



Environmental & Teaching modifications
to help develop executive skills

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PROGRAM

The 4 R' s
Reading, Writing, Arithmetic & Reasoning

CHILDREN NEED TO
BE EXERCISED IN MENTAL ORTHOPEDICS;
IN A WORD THEY MUST LEARN HOW TO LEARN.

—
ALFRED BINET(1916)

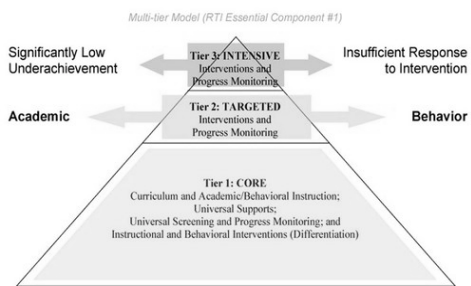
2 Do' s and a Don' t

1. Do - Environmental modifications to reduce the impact of weak executive skills
2. Do- Teaching strategies/routines to help develop and improve executive functioning
3. Don' t – Disproven and Unproven strategies

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Environmental Modifications and RTI



Classroom Environment Whole-Class (Tier 1) Interventions

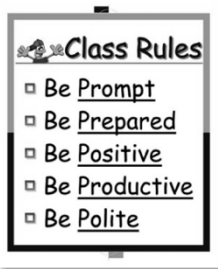
- These strategies can help all students develop executive skills:
 - Establish **classroom routines** for writing down assignments, for collecting homework, and so on.
 - Make **classroom rules**, post them prominently, review them frequently, and role-play how to follow the rules.
 - Establish systems in which students and parents can **monitor** student progress.
 - **Teach organizational skills**, such as how to keep notebooks organized.
 - **Teach study skills** as how to plan homework sessions and screen out distractions.

Classroom Routines



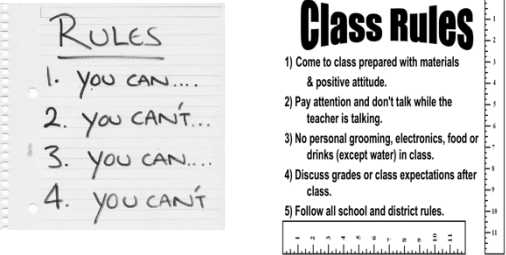
The image shows three examples of classroom routine charts. The first is titled 'Good Morning!' and lists steps like 'Get Backpack', 'Line Up', 'Elder', and 'Name'. The second is titled 'Who is here today?' and features a grid for student names. The third is titled 'Job Chart' and shows various classroom jobs with corresponding icons.

Classroom Rules – good rules



The image shows a sign titled 'Class Rules' with a list of five rules: Be Prompt, Be Prepared, Be Positive, Be Productive, and Be Polite. Each rule is preceded by a small square icon.

Classroom Rules – bad rules



The image shows two examples of bad rules. On the left is a handwritten note on lined paper titled 'RULES' with four items: '1. you CAN....', '2. you CAN'T...', '3. you CAN....', and '4. you CAN'T'. On the right is a printed sign titled 'Class Rules' with five numbered items: '1) Come to class prepared with materials & positive attitude.', '2) Pay attention and don't talk while the teacher is talking.', '3) No personal grooming, electronics, food or drinks (except water) in class.', '4) Discuss grades or class expectations after class.', and '5) Follow all school and district rules.'

**Classroom Environment
Tier 2 Interventions**

- **Teach organizational skills** - *Develop strategies for remembering*, and organize their notebooks.
- **Monitor** Provide *weekly* progress reports to parents.
- **Incentivize**- Ask parents to develop an at-home *incentive system* tied to daily or weekly progress reports.

Organization - Strategies for Remembering

Track and Pack Example

Math

- Write down homework for today in your planner!
- Pack up math books for homework into your backpack

Writing

- Write down homework for today in your planner!
- Pack up writing books for homework into your backpack

Science

- Write down homework for today in your planner!
- Pack up science books for homework into your backpack

Language Arts

- Write down homework for today in your planner!
- Pack up language arts books for homework into your backpack

Spanish

- Write down homework for today in your planner!
- Pack up Spanish books for homework into your backpack

Monitoring Progress




Figure 1.13 Example Chart Mosaic

Monitoring Progress

Table 7.4 Cuing Systems Information

Name	Description	Ordering Web Site	Approximate Price
Audio reinforcement reminder tones	Tapes or CD Tones can be set to play at random, variable intervals averaging 1, 2, 3, 5, 7, 10, or 15 minutes.	Pyramid Education Products pyramidproducts.com	\$19
MotivAider	Vibration signal can be set to cue at set or random intervals.	www.habitchange.com	\$50 (includes a teacher appreciation discount)
Get 'Em on Task Software: A computer signaling program to teach attending and self-management skills.	CD tone signal system. Instructors can determine length of break with cue (random cues), how long the program will run, and how the cues will sound.	Sopris West www.sopriswest.com	\$48

How to stay on task

Figure 7.13 Steps for Staying on Task

Tier 3 Interventions

- **Teach** - Identify and implement **specific environmental modifications**, such as establishing a specific, distraction-free place and time to do homework every day.
- **Monitor** - Have a teacher, parent, or coach **check in with the student daily**.
- **Monitor** - Give the student a **visual reminder of expectations**.
- **Generalize** - Monitor the **student's independent use of the skill over time**.

Visual reminder of expectations

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Strategies to Improve Executive Functioning

- Self-monitoring strategies– ready to learn?
- Working Memory Strategies – improve the effectiveness of learning
- Planning Strategies – improve the efficiency of learning

Self Monitoring Strategies



Study: 'SpongeBob' dims preschoolers' brainpower -San Francisco Chronicle -

o Richard Sennott / AP Albert Martinez and Roy Trejo, holding a SpongeBob balloon, prepare their souvenir shop for the Minnesota State Fair last month. The popular cartoon character is intended for kids 6 to 11. Watching just a short bit of the wildly ...

Study: SpongeBob Square Pants makes kids stupid? - Houston Chronicle

o A small, experimental study published by The American Academy of Pediatrics may have parents rethinking what their kids spend their time watching. For the study, 60 4-year-old kids watched either a fast-paced cartoon like SpongeBob Square Pants

The Immediate Impact of Different Types of Television on Young Children's Executive Function

TABLE 1 Study Factors According to Intervention Experience

Characteristic	Fast-Paced Television	Educational Television	Drawing
Mean (SD) age, y	55.10 (3.61)	54.84 (3.72)	53.95 (3.68)
Boys, n (of 26)	12	10	10
Attention baseline, mean (SD)*	1.83 (2.31)	2.16 (1.57)	2.90 (1.75)
Television time, mean (SD), min/wk	338 (86.73)	278 (86.73)	381 (86.73)
Tower of Hanoi, mean (SD)	0.15 (0.37)	0.35 (0.40)	0.79 (0.47)
HTKS, mean (SD)	10.70 (13.26)	33.20 (28.62)	30.58 (17.71)
Delay of gratification, mean (SD)	140.15 (151.25)	257.20 (132.10)	242.90 (142.10)
Backward digit span, mean (SD)	3.85 (2.58)	4.21 (3.10)	3.20 (4.11)

*Assessed by using a scale of 1 to 10 (10 indicates more attention problems).

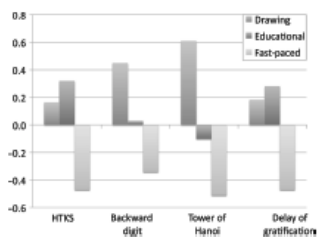
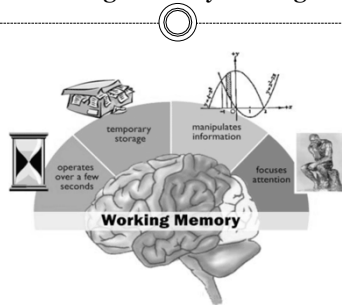


FIGURE 1 z scores for each task.

Working Memory Strategies

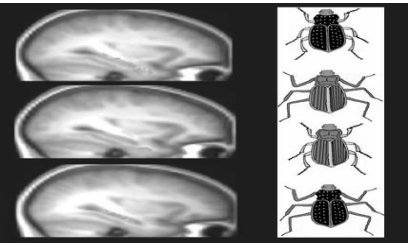


Working Memory Strategies

- Prime the Memory Prior to Teaching/Learning
- Help Students Develop Cues When Storing Information
- Teach Students to Use Visual Images
- Teach Students to Over-learn Material

Working Memory – Priming Example

The role of medial temporal lobe regions in human memory and perception




Working Memory – developing cues

- Semantic Cues
- Frontal Lobe


(F) (r)
First and second letter cues

- Visual Cues

Occipital Lobe



Planning Strategies



Freeze Play

Recess Planning

Planning toys and games – nonverbal sequences

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Disproven Strategies

- Using remediation in place of accommodation
- Using punishment
- Kindergarten retention

Kindergarten Retention



- **5%** of U.S. kindergartners are held back each year (National Center for Education Statistics [NCES], 2000) – one student for every K class in California
- The majority of published studies do not support retention
- An extra year's placement, according to findings of Ferguson and Streib (1996), **does not improve achievement outcomes** and "an extra year's assignment does not in itself make . . .students better" (p. 43).
- Shepard and Smith (1987) all indicated that an extra year in grade level **did not raise academic performance** in relation to classmates not retained.
- Lindelow (1985) stated that **what didn't work the first time for a student had very little chance of working the second time.**

3 basic rationales for retention

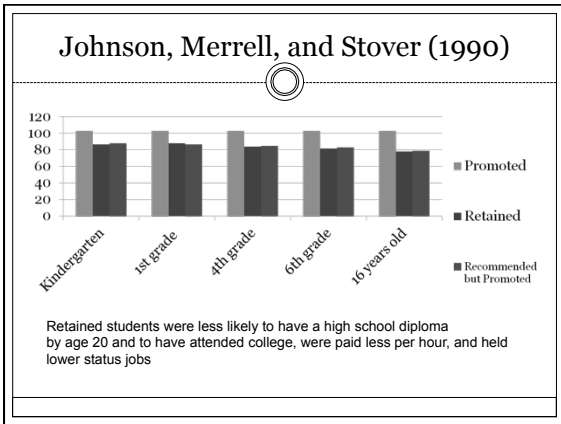


- Tanner & Combs (2003) – 800 teachers surveyed
1. Retention improves students' academic performance
 2. Retaining students causes them to be successful and creates within them a sense of enhanced self-esteem
 3. Retaining nonperforming students reduces the range of abilities and achievement levels in classrooms and brings students closer to their peers in relation to learning.

3 basic rationales for retention

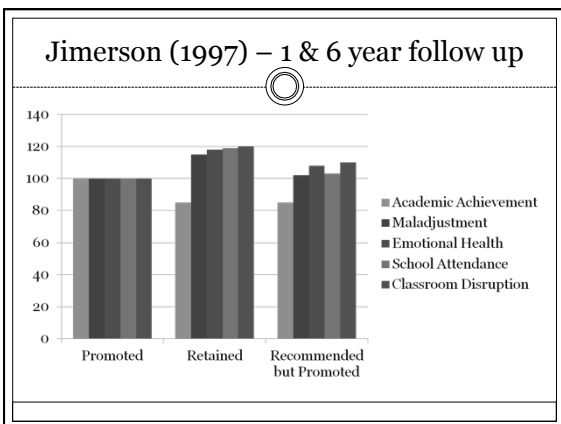


- Tanner & Combs (2003) – 800 teachers surveyed
1. Retention improves students' academic performance
- On average, kindergarten repeaters continue to perform below their peers in terms of literacy skills both at the end of kindergarten and at the end of first grade (effect size [ES] = -0.20 and -0.24, respectively). In mathematics, the performance differentials remain statistically significant.



3 basic rationales for retention

- Tanner & Combs (2003) – 800 teachers surveyed
- 2. Retaining students causes them to be successful and creates within them a sense of enhanced self-esteem
 - Children retained in Kindergarten reported **less popularity** and greater stress, and suffered the social stigma of retention— (Byrnes & Yamamoto, 1986; 2000; Niklason, 1984).
 - Retained children also **perceived themselves as failing** and, consequently, experienced stress and disappointment (Elkind, 1987; Niklason, 1984).



3 basic rationales for retention

- Tanner & Combs (2003) – 800 teachers surveyed

3. Retaining nonperforming students reduces the range of abilities and achievement levels in classrooms and brings students closer to their peers in relation to learning.

- The children who had been retained did not score significantly higher on the SAT (Stanford Achievement Test) than the children who had not been retained, even though the retained students were a full year older than the students in the second group” (Cosden et al., 1995, p. 132).

Conclusion

- The right approach can help children master their environment rather than be enslaved by it.
- They can learn how to ignore distraction,
 - be aware of their impulses so they can control them,
 - and they can learn how to use a mistake as a teachable moment, rather than a frustratable moment.
