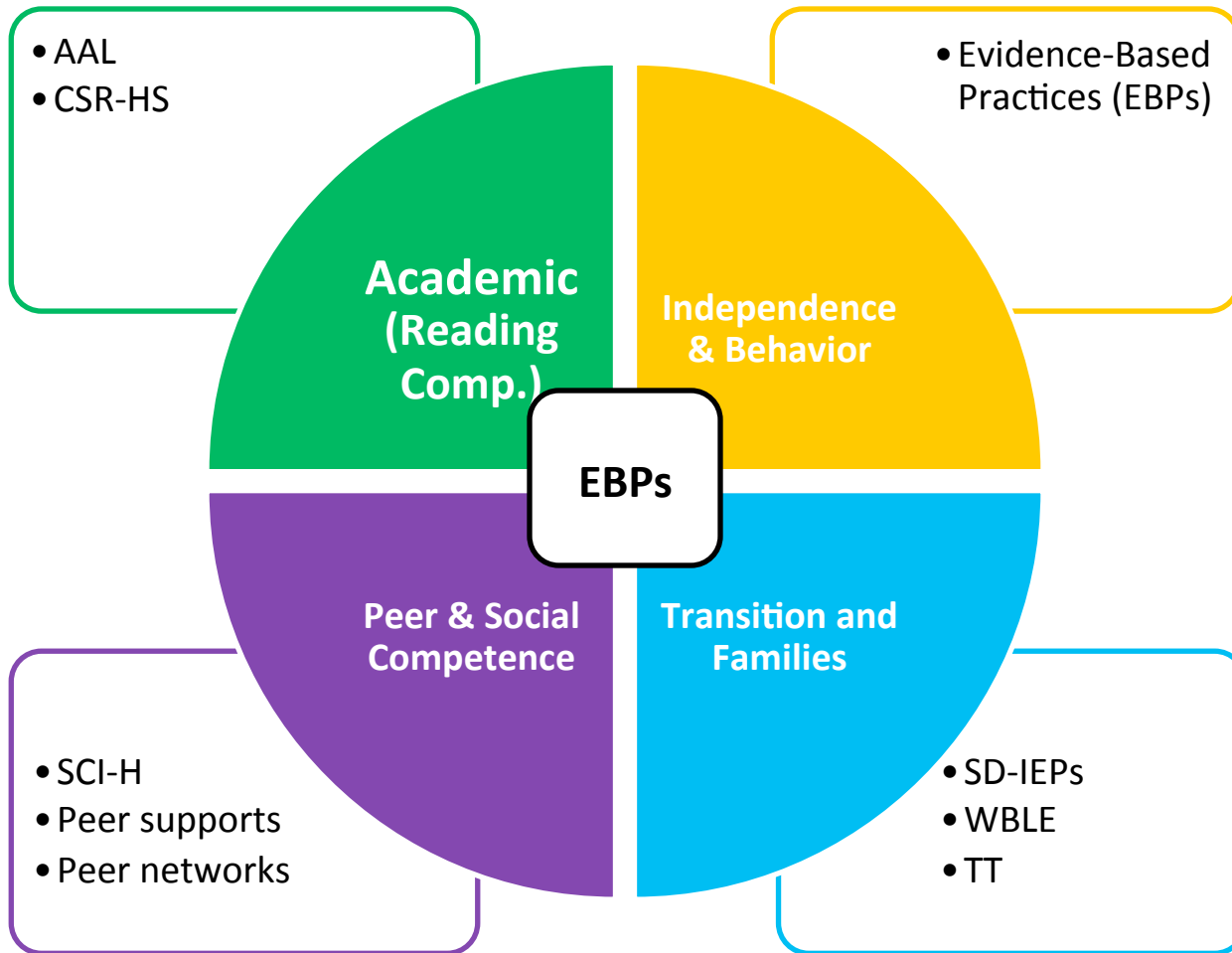
# **GOAL ATTAINMENT SCALING (GAS) CAN BE USED TO MEASURE MULTIPLE IEP GOALS**



# What is Goal Attainment Scaling?

- a method for measuring amount of progress made on a goal, objective, or benchmark
- compatible with measurable IEP goals
- allows progress to be easily summarized across multiple goals, domains, or students
- supports intervention design and implementation
- **used in conjunction with objective measurement and data collection procedures**

# CSESA 9 Interventions







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## Goal Attainment Scaling Process

**CSESA** – 4 annual goals – 1 for each of the  
component areas – evaluated over one year  
Taken from the IEP if possible, and prioritized with  
the SSSC (Secondary School Success Checklist)

**SAU** – 4 annual goals evaluated over one year  
taken from the IEP if in any of the 4 component  
areas

Well written, measurable **IEP Goals** include the following components:

◆ **ONE TARGET or GOAL**

◆ **ANTECEDENT CONDITIONS**

- ◆ **Specific circumstances, events, or instruction that will affect performance of the target behavior.**

◆ **OBSERVABLE/MEASURABLE BEHAVIOR**

- ◆ **A target behavior that is defined in specific, observable terms.**

◆ **MASTERY CRITERIA**

- ◆ **How well the student must perform defined in a numerical expression.**

# GAS: SCALING A GOAL

<b>0</b>	PRESENT LEVEL OF PERFORMANCE (BASELINE)	<b>1) Start with present level of performance</b>
<b>1</b>	INITIAL OBJECTIVE	<b>3) Identify benchmarks</b>
<b>2</b>	SECONDARY OBJECTIVE	
<b>3</b>	ANNUAL GOAL	<b>2) Create annual goal</b>
<b>4</b>	EXCEEDS ANNUAL GOAL	<b>4) Provide a measure that exceeds the goal</b>

## GAS: SCALING JOSE'S GOAL

<b>0</b>	<b>PRESENT LEVEL OF PERFORMANCE (BASELINE)</b>	Jose does not initiate conversations with peers
<b>1</b>	<b>INITIAL OBJECTIVE</b>	Jose will initiate 1 conversation with peers by using a full sentence to ask a question or make a comment each school day for 4 out of 5 school days
<b>2</b>	<b>SECONDARY OBJECTIVE</b>	Jose will initiate 2 conversations with peers by using a full sentence to ask a question or make a comment each school day for 4 out of 5 school days
<b>3</b>	<b>ANNUAL GOAL</b>	Jose will initiate 3 conversations with peers by using a full sentence to ask a question or make a comment each school day for 4 out of 5 school days
<b>4</b>	<b>EXCEEDS ANNUAL GOAL</b>	Jose will initiate 4 conversations with peers by using a full sentence to ask a question or make a comment each school day for 4 out of 5 school days



# GAS SCALING EXAMPLES

<b>Dimension Examples</b>	<b>Skill frequency</b>	<b>Prompting form</b>	<b>Context</b>	<b>Person</b>
<b>0</b>	Performs skill 0 out of 10 opportunities	Requires full physical prompts	Infrequently performs skill at home	Does not display skill with anyone at school
<b>1</b>	Performs skill 2 out of 10 opportunities	Requires partial physical prompts	In SDC classroom	Performs skill in 1:1 counseling sessions
<b>2</b>	Performs skill 4 out of 10 opportunities	Requires gesture prompts	In general education math class	Performs skill with peers in small group
<b>3</b>	Performs skill 6 out of 10 opportunities	Requires gesture and visual prompts	In general education science class	Performs skill with familiar peers in natural settings
<b>4</b>	Performs skill 8 out of 10 opportunities	Independent with visual prompts	In general education language arts class	Performs skill with unfamiliar peers in natural settings

# Goals created for CSESA

303 X 4 Goals for Individuals with ASD in **CSESA** schools = **(1,212)**

244 X 4 Goals for Individuals with ASD in Services as Usual (**SAU**) schools = **(976)**



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# Inter-rater agreement

Teacher report along with data on the goals were used to rate the progress. Each site (NC, WI, CA) was asked to confirm these ratings with observation for the following percentage of goals:

Baseline – 10%

Mid-point – 20%

End-point – 20%

The Agreement across Goals observed for the overall project was

**79% (87/110)**



# Quality of GAS Goals at Baseline Overall

	Goal Based on Current IEP Goal	Single Target Selected	Antecedent Condition Clear	Target skill/behavior observable and measurable	Mastery Criteria Clear
<b>TOTAL</b>	<b>61%</b> <b>860/1410)</b>	<b>75%</b> <b>632/847</b>	<b>62%</b> <b>527/847</b>	<b>70%</b> <b>594/849</b>	<b>71%</b> <b>604/849</b>



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# Quality of GAS Goals at Baseline by Component

	Goal Based on Current IEP Goal	Single Target Selected	Antecedent Condition Clear	Target skill/ Behavior observable & Measure-able	Mastery Criteria Clear
Academic	80%	81%	74%	82%	82%
Ind/ Behav	58%	75%	56%	66%	66%
Transition	51%	76%	69%	72%	72%
Social	61%	67%	56%	63%	65%

# **% of Goals Needing Coaching**

**83%** (1153/1395) –

***17 minutes*** on average for  
**coaching**

**Range 1 to 70 minutes**

# Results from CSESA

	CSESA	SAU
<b>N</b>	252	192
<b>M (SD)</b>	<b>2.43**</b>	2.21

**CSESA Endpoint Data is significantly higher than SAU schools**

**Total=  $F(1, 387) = 5.85, p = .0161$**

# Endpoint Scores for CSESA and SAU schools by Component

	CSESA		SAU	
	N	M (SD)	N	M(SD)
Academic	104	2.53	93	2.21
Independ /Behavior	193	2.40	131	2.33
<b>Social</b>	148	<b>2.49**</b>	108	2.24
Transition	197	2.29	95	2.14

**Social** = F (1, 211) = 7.60,  $p = .0063$

# Intervention effects for High Severity Profile (**LPA**) n=62

	coeff	se	Chi-sq	P-value
Ind/Behav	.714	.243	8.654	<b>.003</b>
Transition	.852	.375	5.148	<b>.022</b>



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# Percentage of Teachers who had Data

	CSESA	SAU
Baseline	14.3	11.1
Endpoint	24.6	16.4

**CSESA Endpoint Data is significantly higher than SAU Endpoint data controlling for baseline scores,  $F(1, 381) = 8.88$   $p < .003$**



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- **GAS did provide a measure of differences between intervention and comparison groups in a large scale study**
- **Teachers need coaching to write high quality IEP goals (83% of goals required coaching)**
- **The lowest quality IEP goals were for the social component**
- **The fewest number of GAS goals taken from IEP goals were for the Transition component**
- **Teachers need assistance with designing data collection systems, & to use data for progress monitoring purposes**





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***THANK YOU!***

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