

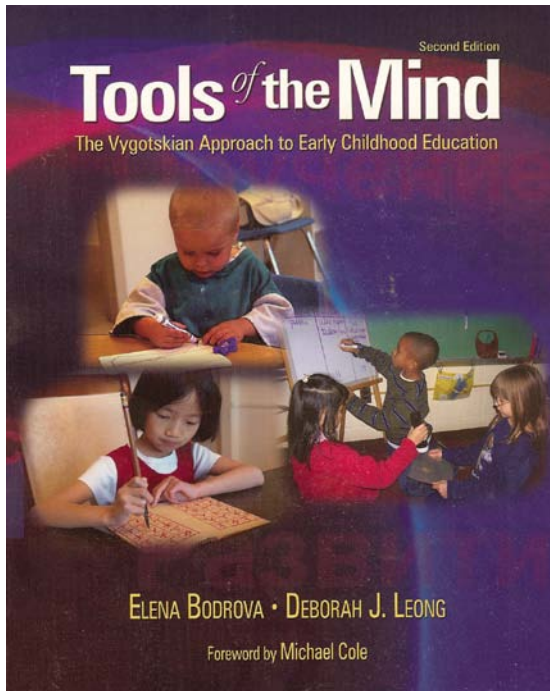
Tools of the Mind



Julio, 2012

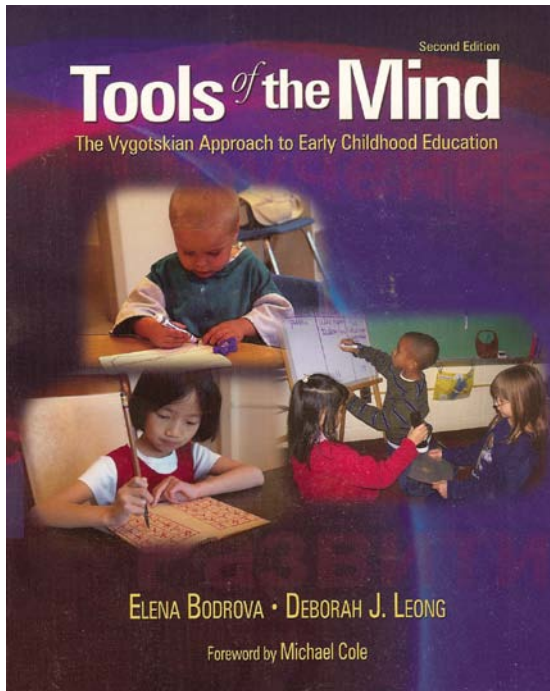
Dr. Deborah Leong
Jessica Peters

What is *Tools of the Mind*?



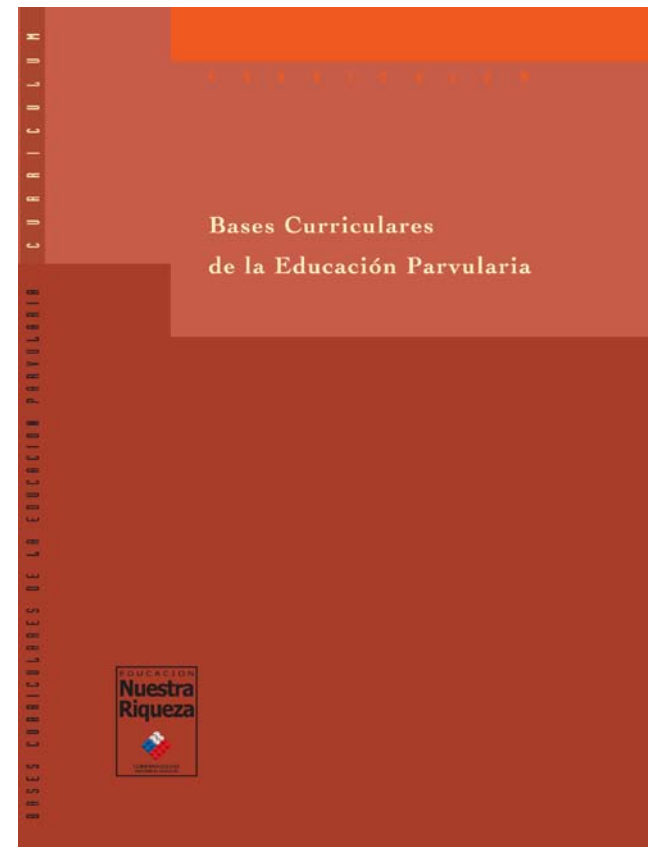
- Program based on the work of Lev Vygotsky and current research on best practices
- Programa basado en el trabajo de Lev Vygotsky y en la investigación actual desarrollada sobre la base de las mejores prácticas

What is *Tools of the Mind*?



- An approach to teaching children that changes the way children learn and teacher teach
- Un enfoque de enseñanza para niños, que cambia la manera en que los niños aprenden y la forma en que los profesores enseñan

Tools está alineado
con las metas,
objetivos y el enfoque
de enseñanza de las
**Bases Curriculares
de la Educación
Parvularia chilena**



Tools High Quality

- High quality learning environment
 - High quality instruction
 - High quality professional development
- Ambiente de aprendizaje de alta calidad
 - Instrucción de alta calidad
 - Desarrollo profesional de alta calidad

Auto Regulación/ Función Ejecutiva

Neurociencia:

- Control del Primer Impulso-Auto Control
- Memoria de Trabajo
- Flexibilidad Cognitiva

Control del Primer Impulso- Auto Control



- Being able to act appropriately when tempted to do otherwise
- Ser capaz de actuar apropiadamente cuando se enfrenta la tentación de actuar de otro modo

Memoria de Trabajo

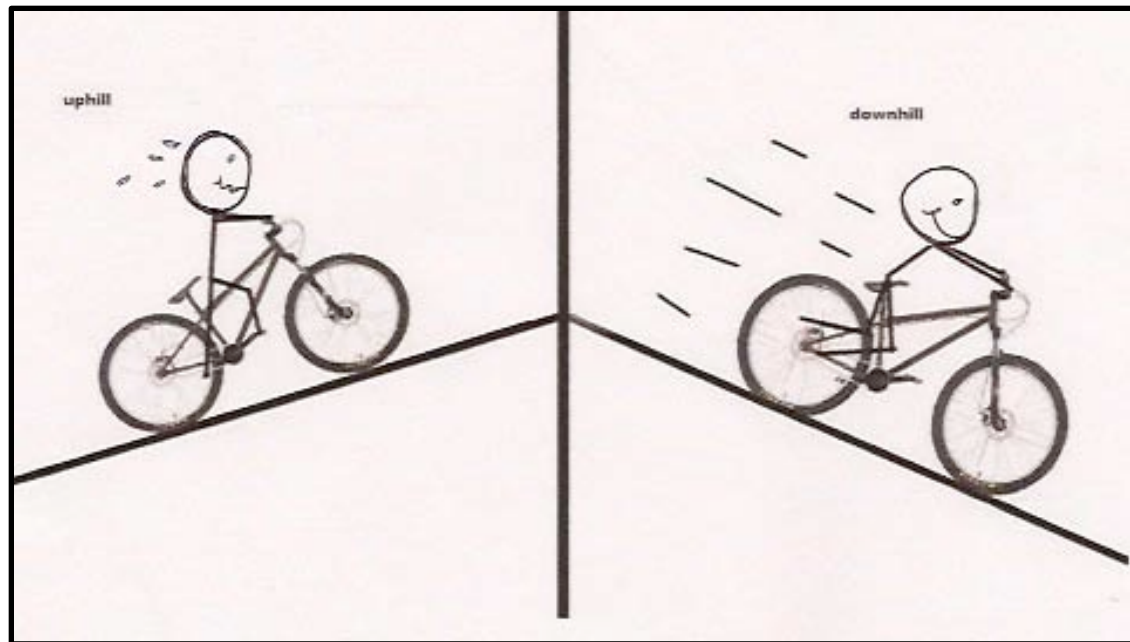
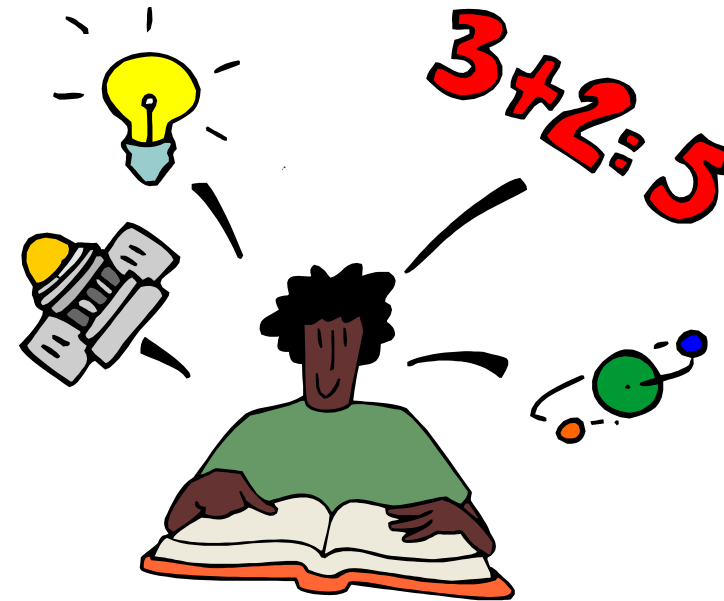
- Holding information in mind and being able to work with it
- Being able to reflect on one's thinking
- Taking more than one perspective at a time
- Retener información en la mente y ser capaz de trabajar con ella
- Ser capaz de reflexionar sobre el pensamiento propio
- Considerar más de una perspectiva al mismo tiempo



Flexibilidad Cognitiva

Flexibly changing mental effort as the mental demands of the task changes.

La flexibilidad de cambiar el esfuerzo mental a medida que cambian las demandas requeridas por las tareas





- Los niños que controlan su impulso, obtienen mejores resultados en:
 - las pruebas estandarizadas
 - Mercado del trabajo

MIND MATTERS | Wray Herbert

Is EF the New IQ?

Why the ability to resist distraction, a skill scientists call "**executive function**," may be more important to academic success than traditional measures of intelligence.

Jun 4, 2008 | Updated: 10:27 a.m. ET Jun 4, 2008

<http://www.newsweek.com/id/139885>

Best Defenses against Cyber Bullies

Good parenting and self-control can help, study finds

By [Abigail Baird](#) | August 24, 2010 | 11

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Imagine being twelve years old. Imagine coming home after school and finding your big sister's lifeless body hanging from a rafter in your home's stairwell. Phoebe Prince's little sister did not have to imagine this scenario, because she lived it. She arrived home after school in South Hadley, Mass., last January 14 and discovered that





Kids Who Lack Self-Control More Prone to Obesity Later

By ALICE PARK Tuesday, Apr. 07, 2009

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Karen Kasmauski / Corbis

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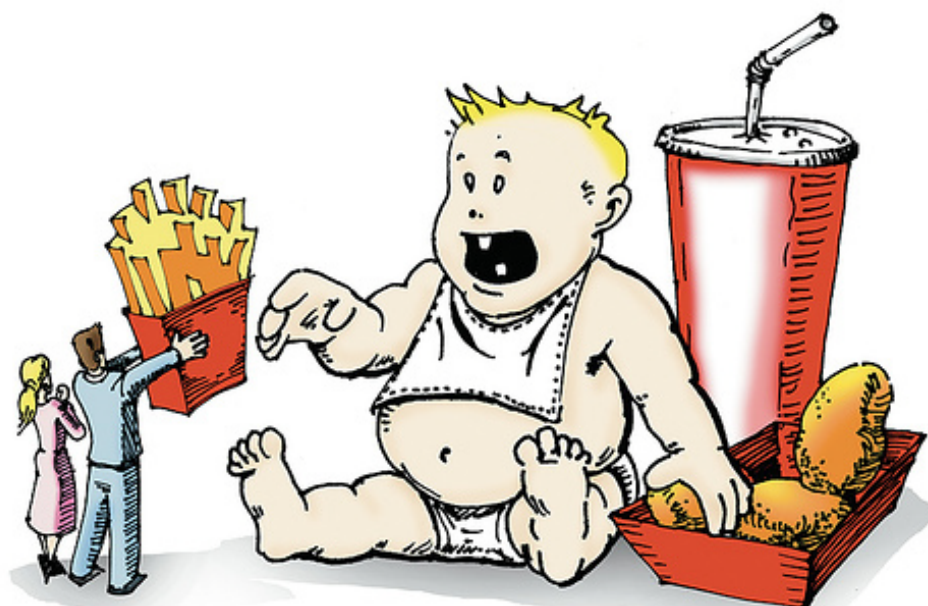
1

Children are impulsive. Any parent knows that from experience — they want everything they see, and they want it *right now*. That's not necessarily a bad thing; grabby curiosity is what spurs kids to explore their world and learn new things.

317

But that same self-indulgence may also be helping to drive children to **obesity**. That's the conclusion of a group of researchers who studied the relationship between self-control and weight gain in youngsters enrolled in a government study. In two papers published this week in the *Archives of Pediatrics and Adolescent Medicine*, scientists found that preschool-age children who had trouble with self-control and the ability to delay gratification gained more weight by the time they were preteens than those who were better at regulating their behavior. (See [nine kid foods to avoid](#).)

It's not a revolutionary finding, but it represents some new thinking among researchers about how to tackle the burgeoning obesity epidemic, particularly among children. In the same journal, the first national survey of childhood obesity to include American-Indian and Asian ethnic groups found that 18% of 4-year-olds in the U.S. are obese, or in the 95th percentile of



8. Why Exercise Won't Make You Thin
9. The Tourist: Less than the Sum of Its Stars
10. Why WikiLeaks Is Winning Its Info War

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The Top 10 Everything of 2010 - TIME
18,503 people shared this.



New Gay Resorts Hope to Attract a

The Development & Neural Bases of Cognitive Flexibility and Executive Function



Adele Diamond

Canada Research Chair Professor of Dev. Cog. Neurosci.

Department of Psychiatry

University of British Columbia, Vancouver

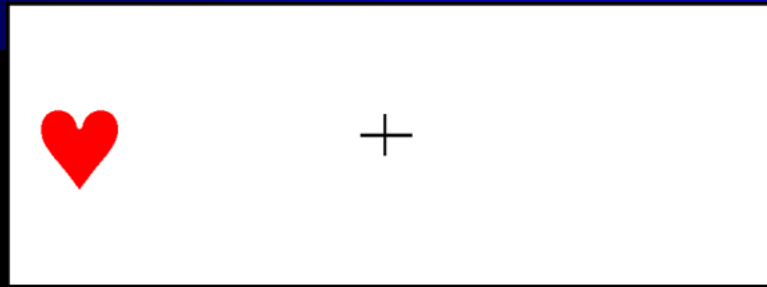
BC Children's Hospital, Vancouver

British Columbia, Canada

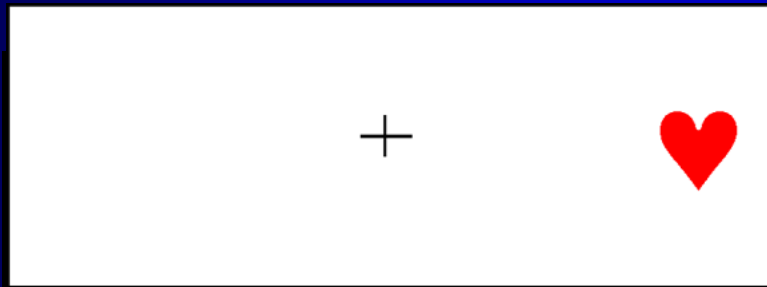
adele.diamond@ubc.ca



Hearts - Congruent

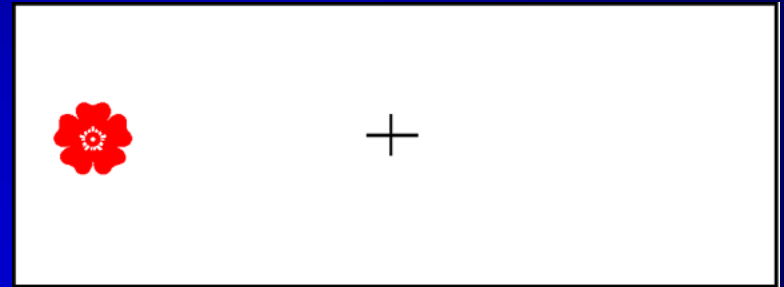


Push Left

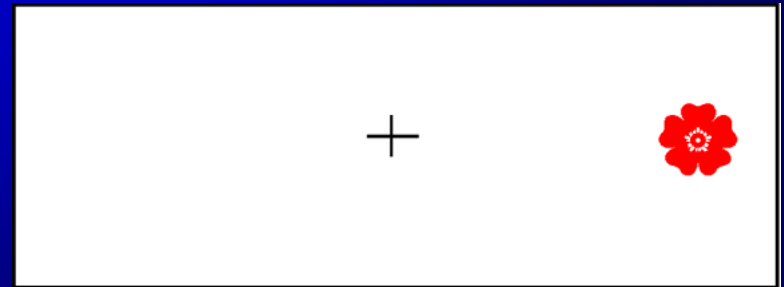


Push Right

Flowers - Incongruent

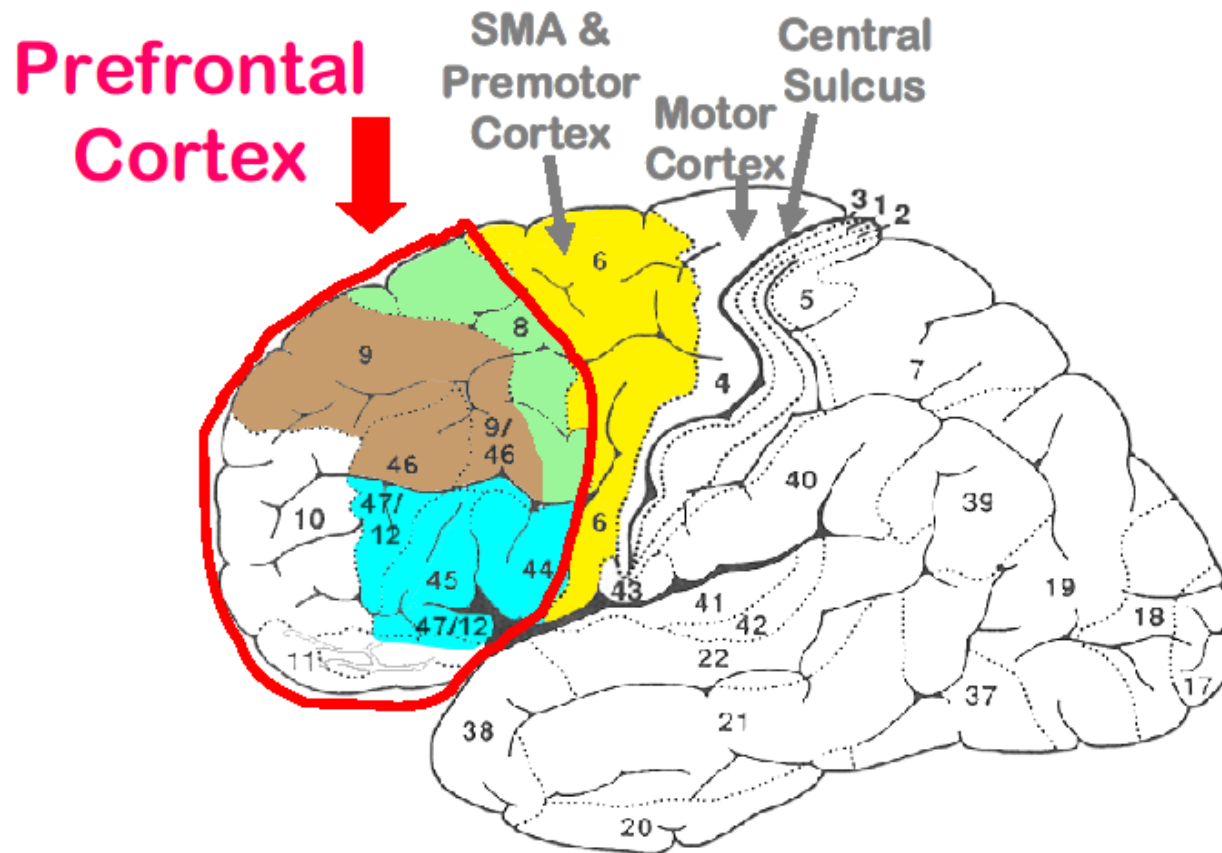


Push Right



Push Left





Associated with the Prefrontal Cortex

HEARTS - CONGRUENT

Each time you see a HEART, press with the thumb or forefinger on the SAME side as the stimulus.

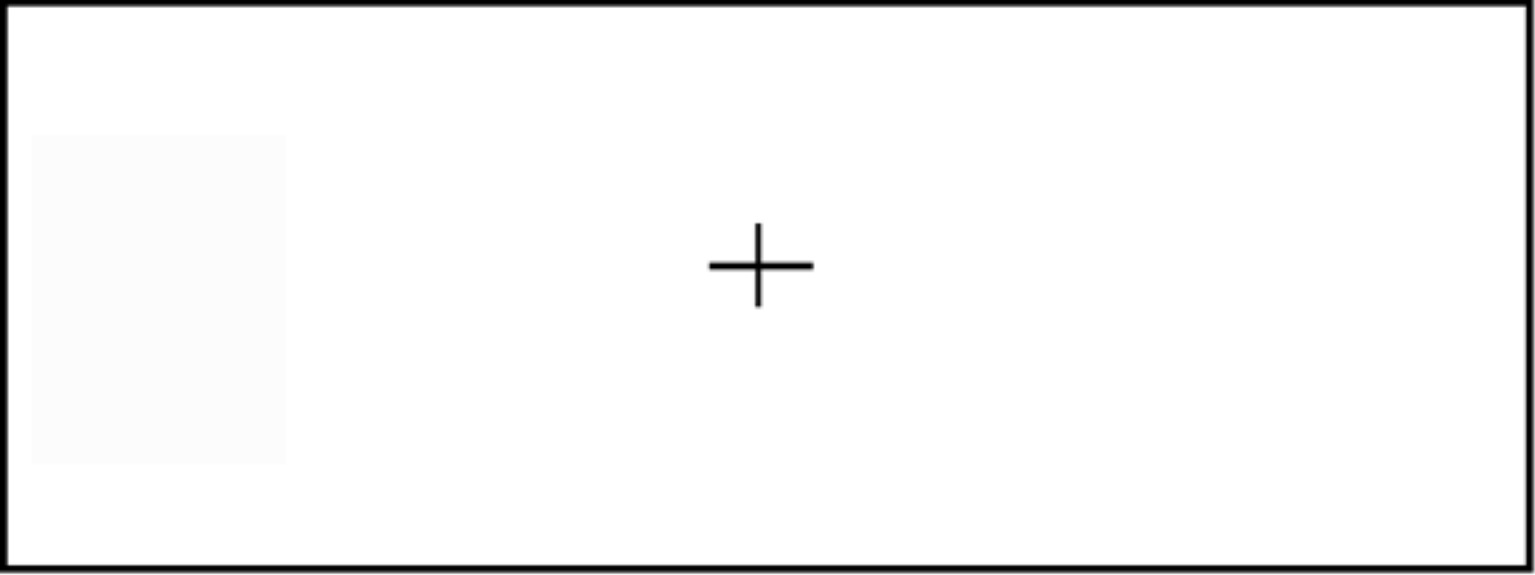
CORAZONES - CONGRUENTE

Cada vez que usted vea un CORAZON, oprima con el pulgar o el índice en el MISMO lado en el que aparece el estímulo.

Por ejemplo, si el corazón parece en el lado izquierdo, presione con la mano izquierda.

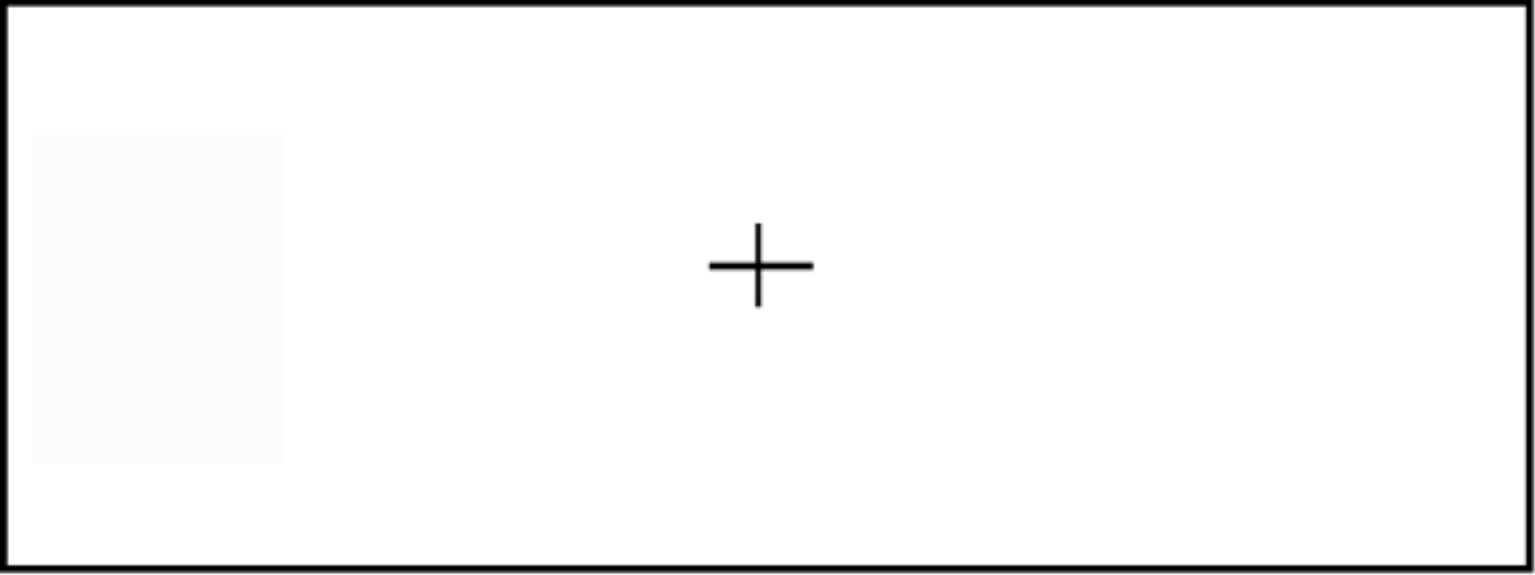
Recuerde:

PRESIONE EN EL MISMO LADO EN EL QUE
APARECE EL CORAZON



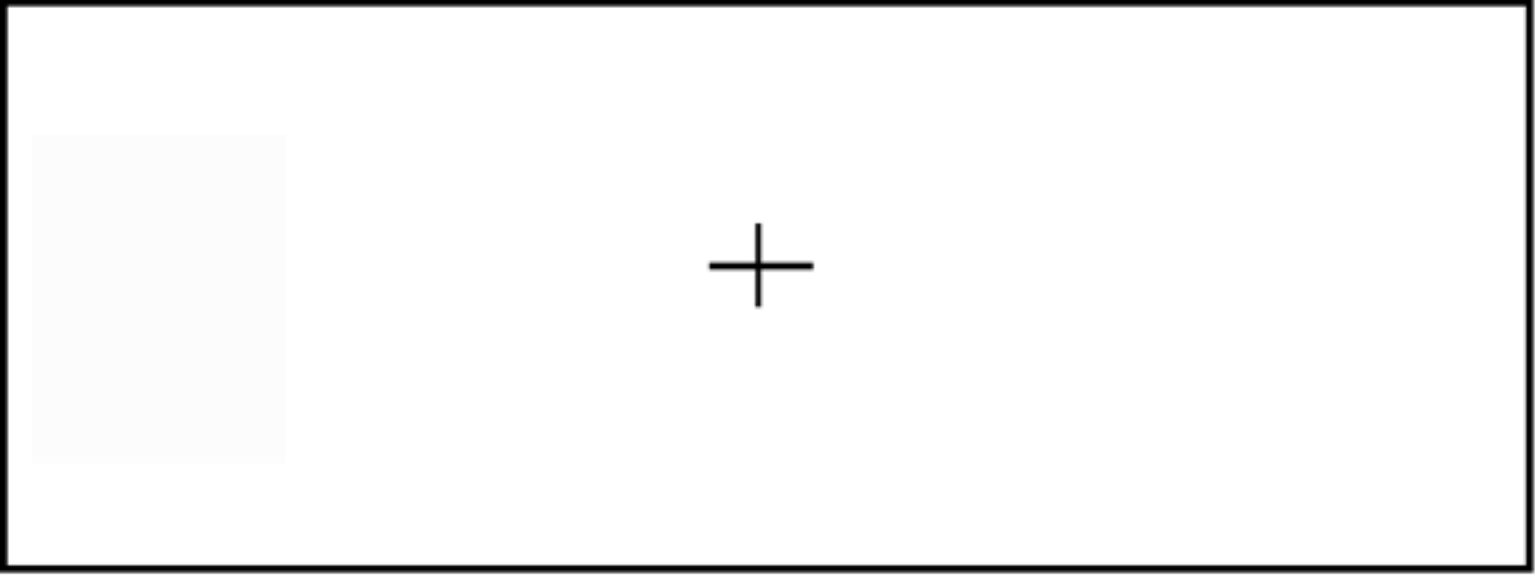


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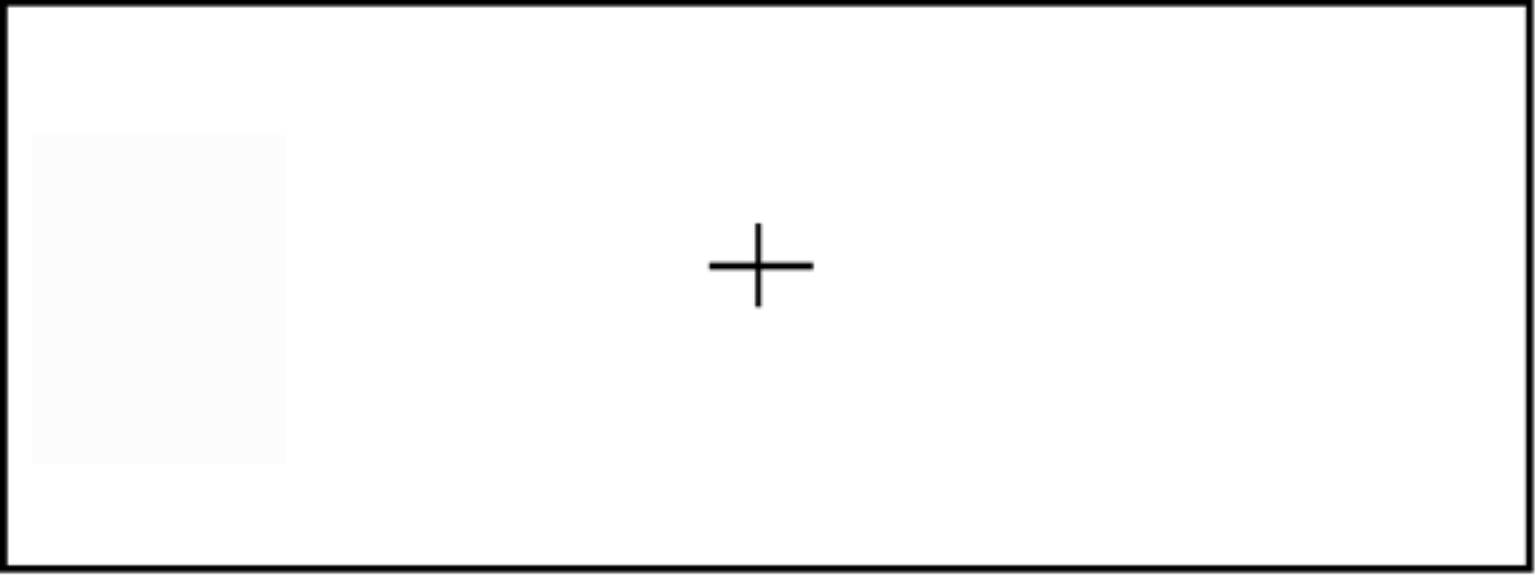
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FLOWERS - INCONGRUENT

Now you'll see a flower. Press on the side OPPOSITE the flower.

PRESS ON THE SIDE OPPOSITE THE FLOWER

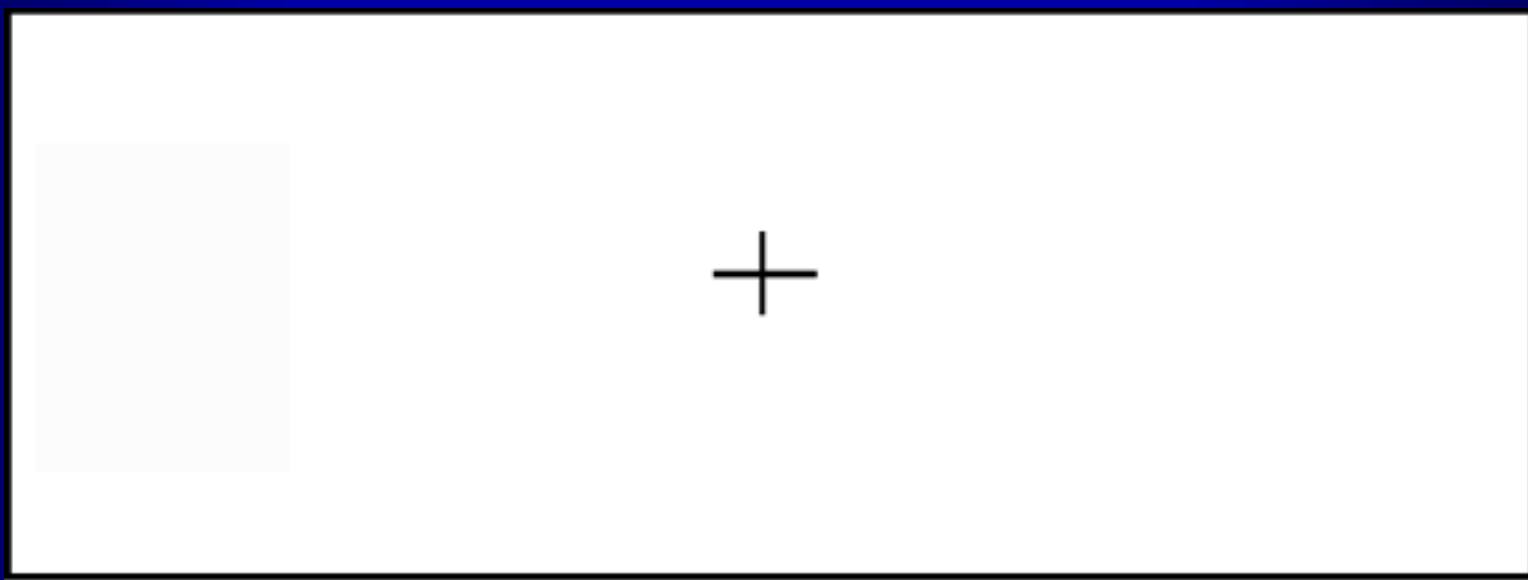
FLORES - INCONGRUENTE

Ahora verá una flor. Presione en el lado OPUESTO al que aparece la flor.

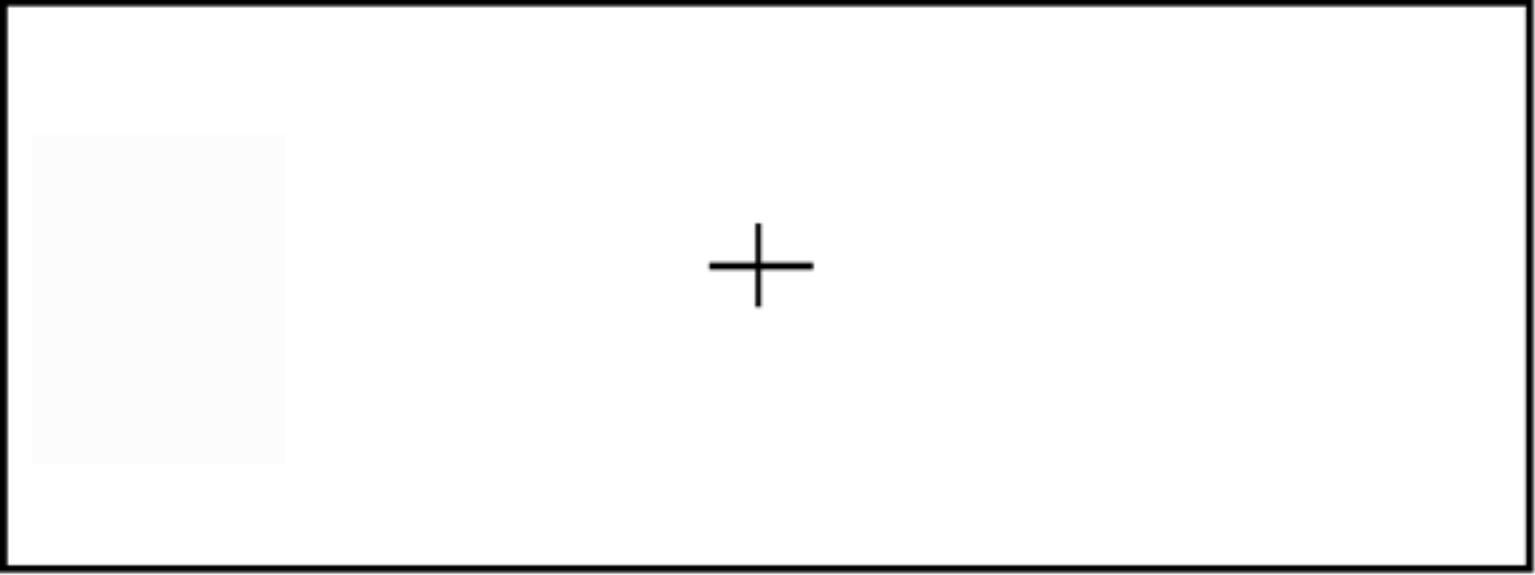
Por ejemplo, si una flor aparece a la izquierda, oprima con su mano derecha. (Aquí, necesitara inhibir en cada ejercicio la tendencia natural para responder en el mismo lado en el que aparece el estímulo)

Recuerde:

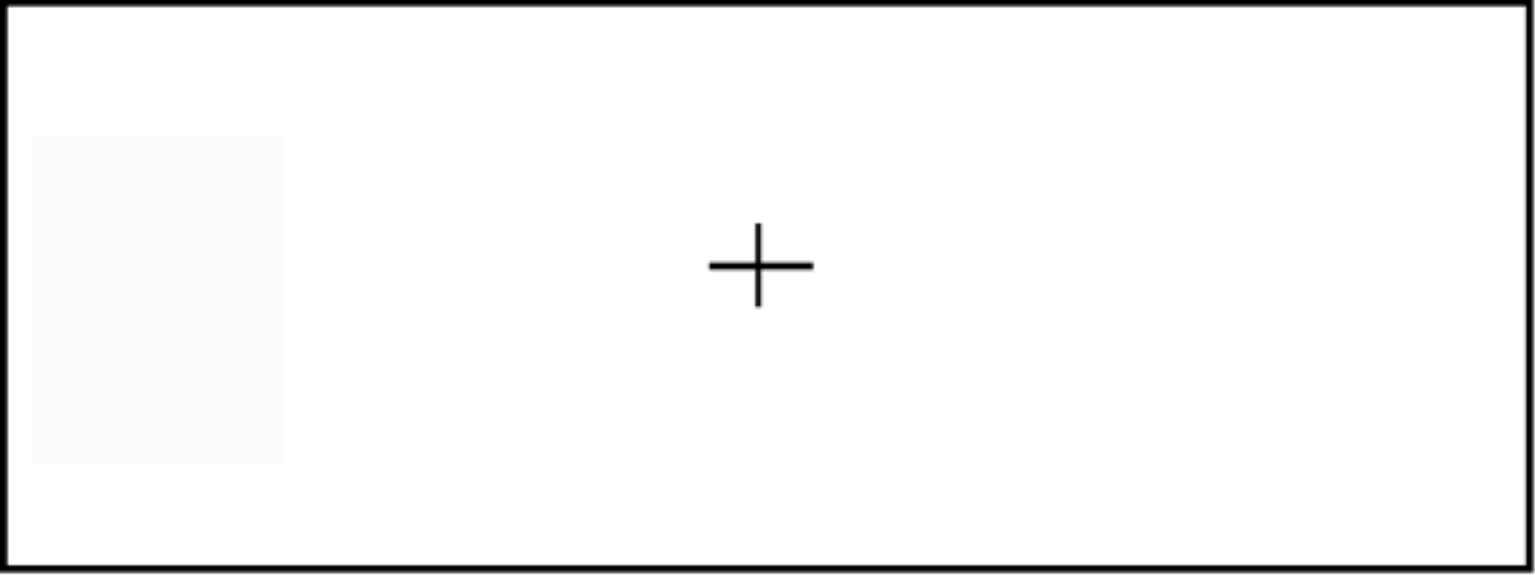
PRESIONE EN EL LADO OPUESTO AL DE LA FLOR



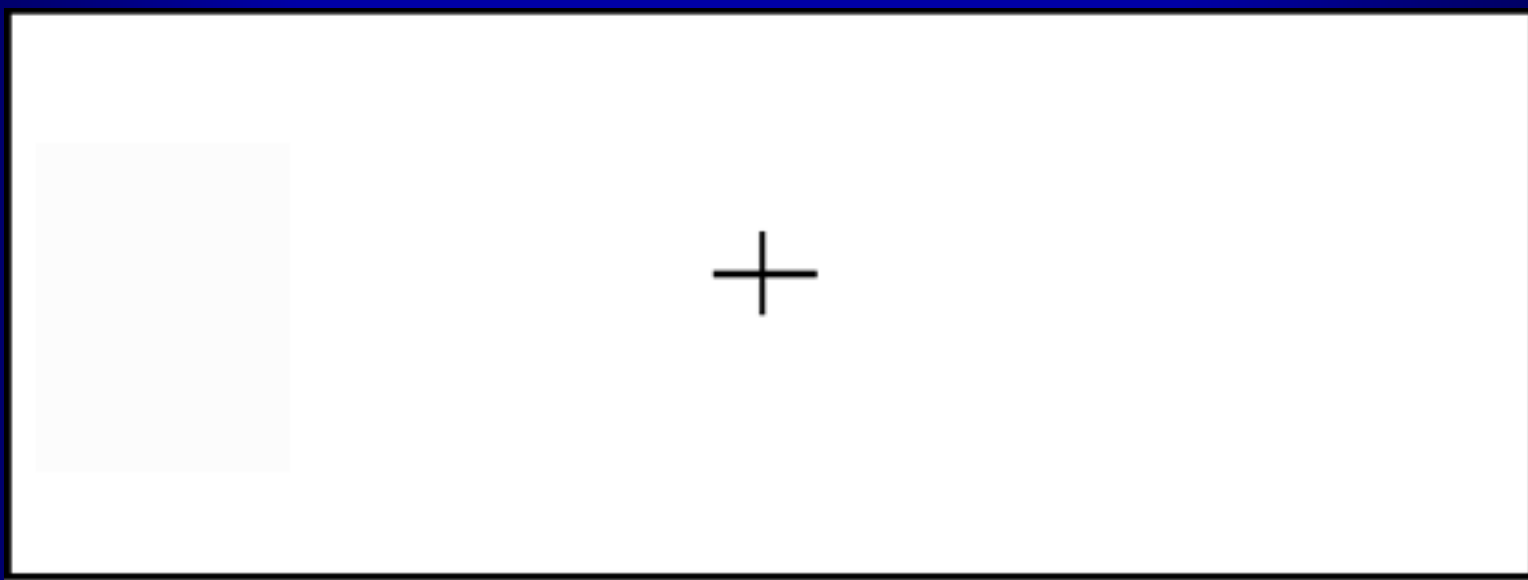














HEARTS & FLOWERS-MIXED: Now you will sometimes see a heart and sometimes a flower.

MEZCLA DE CORAZONES Y FLORES: Ahora ud. verá algunas veces un corazón y otras una flor.

En solo la mitad de los ejercicios ud. tendrá que inhibir la tendencia a presionar el mismo lado en el que aparece el estímulo, PERO ud. tendrá que ir aplicando de manera variada las reglas del mismo lado y del lado opuesto.

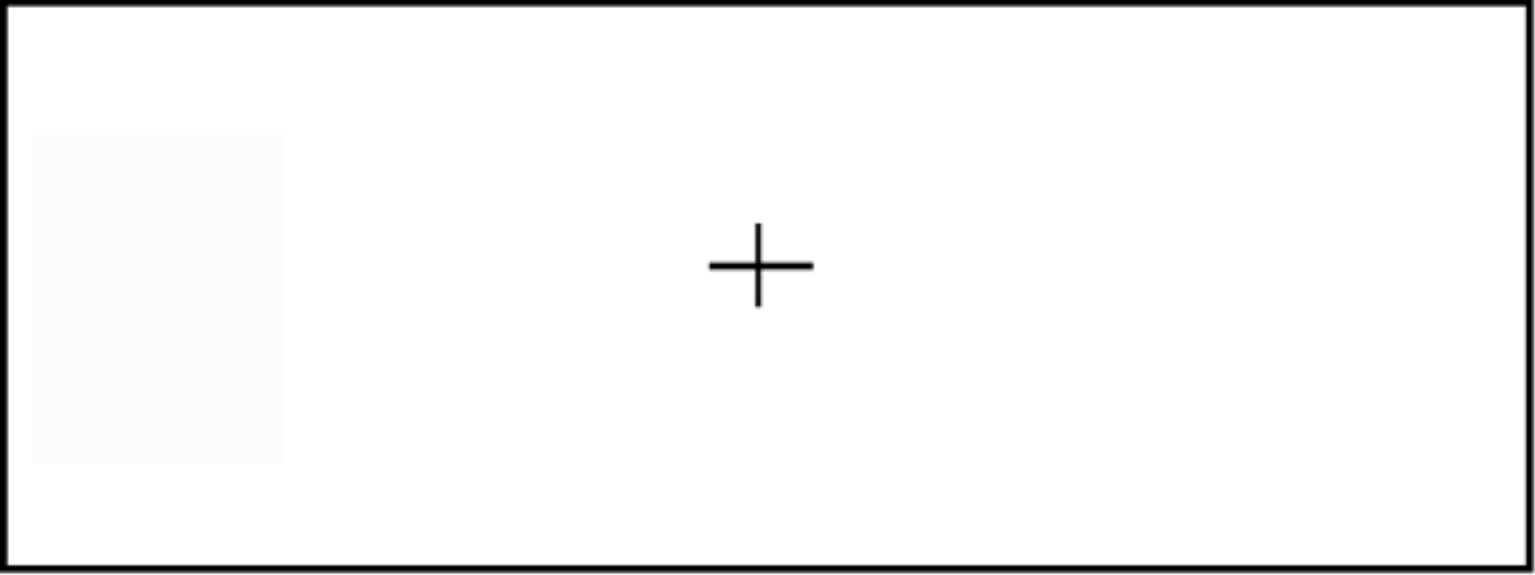
Las reglas siguen siendo las mismas:

PARA CORAZONES, OPRIMA EL MISMO LADO

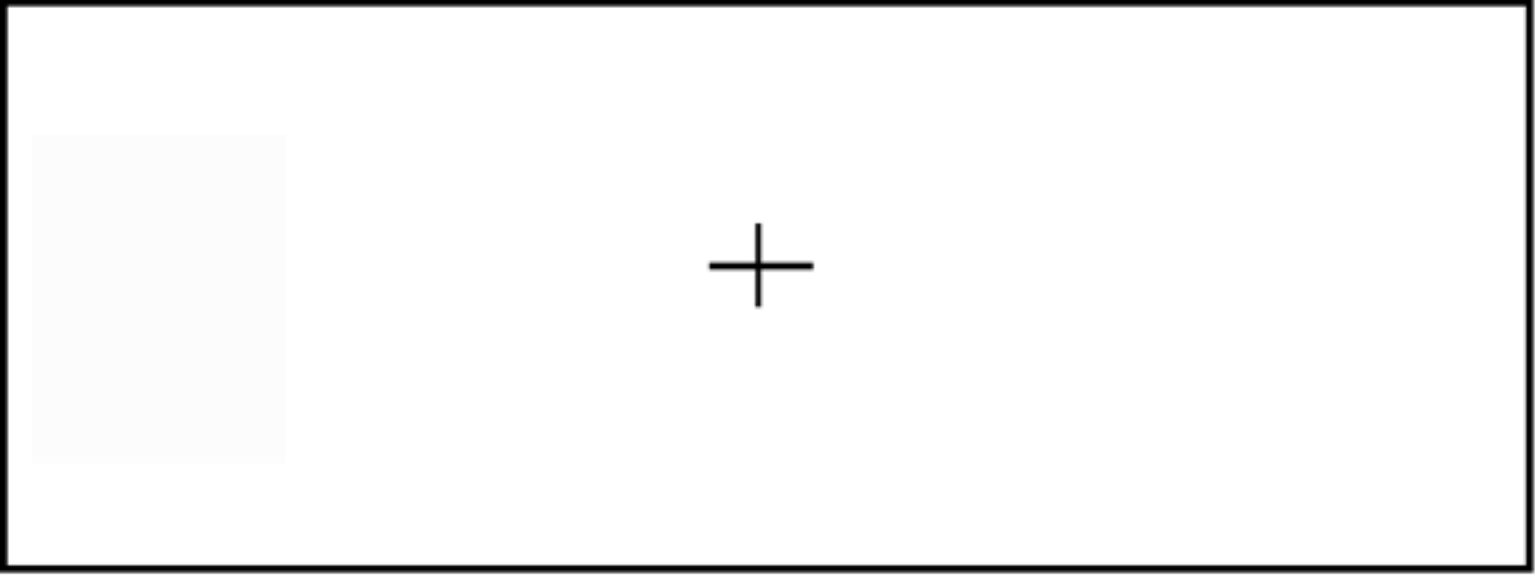
PARA FLORES, OPRIMA EL LADO CONTRARIO

CORAZONES-MISMO LADO

FLORES- LADO CONTRARIO

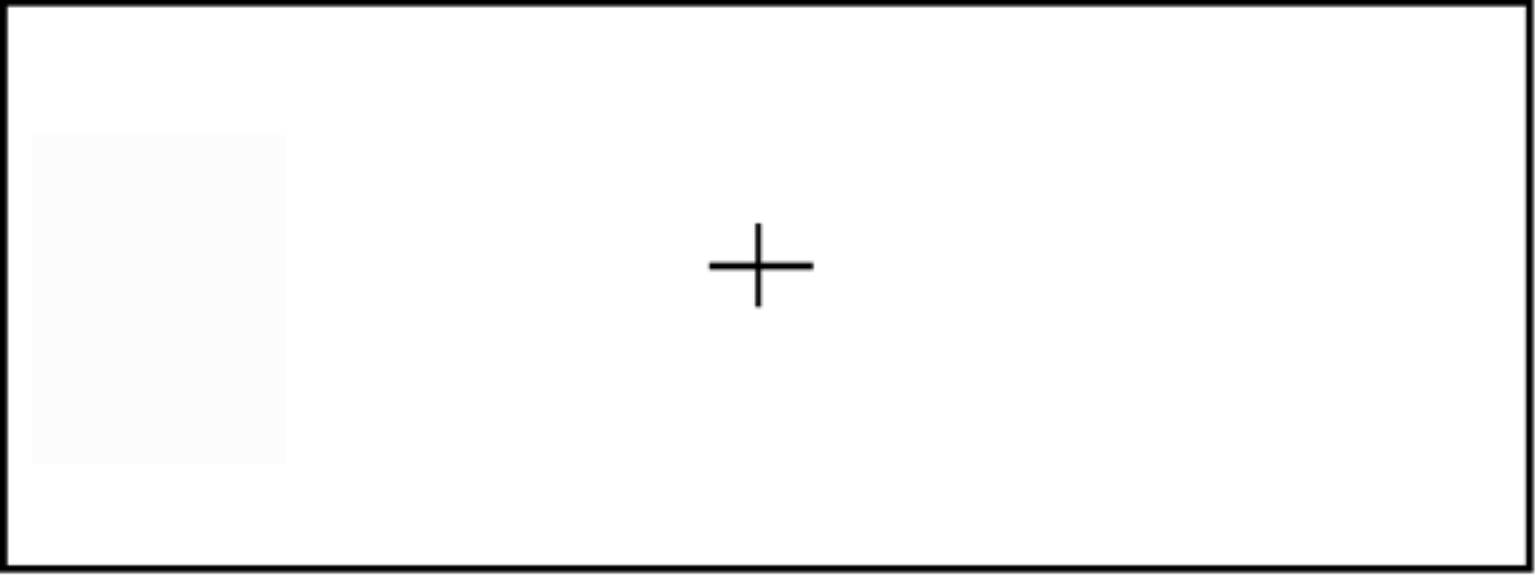




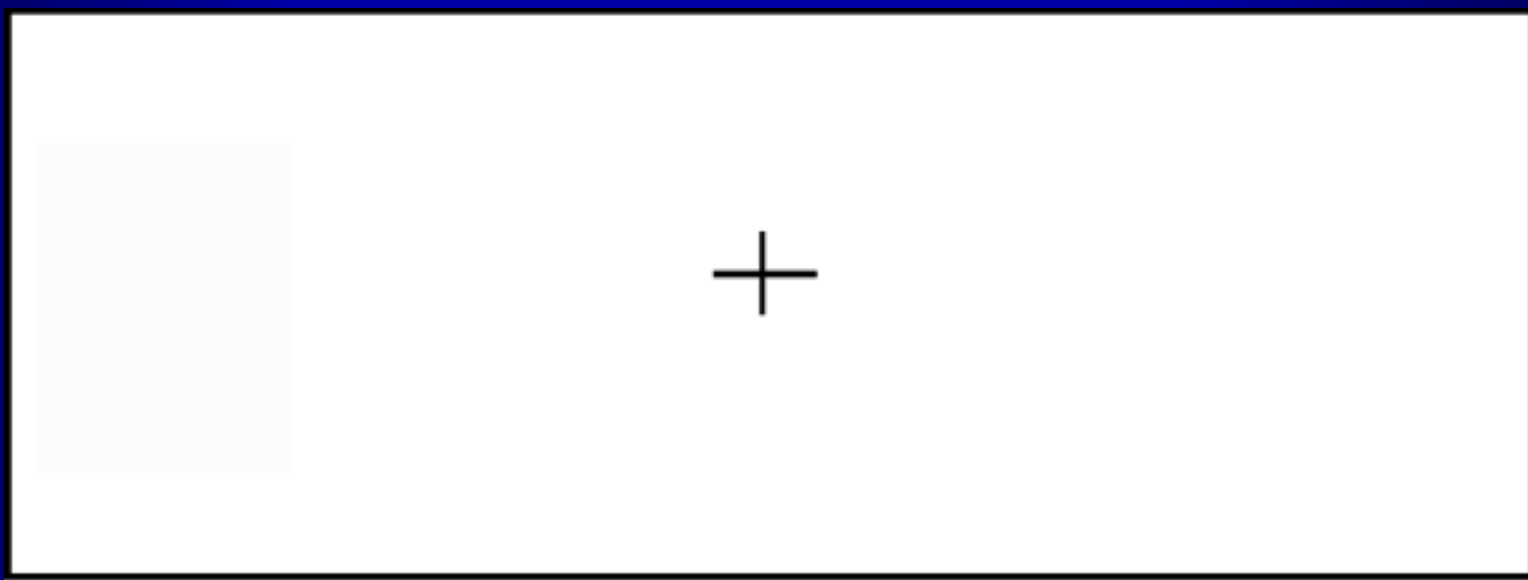


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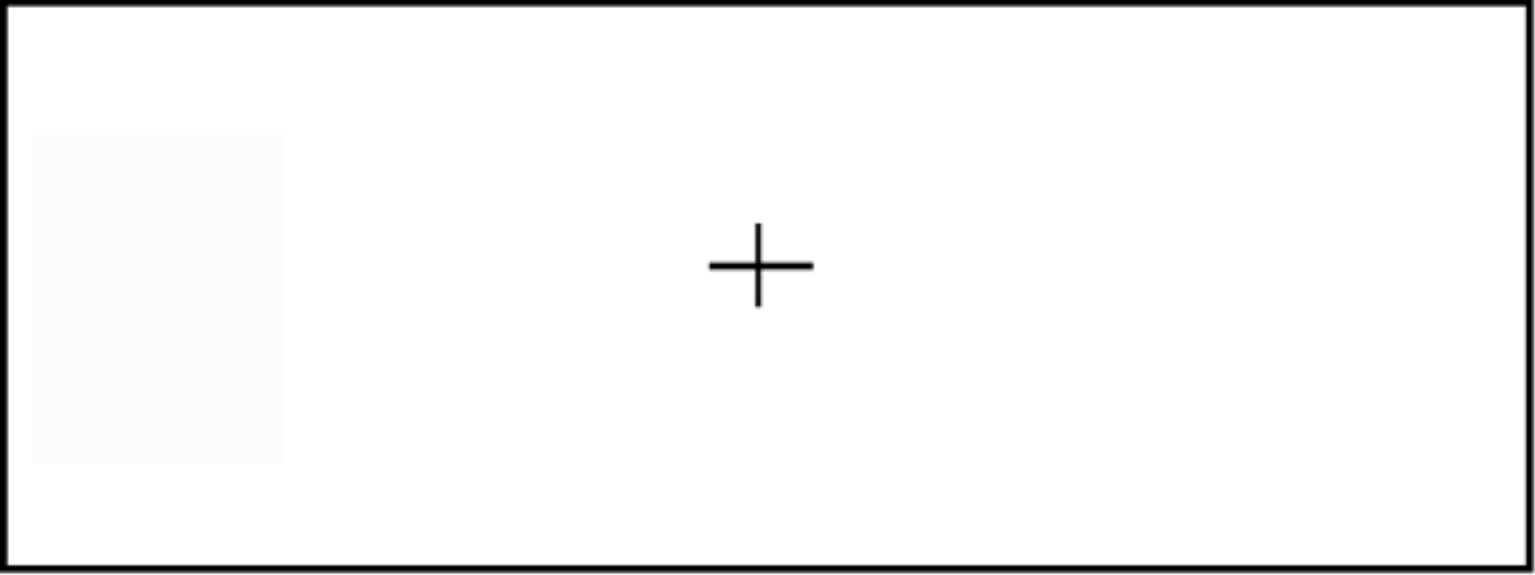




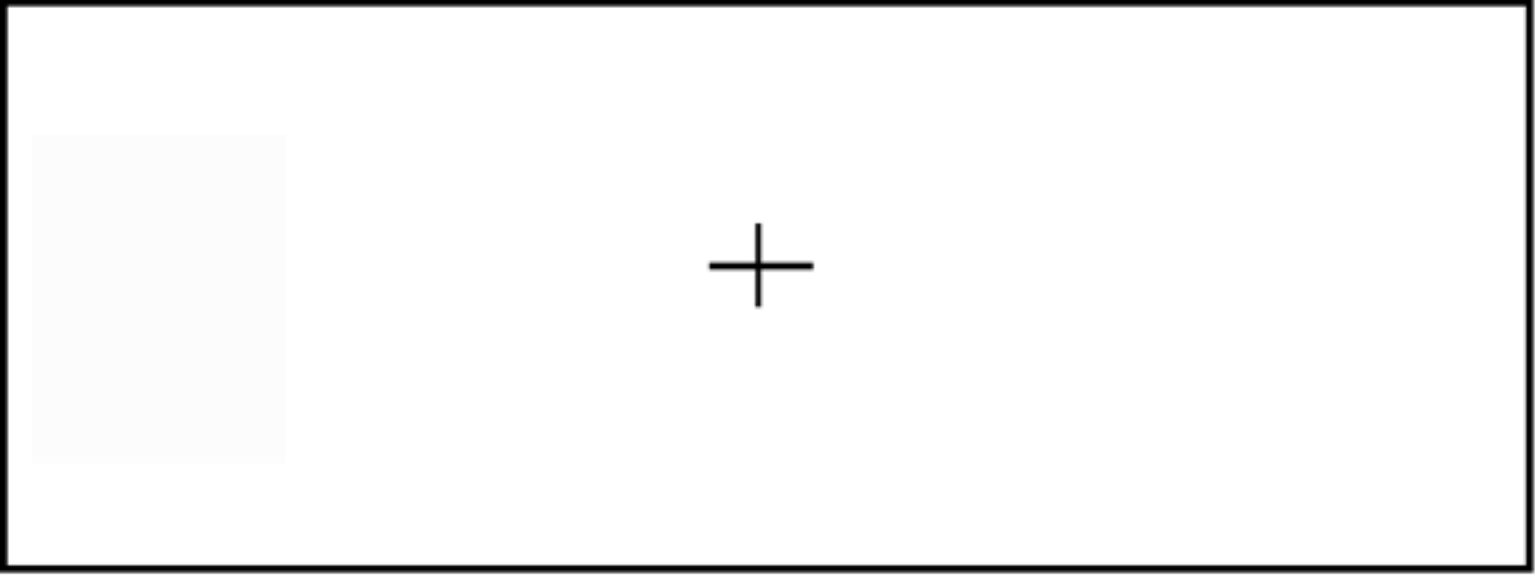




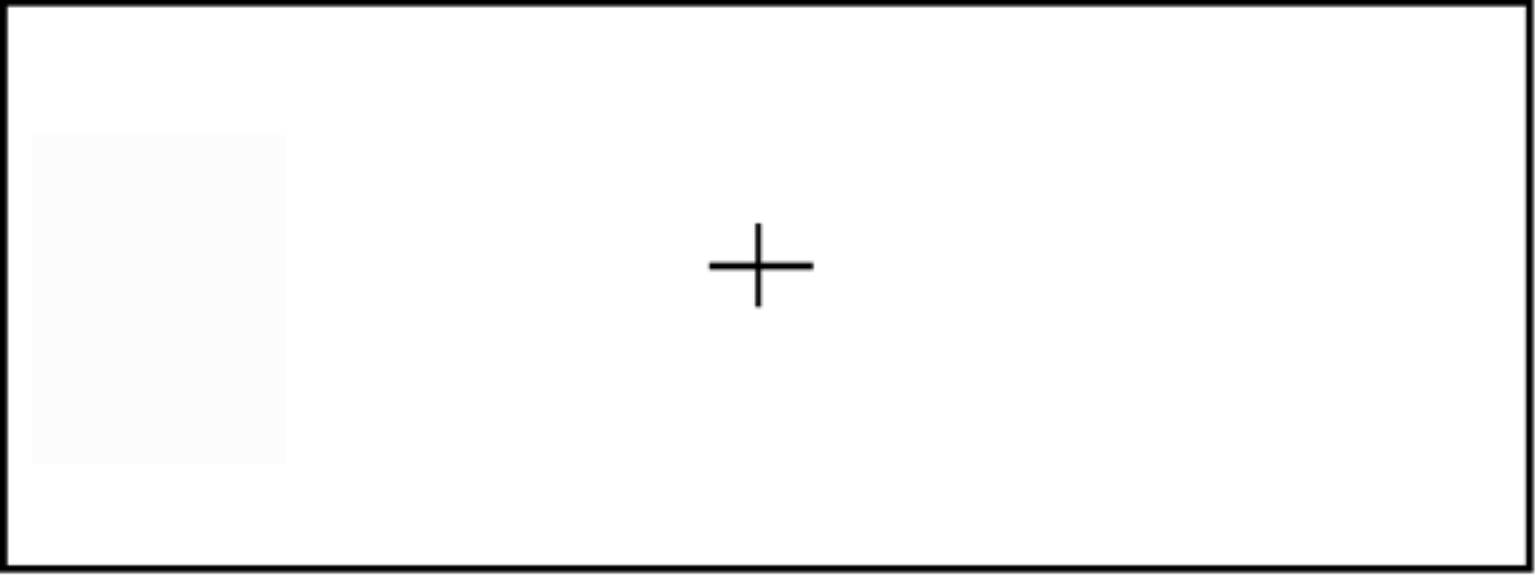
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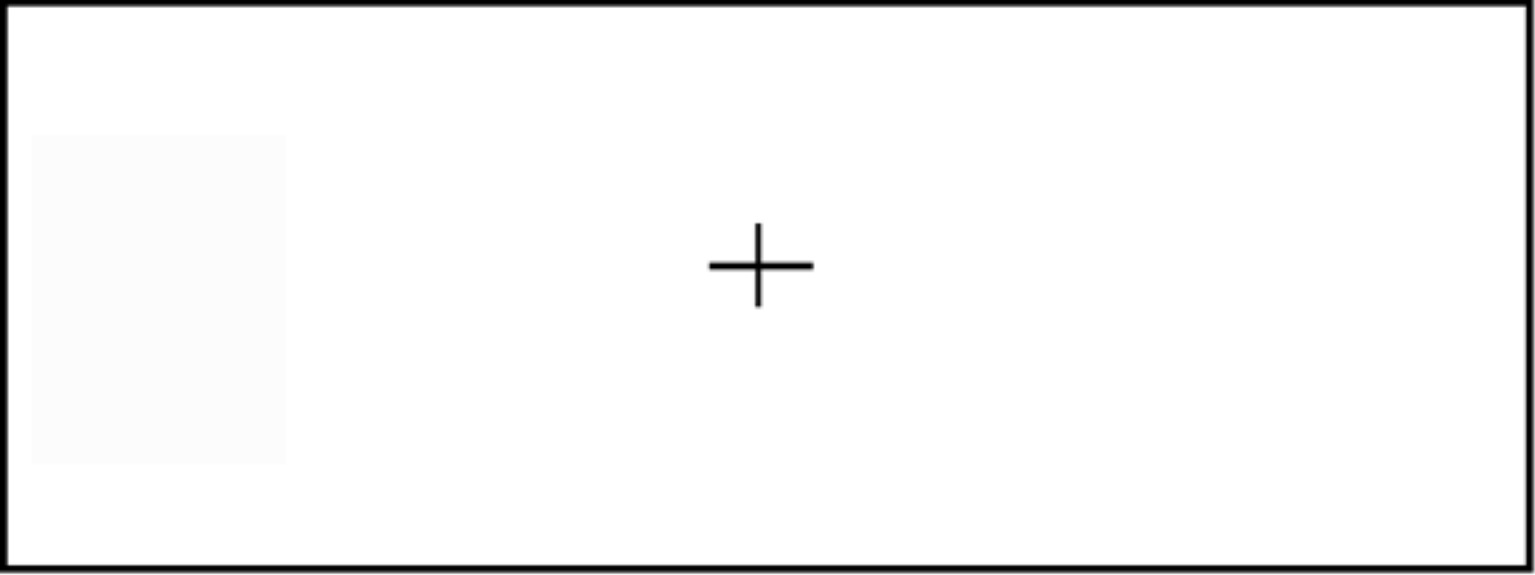






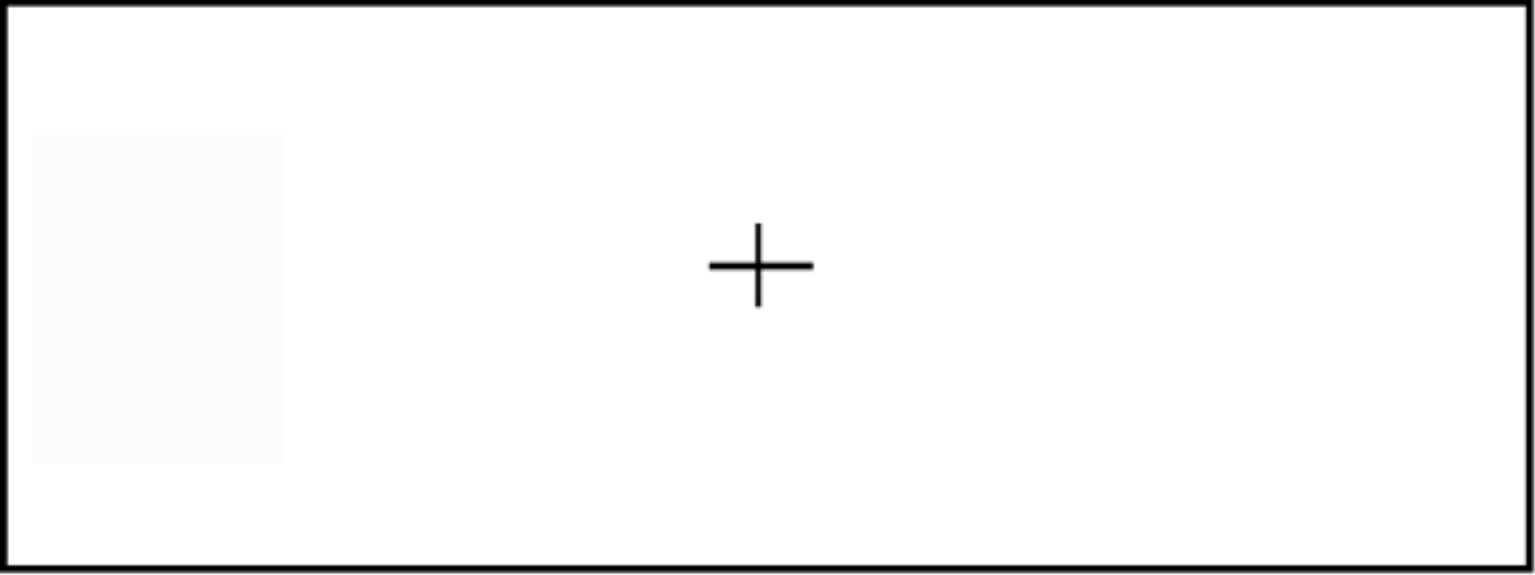


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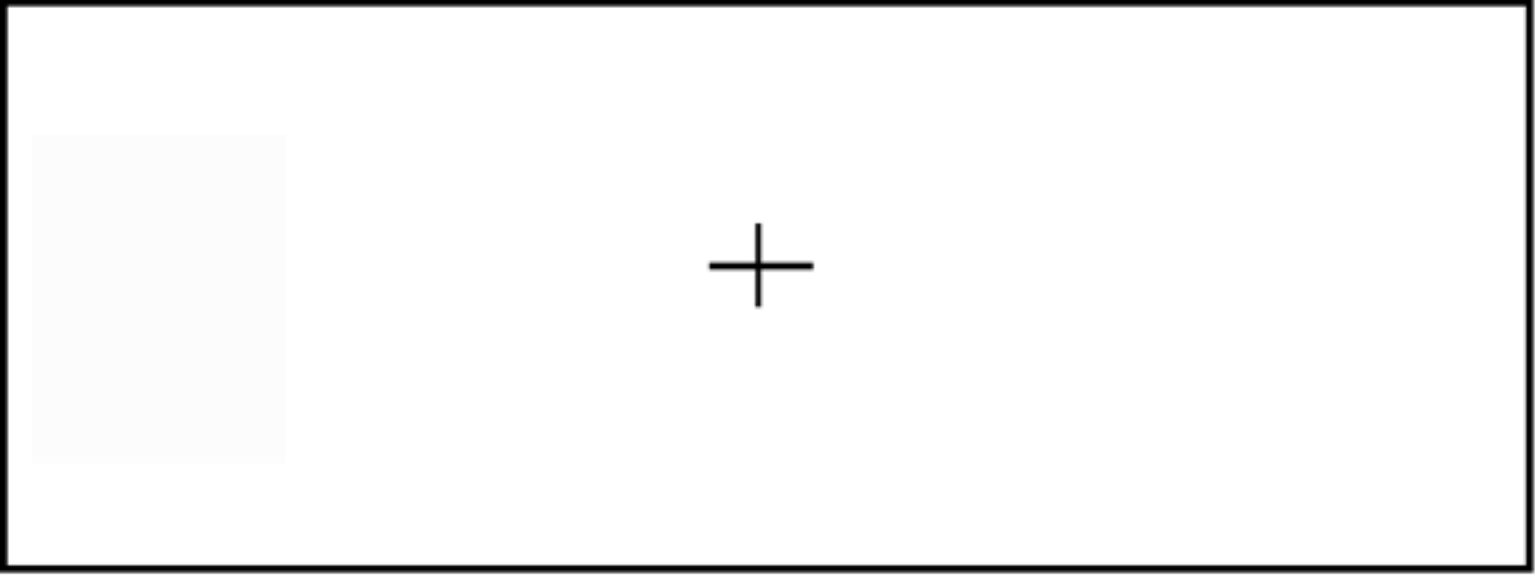


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Four-year-olds would often call out the correct higher-order answer on each trial of hearts/flowers-MIXED (“same,” “opposite,” “opposite,” “same”), even as they are making many errors. **It is NOT that they have forgotten the rules.**

Niños de 4 años de edad a menudo dicen en voz alta las respuestas correctas de orden superior en cada uno de los ejercicios mezclados de corazones y flores (“mismo”, “opuesto”, “opuesto”, “mismo”), aún cuando cometen muchos errores. **Es claro que ellos no han olvidado las reglas.**

Our pilot evaluation of Tools with an at-risk population

100 preschoolers

100 Kindergarteners

Children had received 0, 1, or 2 years of Tools.

Academic outcomes were obtained independently by NIEER (Steve Barnett).

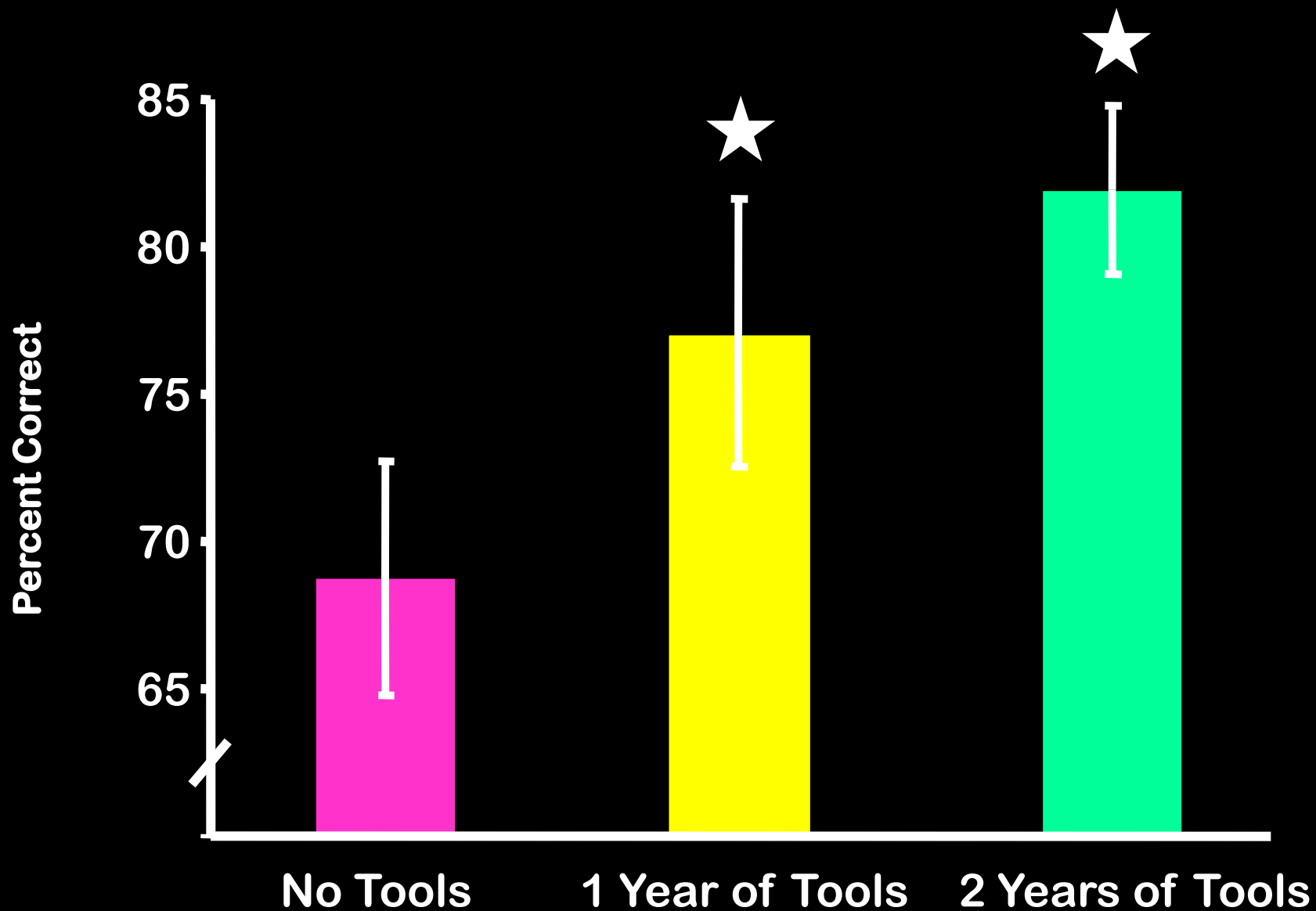
La evaluación piloto del programa Tools of the Mind se desarrolló sobre población vulnerable

100 niños pre-escolares

100 niños de Kindergarten

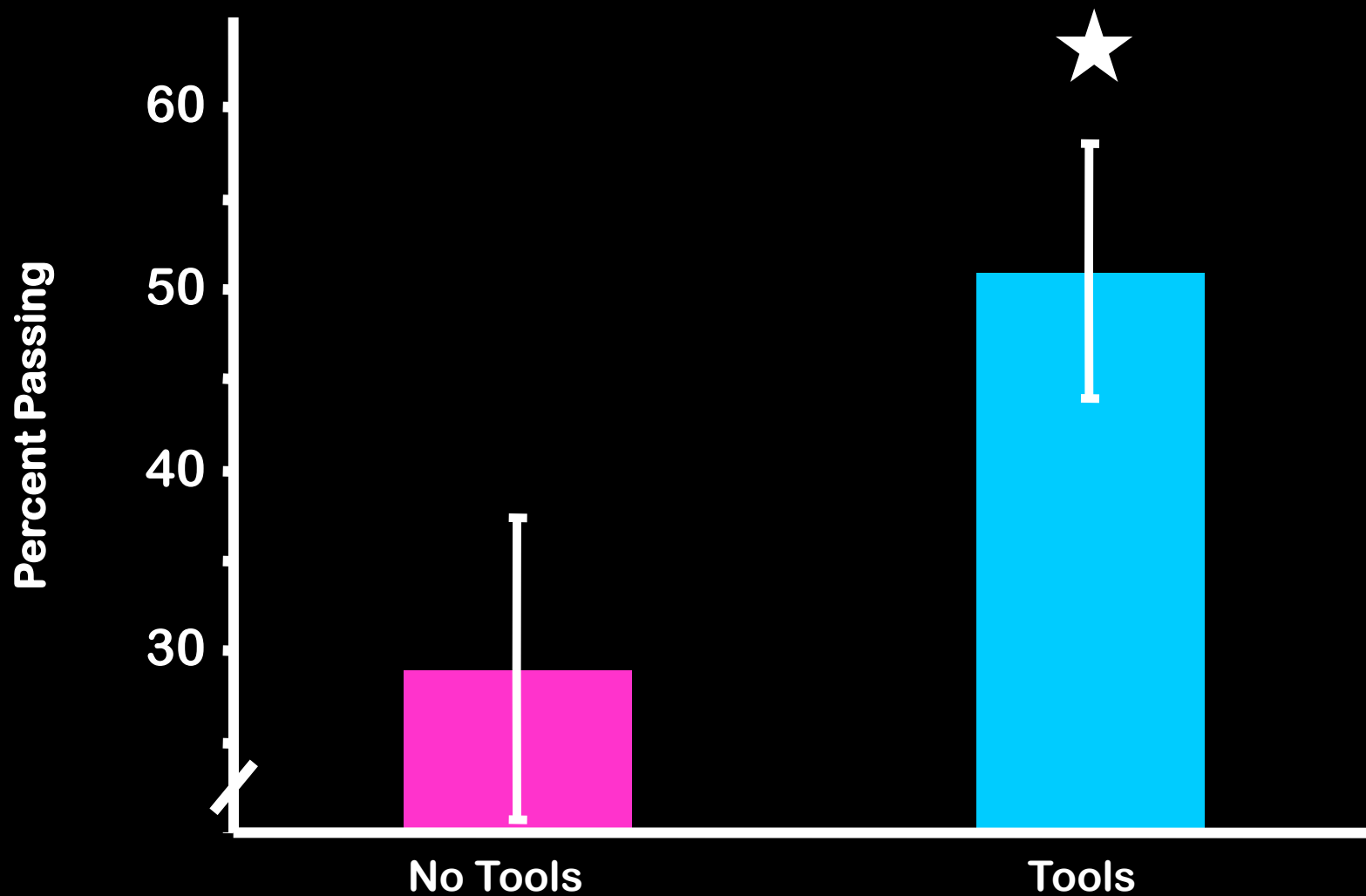
Los resultados académicos se obtuvieron de manera independiente por NIEER (Steve Barnett).

Flowers Task – Block 2 (Incongruent)
Percentage of Correct Responses
Pre-K Children



Hearts/Flowers Task - Mixed Block

Percent of Children Who Passed Practice



Tools of the Mind

Apoyo de Habilidades Académicas
a través del Desarrollo de
Funciones Ejecutivas de Auto
Regulación

Estrategias de Enseñanza Tools

- Systematic
- Sequential
- Individualized
- Sistemáticas
- Secuenciales
- Personalizadas

Tools is an integrated, theoretical approach and requires intensive training that changes the way teachers teach and children learn

Tools of the Mind es un enfoque teórico integrado y requiere un entrenamiento intensivo que cambia la forma en que los profesores enseñan y en que los niños aprenden.

Juego de Roles

La Escuela de Auto Regulación

Mature Make Believe Play:

- Deep engagement
- Planned in advance
- Roles with rules

Juego Imaginario/Roles Maduro:

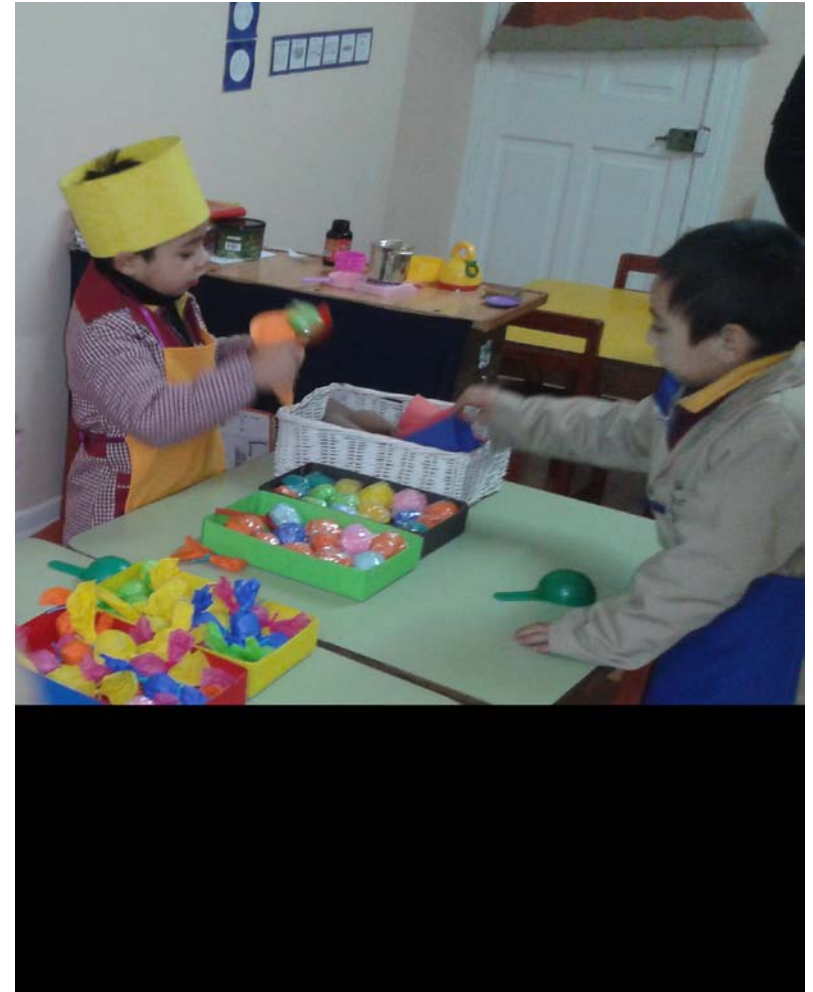
- El compromiso profundo
- Planificado con anticipación
- Roles con reglas



Los Niños Planifican Su Juego



Voy a hacer helado



Juegos de Auto Regulación Física



Children practice **physical** self-regulation at least every $\frac{1}{2}$ hour every day

Los niños practican autorregulación **física** por lo menos cada $\frac{1}{2}$ hora cada día



Auto Regulación Socio Emocional

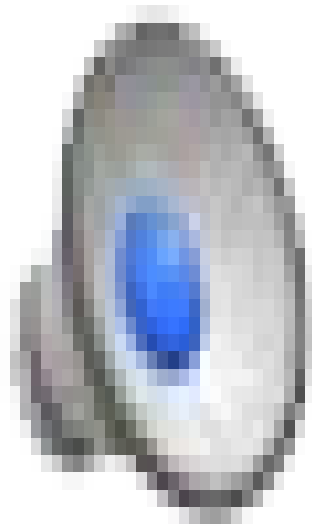


There are specific activities to teach children how **to take turns** (learn in cooperative groups), express emotions appropriately, handle arguments and disagreements

Hay actividades específicas para enseñar a los niños cómo **turnarse** (aprender en grupos cooperativos), expresar sus emociones apropiadamente, resolver argumentos y desacuerdos



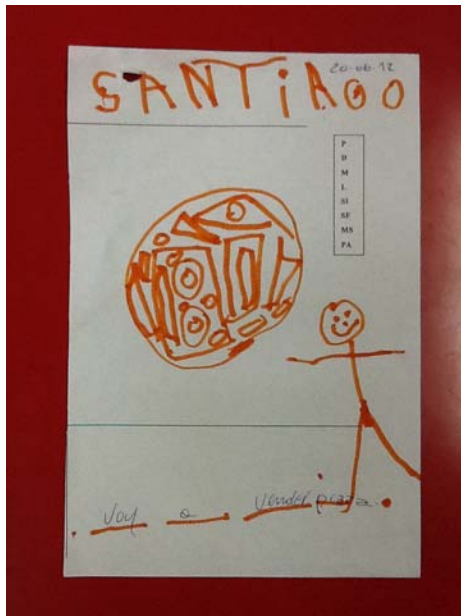
Auto Regulación



Auto Regulación Cognitiva



- Children play games where they have to remember
- Children plan their play and follow through with the plan.



- Niños participan en juegos donde ellos tienen que recordar
- Niños planifican su juego e implementan su plan.

Tools of the Mind

Academic Skills



Tools Approach is
“Reading Through
Writing”

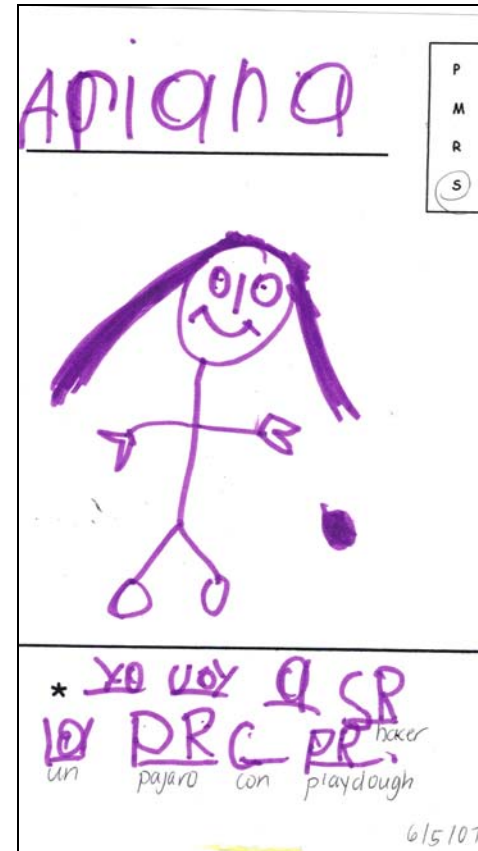
El Enfoque de Tools es
"Leer utilizando la
Escritura"

Ariana

September



May

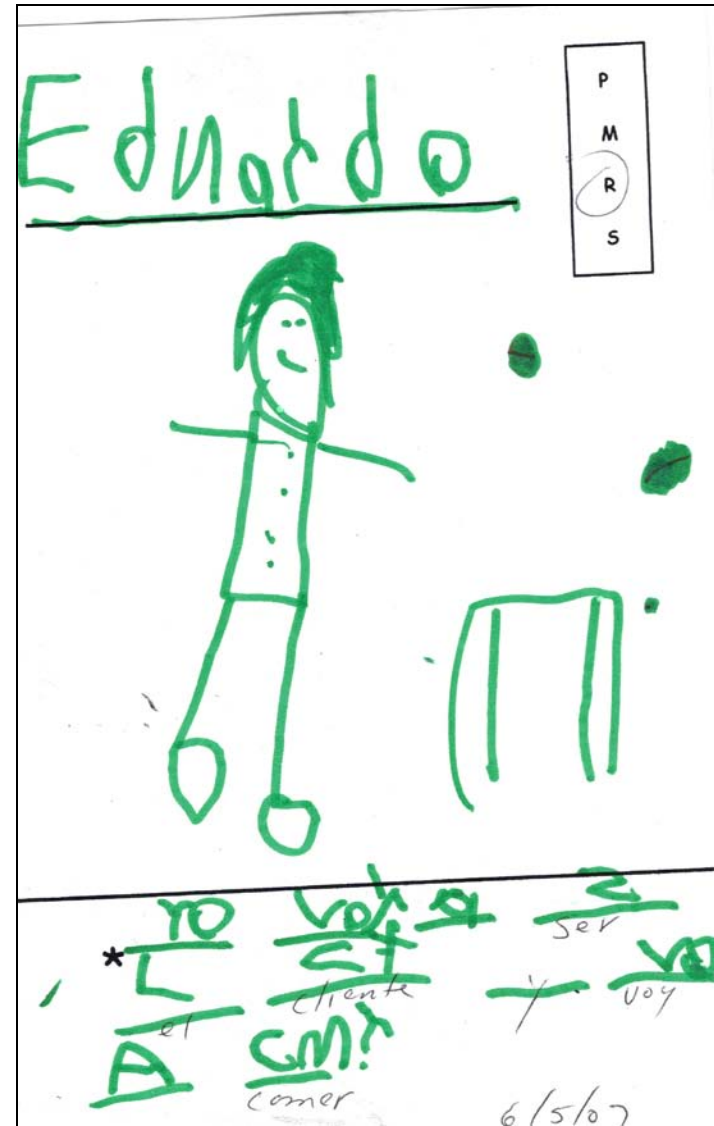


Eduardo

September

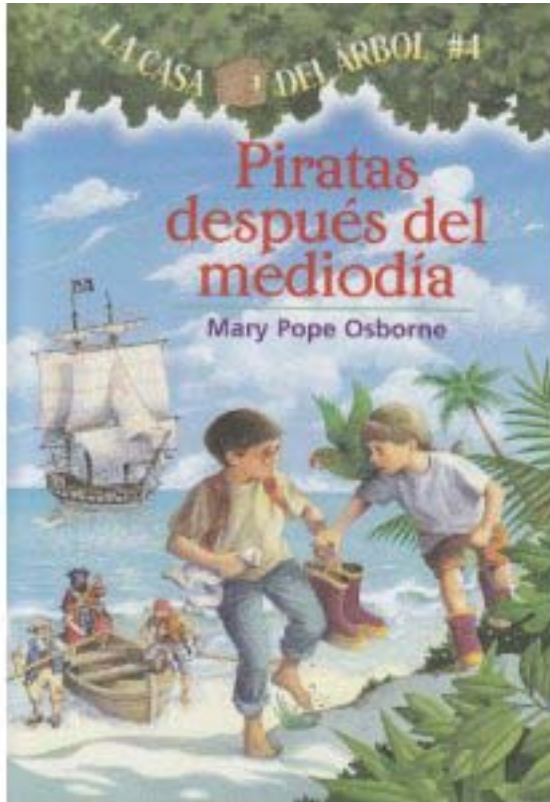


May





- Teachers individualize scaffolding for each child. This child is working on drawing (level 2)
- Children work cooperatively
- Las profesoras personalizan el apoyo para cada niño. Esta niña esta dibujando (nivel 2)
- Los niños trabajan colaborativamente

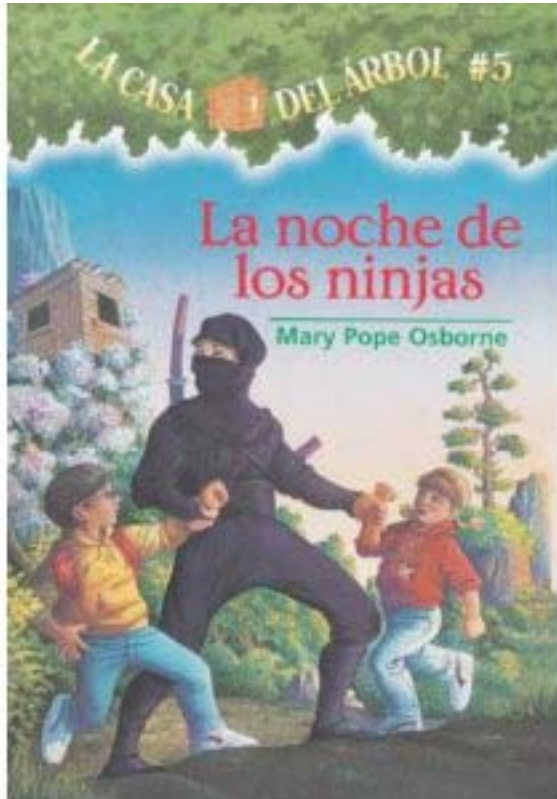


In kindergarten, children use writing to summarize the plot of a book with 10 chapters.

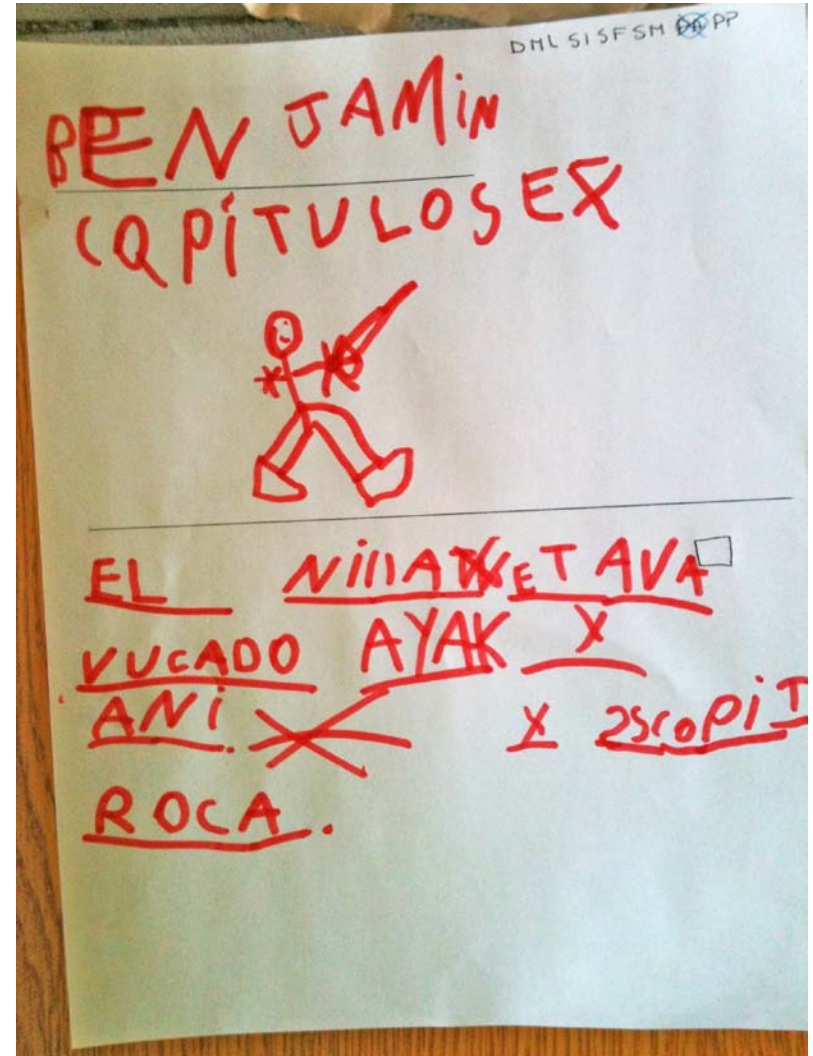


Voy a construir un barco pirata

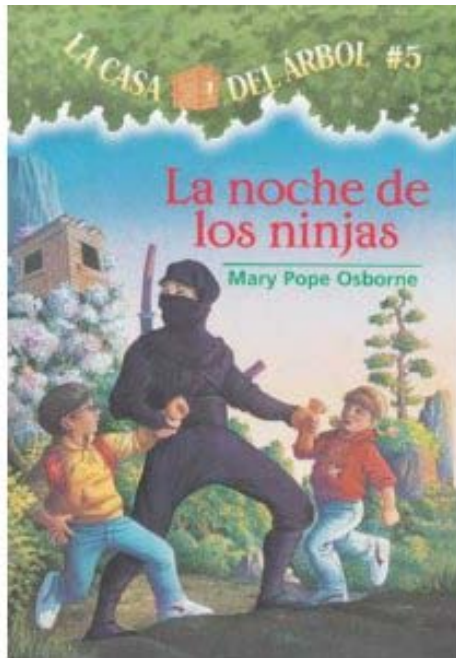
En Kinder, los niños usan la escritura para resumir el argumento de un libro que tiene 10 capítulos



Capitulo Resumir

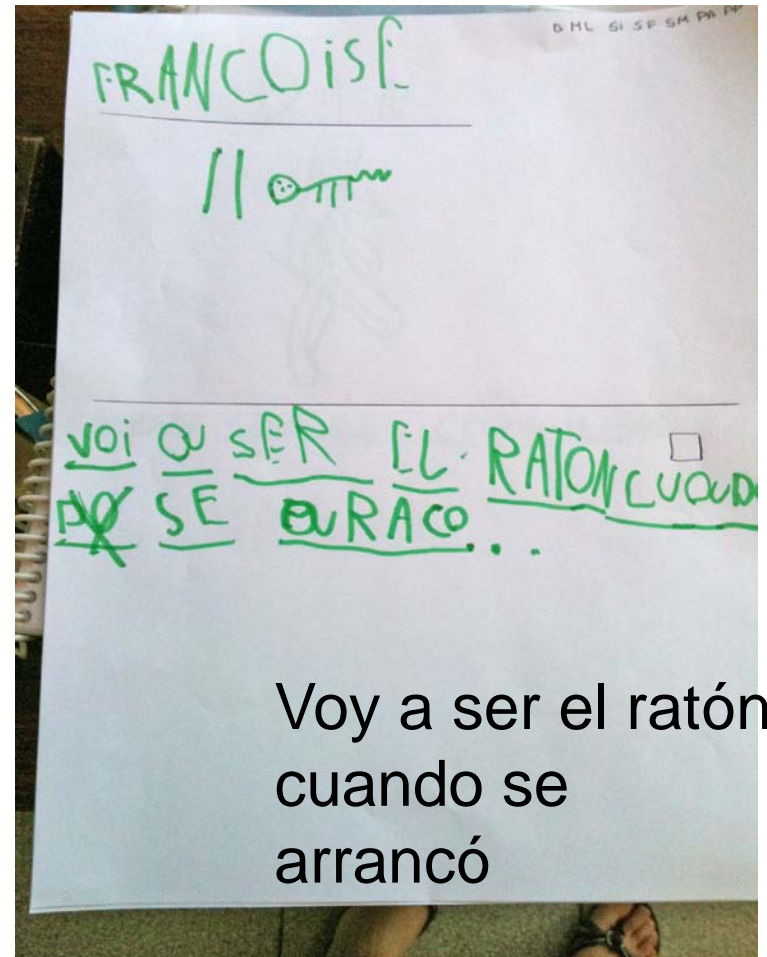


El ninja estaba buscando a Jack y Annie y escondió roca



Children who represent most of the sounds in a word when they write, begin to read earlier

Los niños que escriben la mayoría de los sonidos de cada palabra, empiezan a leer antes



Voy a ser el ratón cuando se arrancó

Math Skills

Habilidades Matemáticas

Números

- Rote counting
- Meaningful counting
- Recognizing numerals
- Representing numbers with manipulative
- Conteo de memoria
- Conteo Significativo
- Reconocer numerales
- Representar números con cuentas manuales



Patrones

- Represented with different symbols, actions, pictures.
- Compare and complete patterns
- Representado con símbolos diferentes, acciones, imágenes.
- Comparar y completar pautas



Geometría

- Do puzzles
- Identify shapes
- Identify component shapes
- Identify attributes
- Resuelve puzzles
- Identifica formas
- Identifica formas compuestas
- Identifica atributos



Ciencia

- Observe objects and describe them
- Make measurements and quantify observations
- Make hypotheses
- Learn facts from books
- Observa objetos y los describe
- Hace mediciones y cuantifica observaciones
- Formula hipótesis
- Aprende hechos de los libros



High Quality Professional Development

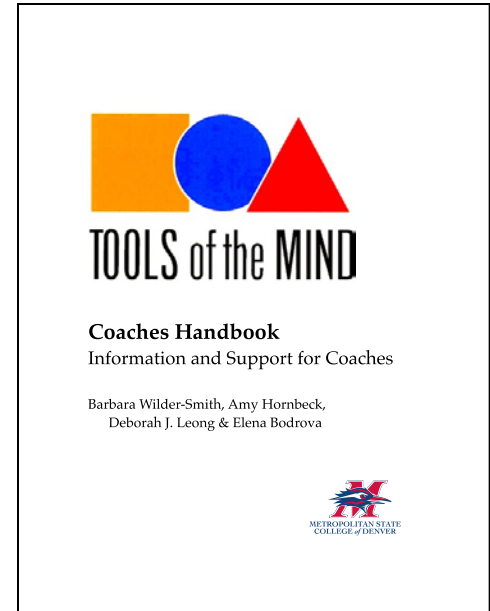
Desarrollo profesional de Alta
Calidad

¿Quién recibe el entrenamiento?

- Teachers
- Assistant Teachers
- An in-district coach
- Special workshops and materials available for Special Education Staff and Administrators
- Profesores
- Auxiliares/Asistentes de Profesores
- Un mentor del distrito
- Talleres y materiales especiales están disponibles para el personal de educación especial y para los administradores

Capacitación de los mentores

- Individualized support for teacher implementation. Helps coach to learn to scaffold for the teachers as you do for the children.
- Coach-teacher communication forms designed to support reflective learning
- Apoyo individualizado para la implementación del profesor. Ayuda a entrenar cómo aprender a construir un andamio tanto para los profesores como para los niños.
- Las formas de comunicación entre el entrenador y el profesor están diseñadas para apoyar el aprendizaje reflexivo



iScaffol d




iPad 7:39 PM 100%

Activity


Buddy Reading

Summary of Steps



Steps

1. Children are sitting on the rug in a random grouping (not assigned seating), book tubs within easy access.
2. Teacher introduces or reviews the tub icons and reminds children of what to do.
3. Teacher releases children in small groups to each select a book from the tubs.
4. Children get their books and return to their seats.
5. Teacher intentionally pairs children, hands out the Lips and Ear cards, and has each child say aloud what he or she will do first.
6. Teacher scaffolds children's oral language and interactions.
7. At the halfway mark, teacher encourages children to exchange cards if they haven't already.






iPad 7:40 PM 100%

Activity

Buddy Reading

Videos



The image shows a screenshot of an iPad screen displaying a 'Buddy Reading' activity. The top status bar shows 'iPad', '7:40 PM', and '100%' battery. Below the status bar is a dark brown header with a white 'Activity' button and a search bar. The main content area has a red header with the title 'Buddy Reading' in white. Below the title is a section labeled 'Videos' in bold black text. There are two video thumbnails: the left one shows a child reading a book with a large white play button overlay, and the right one shows two children sitting on the floor reading books together. On the right side of the iPad screen, there is a vertical dock with several white icons: a home button, a list icon, a camera icon, a video icon, and a book icon.

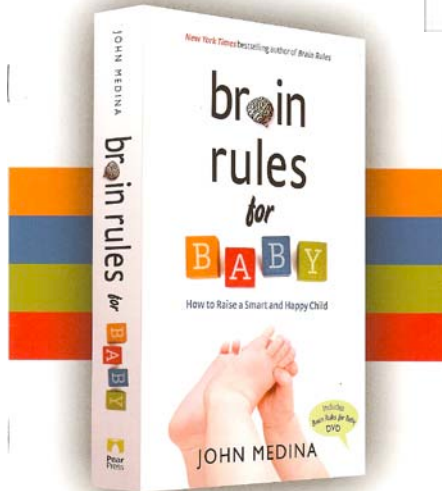
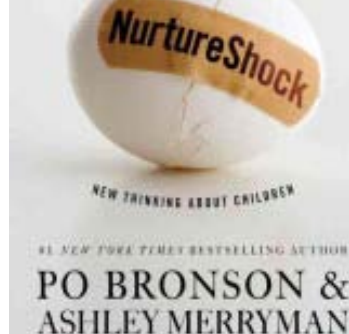


More Information

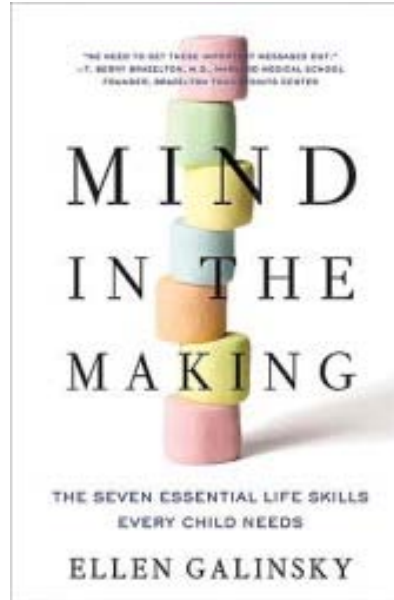
Más información

www.toolsofthemind.org

"Our teachers are one of the most important factors in child development. As a result, I am impressed by the progress research and practice have made. Any effort to improve our schools must start with our teachers." —Dorcas H. Price, author of *What Teachers Know*



OCTOBER 12, 2010



THE EARLY YEARS

Preschool Program Improves Cognitive Control

Adelle Diamond,* W. Steven Barnett,* Jessica Thomas,* Sarah Munro*

Executive functions (EFs), also called cognitive control, are critical for success in school and life. Although EF skills are rarely taught, they can be. The Tools of the Mind (Tools) curriculum improves EFs in preschoolers in regular classrooms with regular teachers at minimal expense. Core EF skills are (i) inhibitory control (resisting habits, temptations, or distractions), (ii) working memory (mentally holding and using information), and (iii) cognitive flexibility (relating to change) (1, 2).

Significance

EFs are more strongly associated with school readiness than are intelligence quotient (IQ) or entry-level reading or math skills (3, 4). Kindergarten teachers rank skills like self-discipline and attentional control as more critical for school readiness than content knowledge (5). EFs are important for academic achievement throughout the school years. Working memory and inhibition independently predict math and reading scores in preschool through high school (e.g., 6, 7).

Many children begin school lacking in EF skills (5). Teachers receive little instruction in how to improve EF and have preschoolers removed from class for poor self-control at alarming rates (8, 9). Previous attempts to improve children's EF have often been costly and of limited success (10–12). Poor EFs are associated with such problems as ADHD, teacher burnout, student dropout, drug use, and crime (2). Young lower-income children have disproportionately poor EFs (13, 14). They fall progressively farther behind in school each year (15).

The Study

The opportunity to evaluate Tools of the Mind (Tools) and another curriculum arose when a low-income, urban school district in Pennsylvania (the district) was selected for a study of the district's curriculum (16). The study was designed to evaluate the impact of the district's curriculum on the district's curriculum (16). The study was designed to evaluate the impact of the district's curriculum on the district's curriculum (16).

agreed to randomly assign teachers and children to these two curricula. Our study included 18 classrooms initially and added 3 more per condition the next year. Quality standards were set by the state. All classrooms received exactly the same resources and the same amount of teacher training and support (2). Stratified random assignment (20), a red heart or flower appeared on the right or left. In the congruent condition, one rule applied ("press on the same side as the heart"). Dots-Incongruent also required remembering a rule ("press on the side opposite the flower") plus a required inhibition of the tendency to respond on the side where the stimulus appeared. In Dots-Mixed, incongruent and congruent trials were intermixed (using all three core EFs). Children were given a lot of time to respond (over five times as long as preschoolers usually take (20)).

Cognitive control skills important for success in school and life are amenable to improvement in at-risk preschoolers without costly interventions.



Children sitting at a table, engaged in an activity.

The central stimulus for our Flanker task was a circle or triangle. Memory demands were minimized by a triangle atop the right-hand key and at the bottom right of the screen, with similar aids at the left-hand circle response. The image to focus on was the small shape in the center, the distractor (or flanker) to be ignored was the larger shape surrounding it. Congruent (e.g., ◯ inside ◯) and incongruent (e.g., ◯ inside △) trials were intermixed. Next came "Reverse" Flanker, where children had to focus on the outside shape, inhibiting attention to the inside, plus flexibly switching

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SCIENCE VOL 318 30 NOVEMBER 2007

Published by AAAS

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Magazine

THE SCHOOL ISSUE: PRESCHOOL

Can the Right Kinds of Play Teach Self-Control?

By PAUL TOUGH
Published: September 25, 2009



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Gillian Laub for The New York Times

The Tools of the Mind program at a school in Red Bank, N.J., encourages "executive function"—the ability to think straight and self-regulate.

"Come on, Abigail."

"No, wait!" Abigail said. "I'm not finished!" She was bent low over her clipboard, a stubby pencil in her hand, slowly scratching out the letters in the book's title, one by one: T H E . . .

"Abigail, we're waiting!" Jocelyn said, staring forcefully at her classmate. Henry, sitting next to her, sighed dramatically.

"I'm going as fast as I can!" Abigail said, looking harried. She brushed a strand of hair out of her eyes and plowed ahead: V E R Y . . .

The three children were seated at their classroom's

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Thanks!
Gracias!

