

**18<sup>th</sup> Annual Research & Training Conference on Children's Mental Health** March 6-9, 2005 Tampa, Florida

The Research and Training Center for Children's Mental Health - University of South Florida - Louis de la Parte Florida Mental Health Institute - Tampa, Florida

## The Role of Fidelity and Dosage in the Implementation of Evidence-Based Strategies in a Special Education Setting

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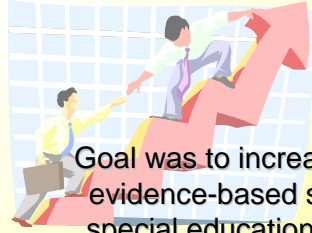
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## Project Goal

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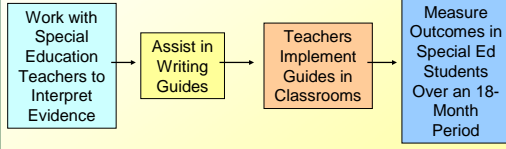
Goal was to increase the use of evidence-based strategies by special education teachers by using a collaborative approach.

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## Project Overview

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Work with Special Education Teachers to Interpret Evidence

Assist in Writing Guides

Teachers Implement Guides in Classrooms

Measure Outcomes in Special Ed Students Over an 18-Month Period

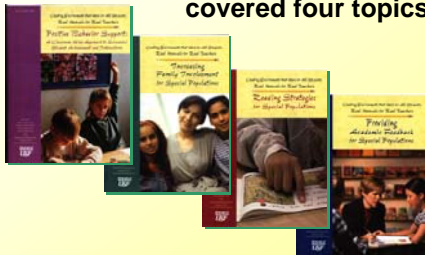
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## Effective Strategies Guides

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### Effective Strategies Guides (ESGs) covered four topics

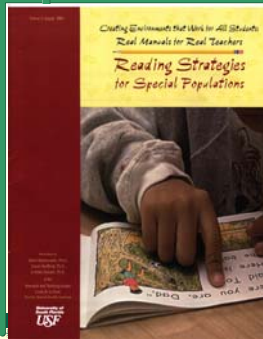


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## Reading Strategies

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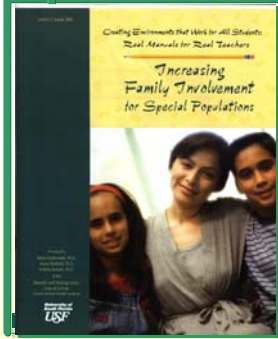
- Present levels of functioning
- Systematizing information – formative/summative assessments
- Accommodations/modifications
- **CR**ISS (**C**reating **I**ndependence through **S**tudent-owned **S**trategies)

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## Parent Involvement

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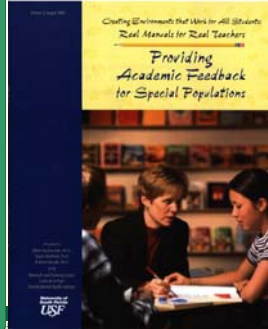
- Involving parents, families, caregivers as equal decision makers in the education of their children
- Direct involvement with learning process
- Volunteer activities in school or at home

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## Formative Assessment

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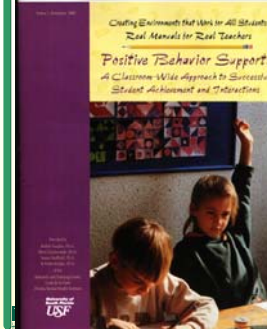


- Providing Academic Feedback
- Information provided to students, parents, and teachers about progress toward academic and behavioral goals
- Formal & informal
- Charts, graphs, checklists, portfolios

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## Positive Behavior Support

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- A proactive approach to address challenging behavior in the classroom, in the school, at home, and in the community
- Seeks to prevent challenging behaviors by implementing positive behavior supports

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## The Schools Involved

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- Middle school   
1249 students grades 6 to 8
- High School   
1400 students grades 9 to 12

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## Participants

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- Parents of Students in special education
- Administrators (Assistant Principals)
- Special Education teachers of students who have:
  - Emotional Disturbance (ED),
  - Educable Mentally Handicapped (EMH)
  - Specific Learning Disability (SLD) who spent 50% or more of their day in special education classes.

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## Participants

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- 87 Students Participated in Outcome Investigation
  - 57 SLD (65.5%)
  - 13 ED (15.0%)
  - 17 EMH (19.5%)
  - 64.4% Male, 66.7% White, 14.6 Average Age
- 14 Teachers Participated in Implementing Guides
  - 9 Middle School - 5 High School

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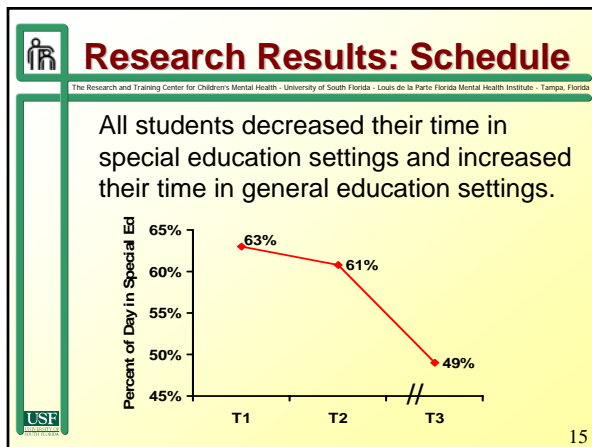
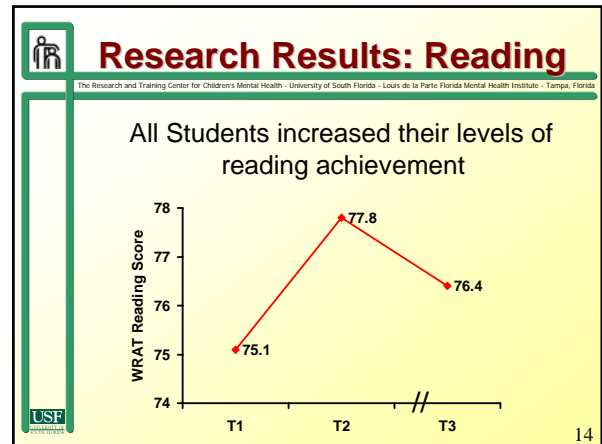
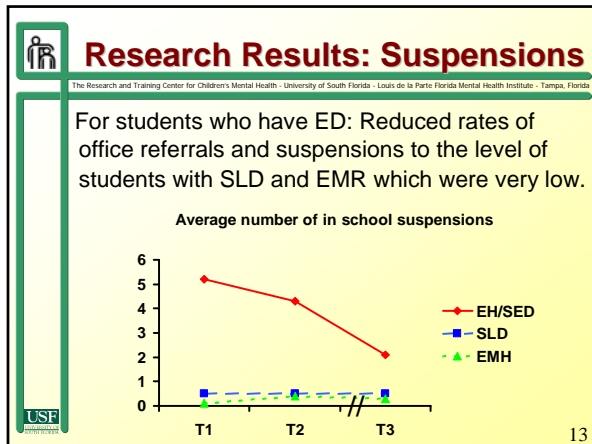
## Research Results

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Five outcome areas captured over 1½ school years for 87 students

- 1) Attendance
- 2) Discipline Referrals (office referrals, in-school and out of school referrals)
- 3) Academic Achievement – Reading
- 4) Academic Achievement – Math
- 5) Time in general education – level of inclusion

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### Research Results

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For all students, no significant change in math achievement or attendance.

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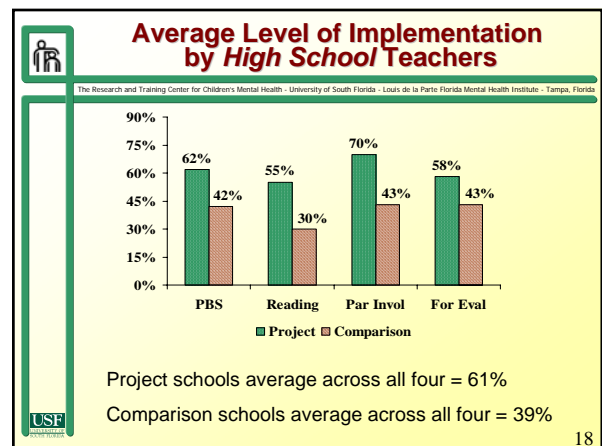
### Fidelity Measure

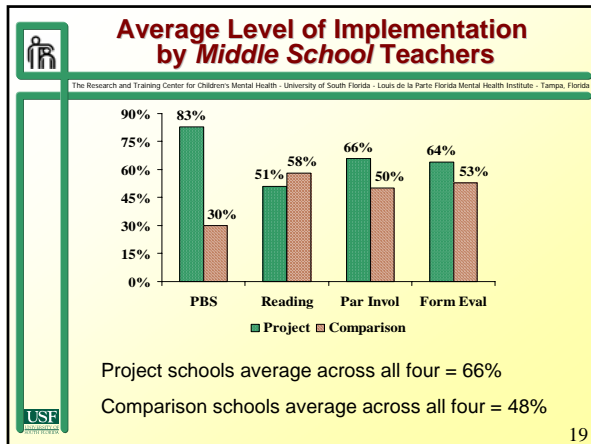
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Developed an observational checklist to measure level of implementation (fidelity) of the four guides.

- Determined behaviors that were critical in each manual
- Conducted validity and reliability studies
- Resulting fidelity checklist for each area could range in score from 0 (no strategies used), to 10 (all strategies used)

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### Dosage

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For each participating student, we calculated:

$$\frac{\text{Amount of contact with each teacher} \times \text{Fidelity Score of each teacher using manuals}}{(\% \text{ of day with Teacher A}) \times (\text{Teacher A's Total Fidelity Score})}$$

Can range from 0 to 40

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### Dosage Formula

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For each student:

$$\begin{aligned} & (\% \text{ of day with Teacher A}) \times (\text{Teacher A TFS}) \\ & + \\ & (\% \text{ of day with Teacher B}) \times (\text{Teacher B TFS}) \\ & + \\ & (\% \text{ of day with Teacher C}) \times (\text{Teacher C TFS}) \\ & = \\ & \text{Dosage Score} \end{aligned}$$

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### Dosage

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Individual teachers ranged from 13.0 to 33.0 on their Total Fidelity Score (possible 40;  $\underline{M}$ =24.4)

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### Dosage

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Students spent between 0% and 28% of their day with an individual teacher in the study

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### Exposure Example

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Students spent between 0% and 75% of their day with the teachers in the study ( $\underline{M}$ =42%)

This student spends 42% of his day with teachers in the study

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## Results of Correlations of Outcomes with Dosage

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### Higher dosage scores related to:

Improved math scores for students in the EMH and ED categories (EMH,  $r=.455$ ; ED,  $r=.394$ )

Fewer absences for students in the EMH category ( $r=.439$ )

Fewer absences for all students at the high school ( $r=.349$ )

Fewer discipline referrals for all students at the high school ( $r=.237$ )



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## Conclusions

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- Fidelity and Dosage – Critical for understanding the results of the intervention
- Measuring dosage is time consuming and a challenge



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