

# 美國的語文教育改革

台東大學 特殊教育學系

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# 以下的報告感謝...

- 國立台東大學及特殊教育系
- 國家科學委員會
- 美國University of Virginia

鼎力協助

# 本次報告主要內容

- 一. 沒有孩子落後 (No Child Left Behind Act)法案
- 二. 科學證據本位的語文教學方法
- 三. 一所反敗爲勝的學校



# — No Child Left Behind Act

## A New Era in Education

N C L B : 美國教育史首次把權力從各州向聯邦政府集中的法案

**“When it comes to the education of our children...failure is not an option.”** 談到孩子們的教育...失敗絕非選項之一

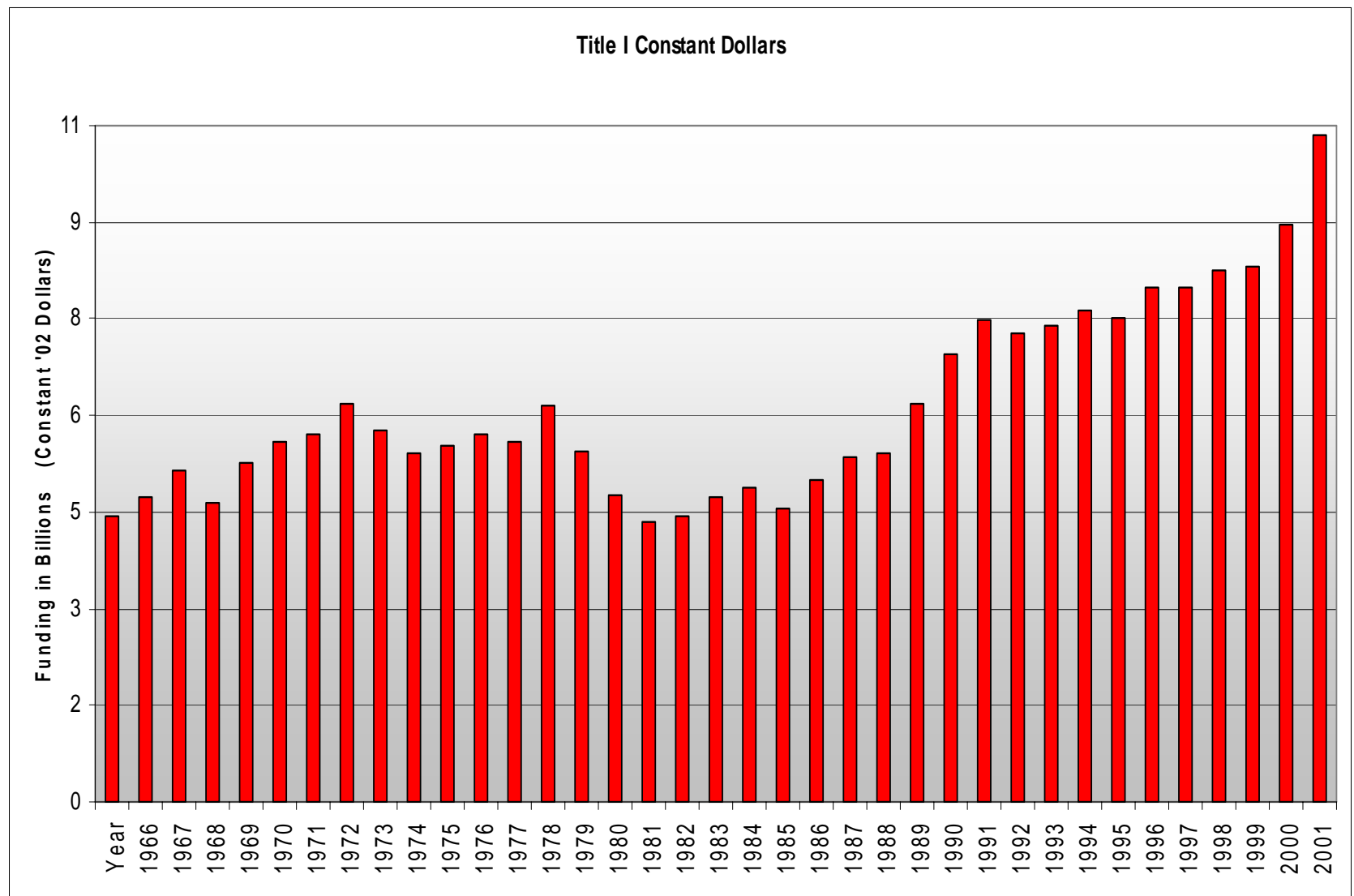
**President George W. Bush**  
**August 1, 2001**





# Is spending the problem?

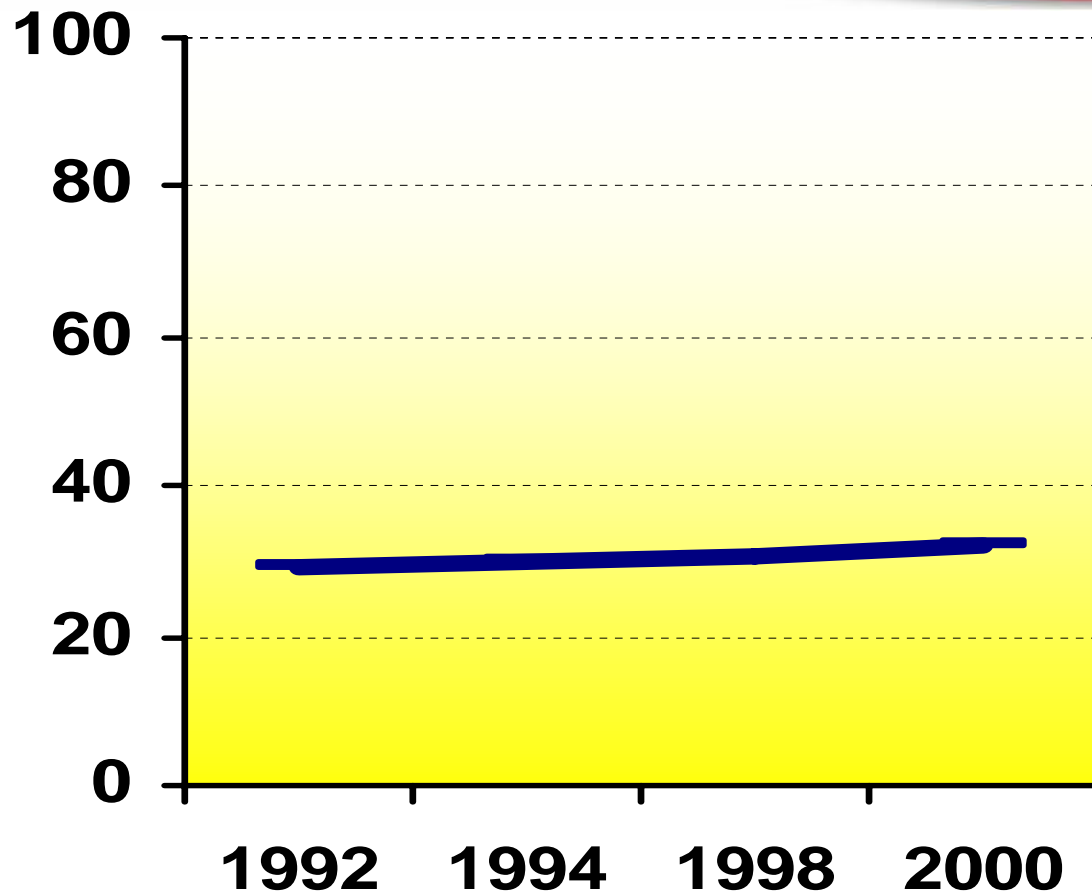
教育問題是經費不夠導致的嗎？



**Even when accounting for inflation, funding has doubled since 1985. 即使把通貨膨脹算進去，教育預算從1985年來還是增加了兩倍**

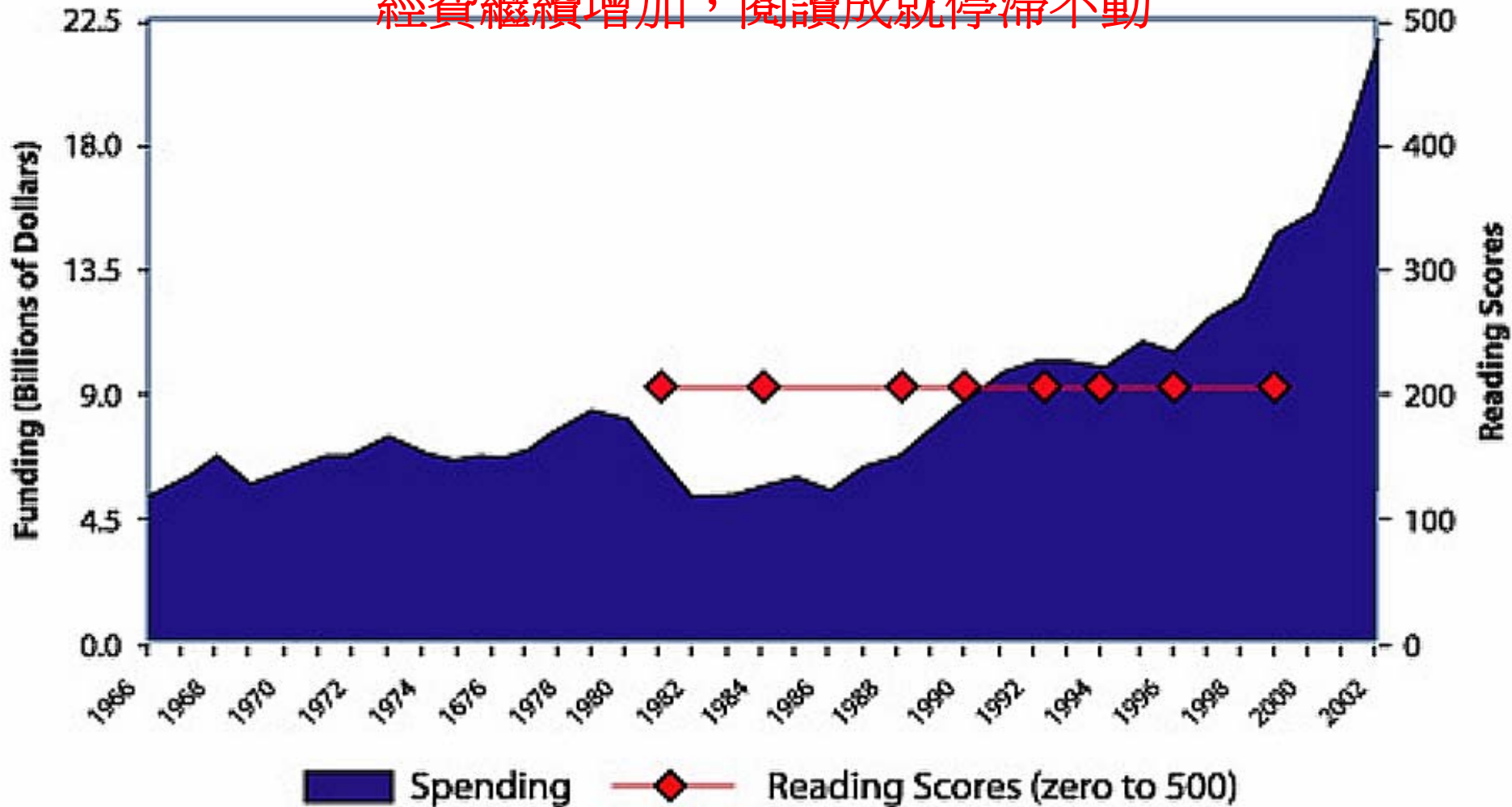


# Percentage of Fourth Graders Reading Proficiently (四年級生超過閱讀成就標準的比例)



# Reading Scores and Funding

經費繼續增加，閱讀成就停滯不動



Spending has increased but test scores have not.

**“Insanity: the belief that one can get different results by doing the same thing.”** 瘋狂：就是相信不斷重複老招，事情就會改變”

**-Albert Einstein** 愛因斯坦





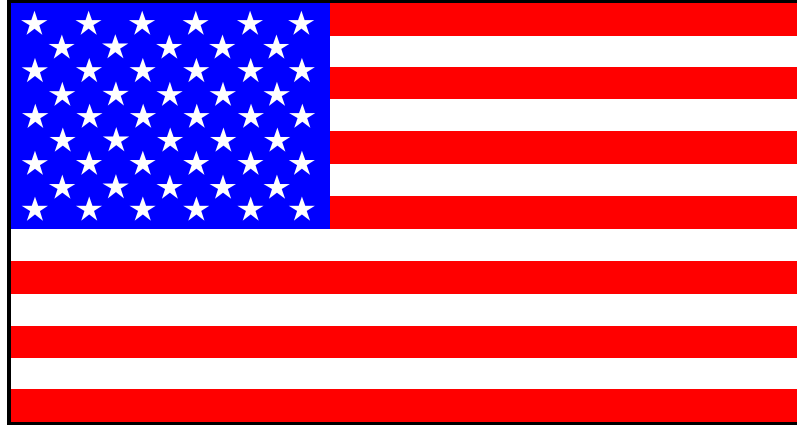
**Schools using  
proven teaching  
methods will  
measure success  
by one measure  
alone: *Is every  
child learning?***

那些使用被證實的優良  
教學法的學校，只用一  
件事來檢驗自己辦學是  
否成功：*到底是不是每  
一個孩子都在學習？*

**This isn't a Republican law.**



**This isn't a Democratic law.**



**This is an American law.**

這個法案無關政黨

**“America’s children depend on us. We must not thrust that burden onto our posterity. It is ours to bear.”**

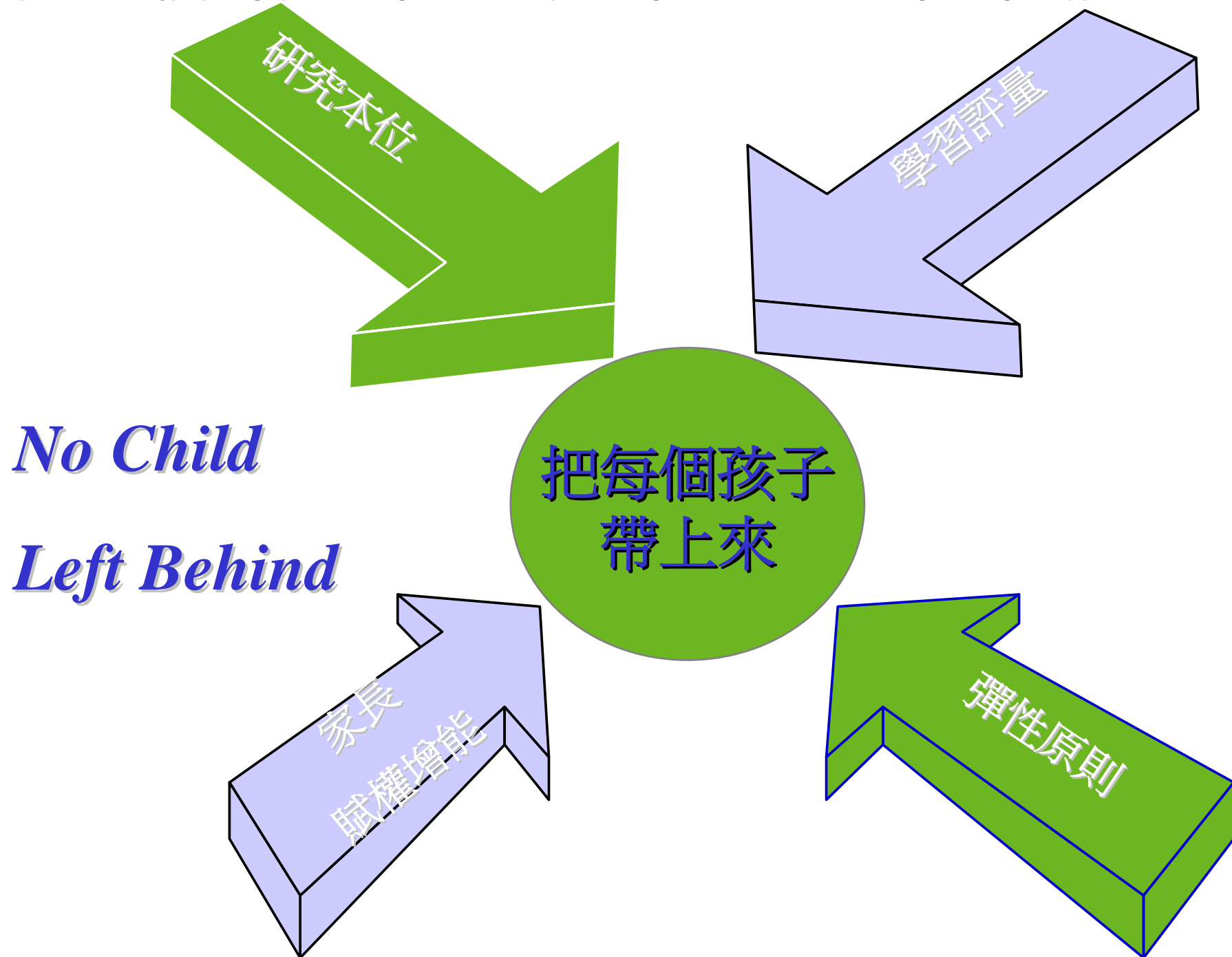
我們是美國孩子們的依靠，我們絕不能把責任推給後代，  
這是我們該擔負的責任

**-U.S. Secretary of Education Rod Paige, January 9,  
2002美國教育部長**



# Four Reform Principles

- ★ **Accountability:** Guaranteeing Results  
績效責任：成果保證
- ★ **Flexibility:** Local Control for Local Challenges  
彈性：地方的挑戰，由地方自己負責
- ★ **Research-Based Reforms:** Proven Methods with Proven Results  
研究本位改革：用被證實的教學法
- ★ **Parental Options:** Choices for Parents, Hope for Kids 家長的選擇權，孩子的希望







# Accountability 績效責任

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Accountability begins with informed parents, communities and elected leaders so we can work together to improve schools.

# How will states measure progress for schools and students? 各州如何評量各校學生的進展?

- ★ Test every child in grades 3 through 8 in reading and math. 3到8年級學生，每一個都要接受閱讀和數學測驗
- ★ States will implement fair and effective annual tests. 各州將實施公平有效的年度測驗
- ★ Washington will provide funding to states to design and implement tests. 華盛頓將提供經費幫助各州設計和實施測驗

# How will measuring progress every year help to improve schools? 為什麼年年考試可以幫助學校改進?

- ★ Information is a powerful tool for change. 資訊可以造成改變
- ★ Annual testing tells us if students are making progress. 年度測驗告訴我們學生到底有無進步
- ★ Annual tests show educators what is working and what areas need improvement. 測驗讓教育者知道什麼有效，什麼需要改進

Improving schools through accountability means setting annual goals for improvement.

藉績效責任制改進學校就是要訂下年度的進步目標

According to a former school board member of a major urban school district:

"School systems and schools exist to educate students...It is almost inconceivable that a school system would not want to know the answer to the most fundamental of all questions: Are the children learning?" 我不能明白, 爲什麼會有學校系統會不想知道"孩子有沒有學習"這個基本的問題

# What if schools do not improve?

## 如果學校沒有進步？

- ★ Parents, voters, and taxpayers will know if schools are improving. 家長、選民、納稅人會知道學校是否有進步
- ★ Schools that do not improve will receive extra help with planning and technical assistance. 沒有進步的學校會得到協助
- ★ After receiving extra help, schools that do not improve may be restructured. 再不進步，可能解散
- ★ *No Child Left Behind* provides new hope for students in schools that are dangerous or in need of improvement



A series of blue stars of varying sizes arranged in a slightly curved line above the title.

# Flexibility彈性

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*No Child Left Behind* gives communities the freedom to find local solutions for local challenges. 給地方社區自由去解決地方的挑戰



**Local control and flexibility means federal money can go to the classrooms where it is needed most. 意即, 聯邦的經費會用在最需要的教室裡**

**For example...  
to provide more local control and  
flexibility, 50% of the formula  
funding from the following  
programs may be distributed among  
any of the programs: 50%經費可以流  
用在以下三個領域**

- ★ Teacher Quality
- ★ Education Technology
- ★ Safe and Drug-Free Schools





**Local Control and flexibility means money goes to solve problems, not to subsidize bureaucracy.** 錢用在解決問題, 而不是補助官僚體系



# ***How *No Child Left Behind* ensures improvements:***

*No Child Left Behind* encourages federal funds to be invested in educational practices that work. (錢用在有效的教育措施上)



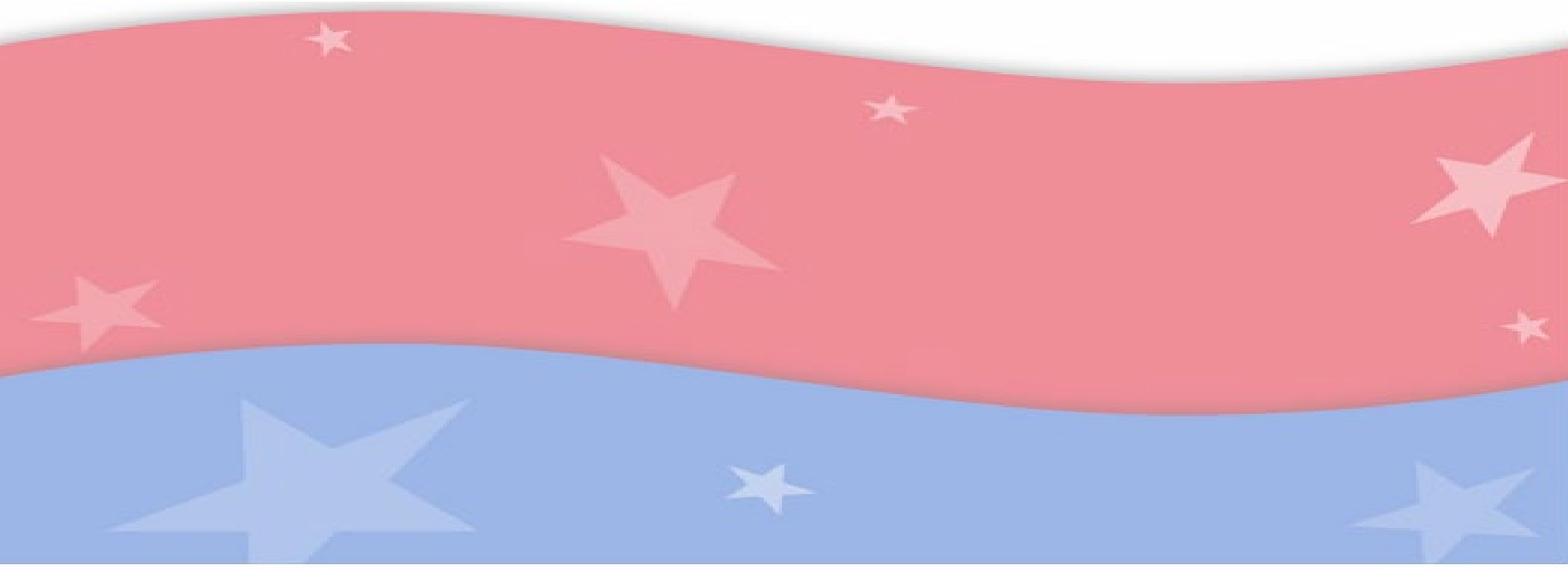


# Research-Based Improvements

- ★ **The Problem:** Some schools use unreliable and untested methods that can actually impede academic progress. 問題: 有些學校用未經證實的教學法, 可能妨害學業進展
- ★ **The Solution:** Encourage schools to use evidence-based practices and materials. 鼓勵學校用證據本位的教材教法

**Solid research equals solid results.**紮實的研究就是紮實的成果

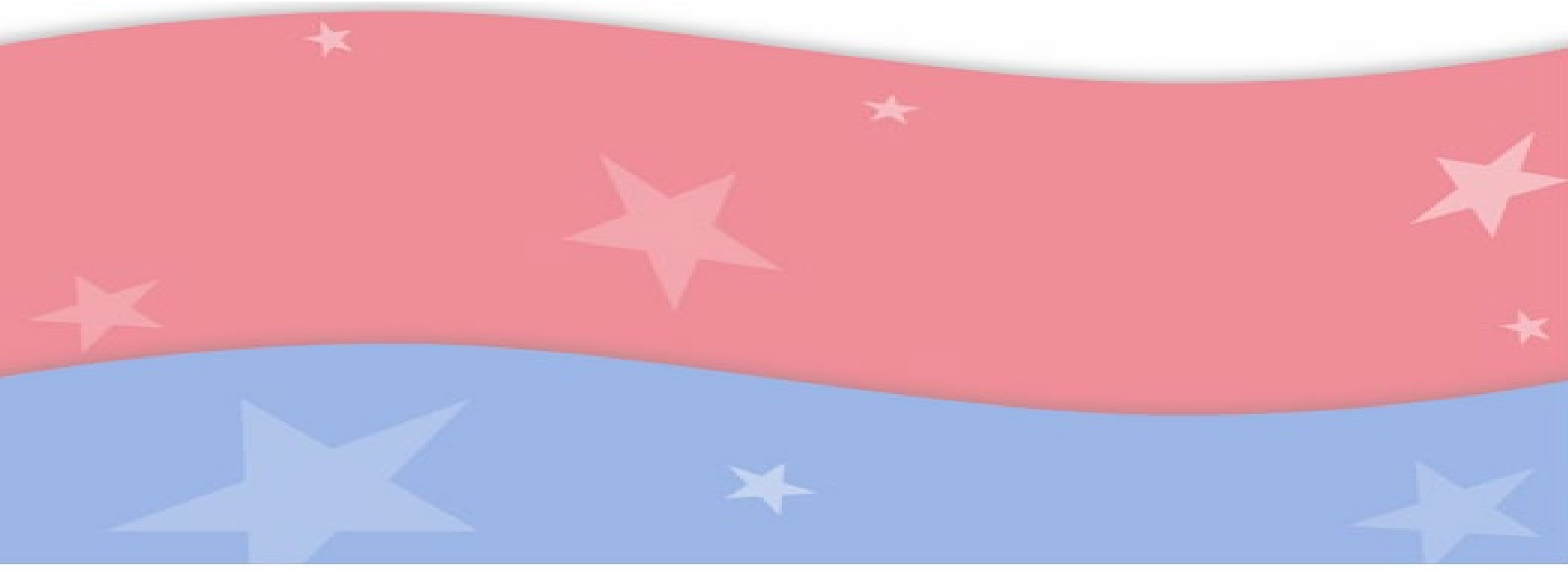
Doctors use solid research before treating patients. Teachers and schools must apply just as much care.



# What is reliable research 可信的研究?

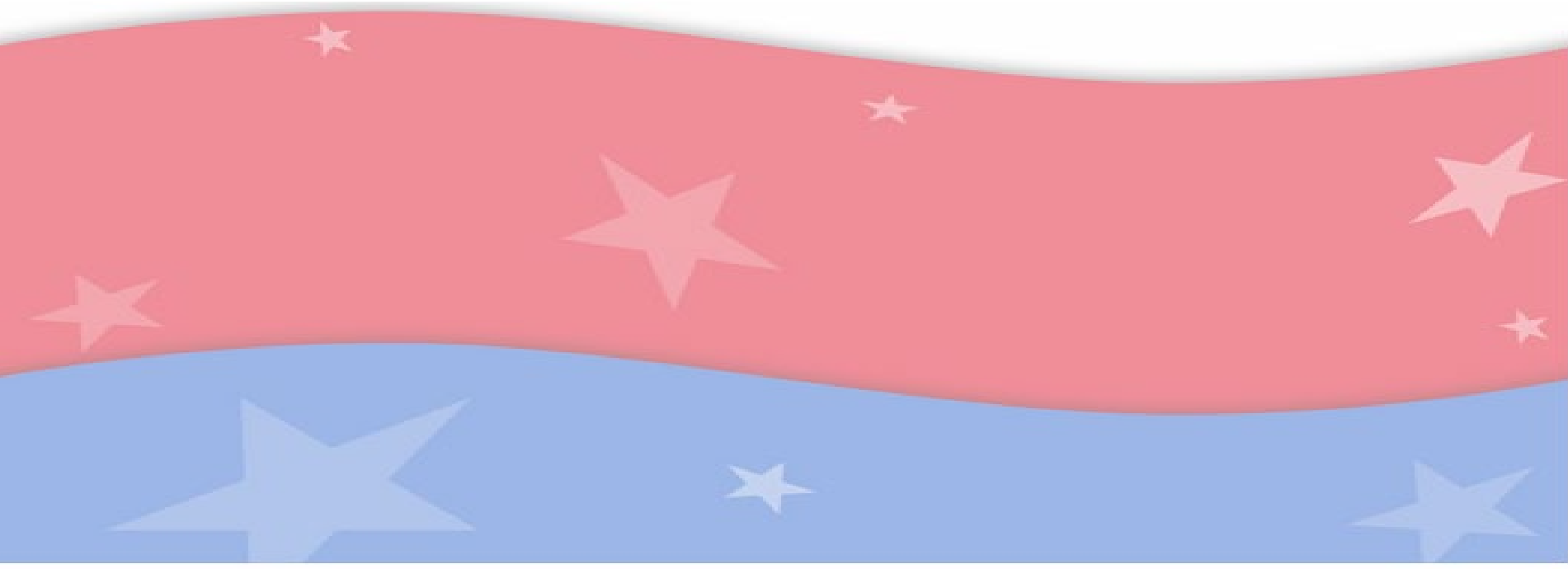
## Scientific method-科學方法

- Hypothesis 假設
- Controls are used 控制組
- Outcome proves or disproves the hypothesis
  - 假設被支持或否證



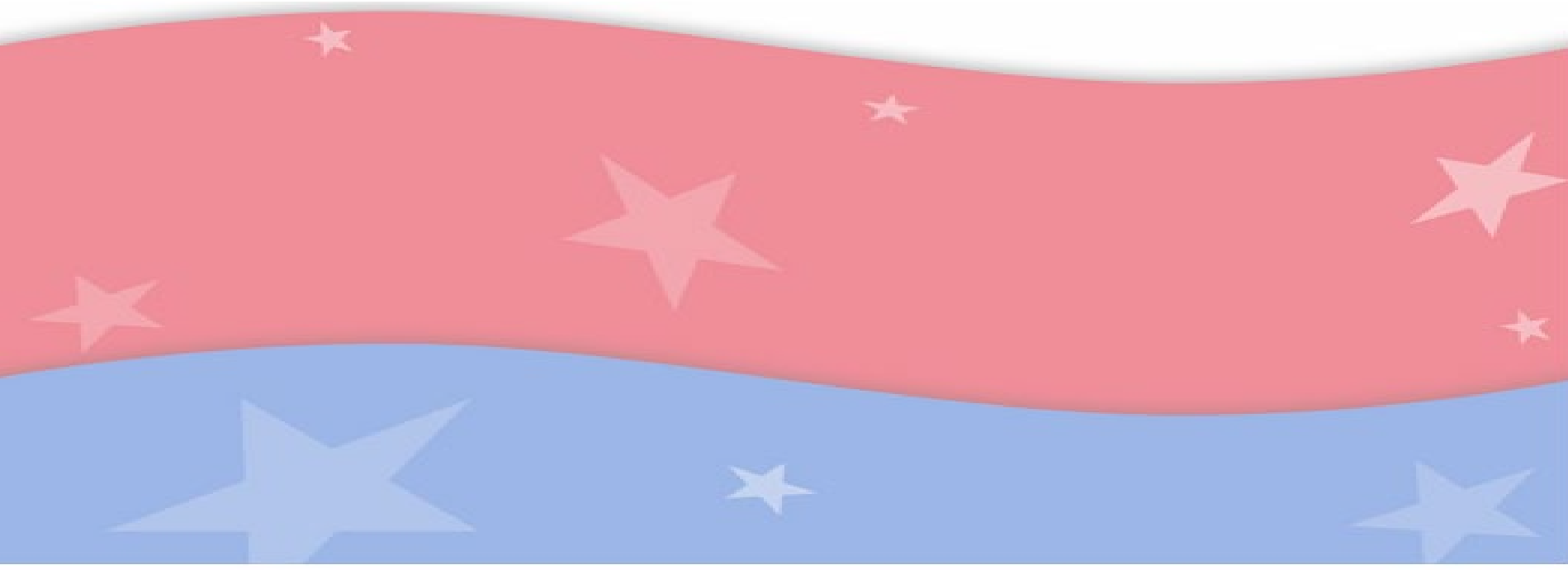
**Replicated**- Repeat studies find the same results.

研究結果可被複製



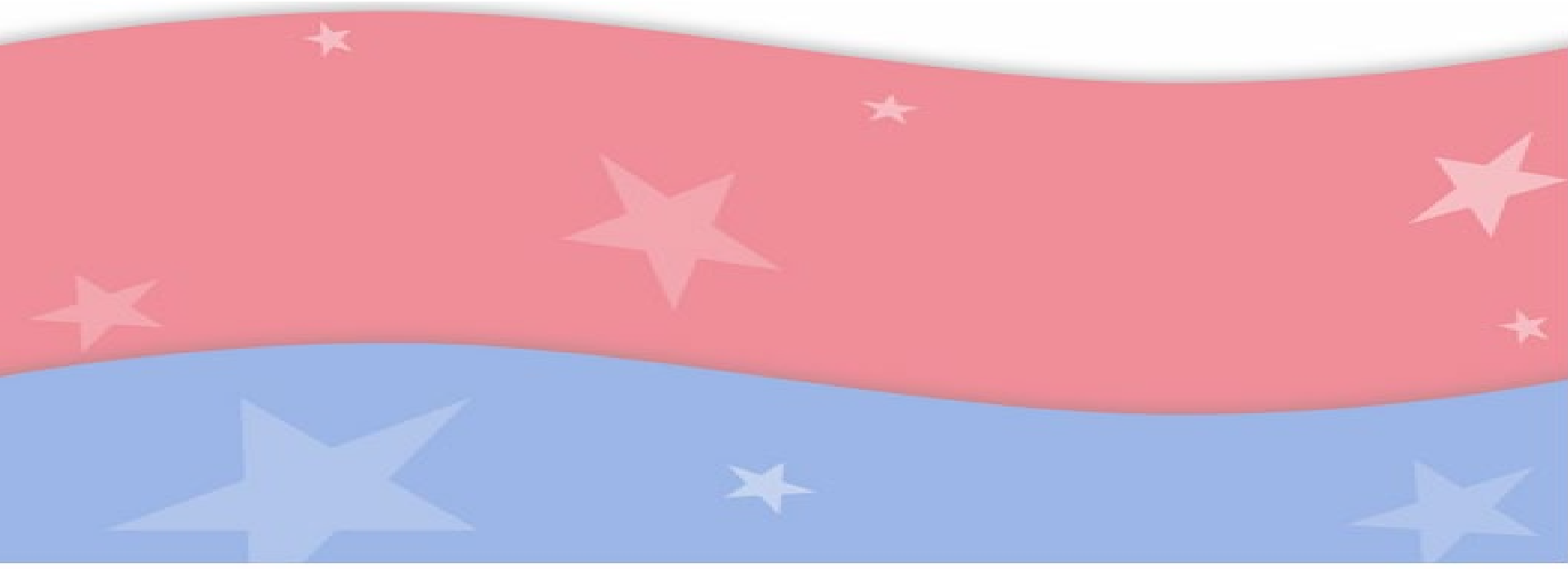
**Generalized**- Study findings represent truth for the general population.

研究結果可被推廣



**Meets Rigorous Standards** - Methods and conclusions must be confirmed by peer review.

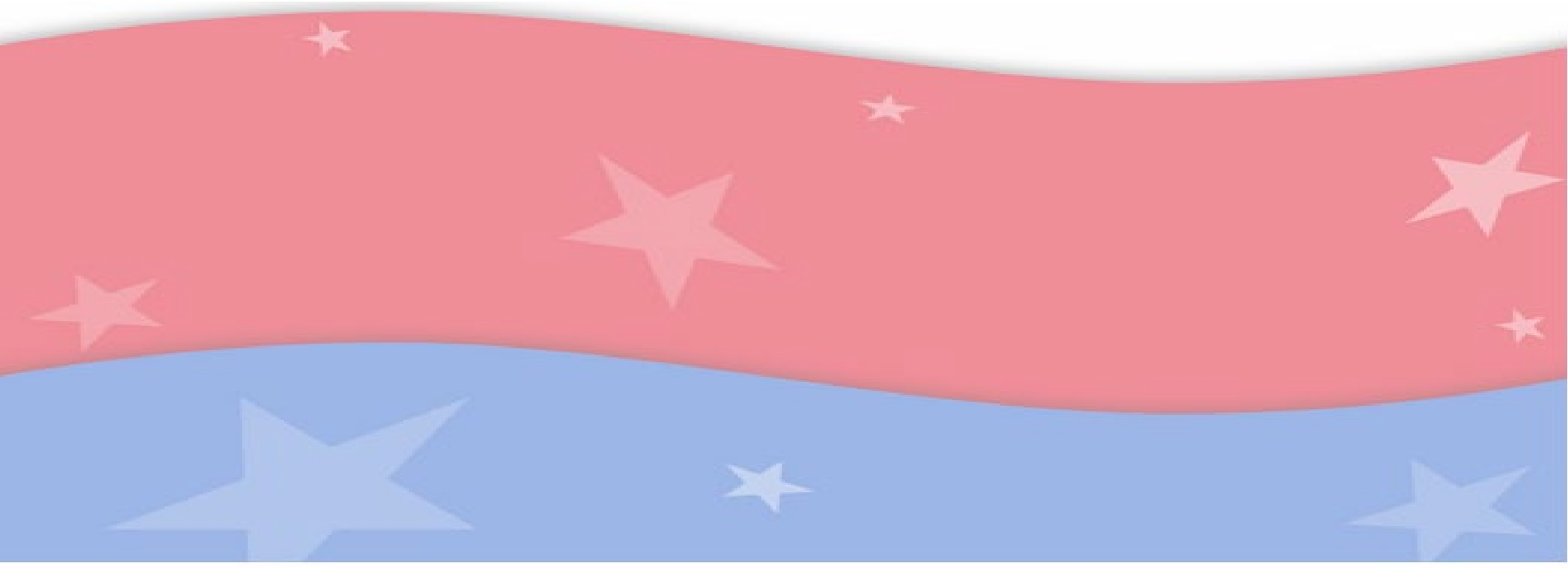
研究方法和結論有專家的審議, 認為是適當的





**Convergent findings**- Conclusions are in line with findings from other studies.

不同的研究，支持了相同的結論



# ***No Child Left Behind* helps prepare and protect teachers. NCLB有助於師資培育和保護老師**

- ★ Protects teachers from frivolous lawsuits. 保護老師免於痛苦的訴訟
- ★ Provides teachers the very best tools for teaching such as scientifically proven methods, lessons, materials, and professional development. 提供老師最好的教學利器, 如科學驗證過的教學方法, 課程, 教材和專業成長

# Options for Parents 家長選擇權

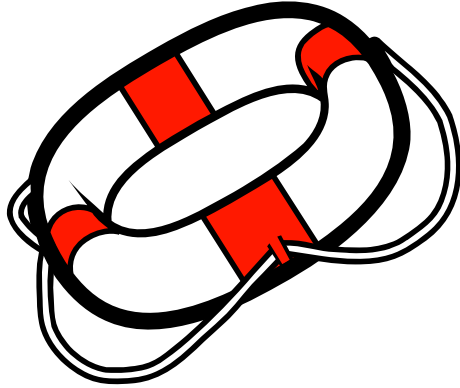
## Means Hope For Kids

*No Child Left Behind* provides a lifeline to parents by giving them information regarding not only how their child is achieving academically, but also how their school and school district are performing as well. NCLB讓家長不只知道他們孩子的學業成就，也告訴家長學校和學區表現的如何

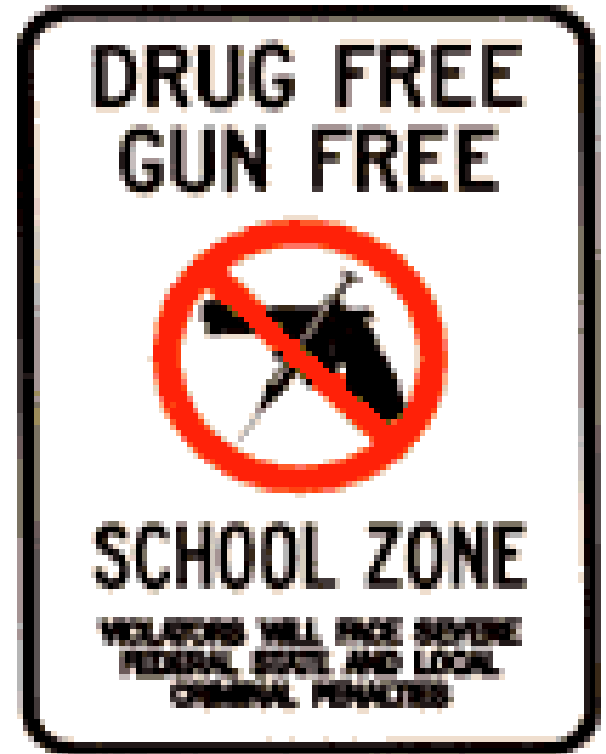


## *No Child Left Behind:*

A lifeline for students trapped in schools that are dangerous or in need of improvement 孩子們若陷在亟須改善的危險劣等學校, NCLB是生命線



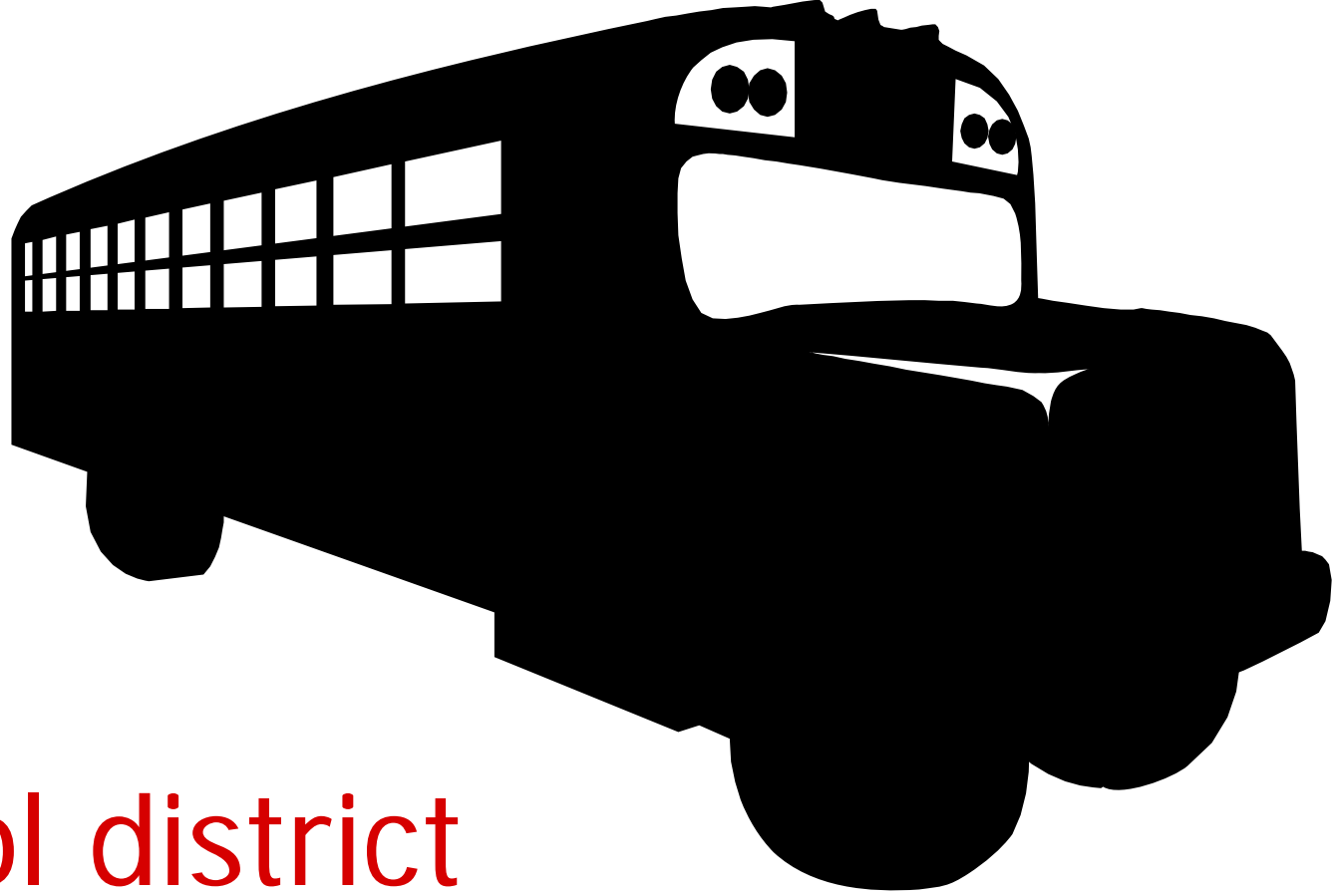
Parents can choose to make a change when their child's school does not improve. 如果孩子的學校沒有改善，家長可以選擇改變



# ***Under No Child Left Behind:***

If a school does not meet its academic growth target for two consecutive years: parents have the right to transfer their child to a successful public school, including a charter school and...連續兩年沒有達到學業成長的目標: 家長有權把孩子轉學到一個比較好的公立學校, 包括公辦民營學校...





The school district  
must pay for  
transportation. 原學  
區必須付交通費用

**If a school has failed for three consecutive years, parents of disadvantaged students have the right to supplemental educational services at the expense of the school district.** 學校連續三年失敗, 不利學生的家長可以要求學區付費, 給孩子



**If a school is designated by the state as dangerous or unsafe, parents have the right to request a transfer to a safer public school.** 如果學校被州政府認定為不安全，家長有權要求轉學到較安全的公立學校





# Parents Must Be Our Partners

“Good education starts in the living rooms of the citizens of this country. It starts with a mom or a dad saying, ‘you turn off the TV and practice reading.’ It means, get rid of the tube and get into the books.”

-President George W. Bush,  
August 2001



# A Call to Action for Parents:

- ★ Parents must be full partners in their child's education.
- ★ Parents, teachers and school administrators hold the key to the success of our schools.
- ★ Parents need to instill values and discipline at home to help their children so they can be prepared to succeed in school.

# Our Nation's Commitment:

★ Every American child can learn.

It is our duty as Americans to  
★ make sure...

*No child is left behind!*





"No Child Left Behind makes history in American education and builds futures for America's students."

Rod Paige, U.S. Secretary of Education

## 二、科學證據本位的 語文教育方法

Scientifically evidence-based reading  
instruction methods

1. 閱讀習得的教學目標
2. 有效的閱讀教學方法

# 美國教育部網站上的 閱讀習得五大支柱

- Phonological awareness 聲韻覺識
- Phonics 語音法
- Fluency 流暢性
- Vocabulary 詞彙
- Comprehension 閱讀理解

# Phonological awareness 聲韻覺識

- 發現說話的語音節是可以拆解成更小的單位
- 發現子音和母音的存在
- 可以玩語音操弄的遊戲
- 發現押韻的樂趣
- 從preschool(三歲)開始教



# Phonics 語音法

- 發現字母(字母串)與語音間的關係
  - 能根據phonics的原則，念出不認識的新字
  - 能快速的學會新詞的拼法
- 
- K — 3 年級學習，3 年級以前掌握

# Vocabulary詞彙

- 從易至難的教導大批詞彙
- 除了語文課外，融在各學科內教學

# Fluency流暢性

- 強調閱讀解碼的速度
- 通常以每分鐘唸幾字為測量標的
- 是過去最被忽略，但最近極被強調的教學領域
- 每個教室都在做

# Comprehension(閱讀理解)

- 強調大量閱讀建立起先備知識
- 強調閱讀理解策略的教學

# 有效閱讀教學成分

聲韻覺識

形音對應

閱讀流暢

詞彙

文本理解

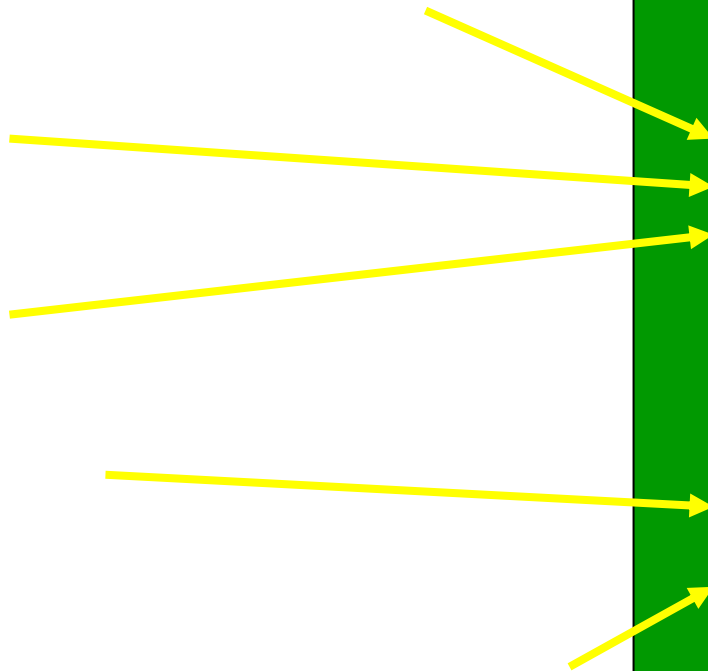
Torgesen (2004)

有效教學方法...

認字正確且流暢

建構字義

專注、有動機



# 有效閱讀指導的特質 (Kavale, 1996)

more intensive 密集的

more relentless 嚴謹的

more precisely 精確的

more highly structured and direct

高結構性、直接的

more carefully monitored for procedural

fidelity and effects 偵測過程與成效

# 有效教學的原則是什麼？

- （一）早期介入
- （二）長時密集式的補救教學
- （三）考慮作業難度，提高學習成功率
- （四）明確的教學
- （五）結構化的教學程序
- （六）教導策略
- （七）與先備經驗做充份的聯結

# 早期介入：美國的啓蒙方案 (**Head Start**)

- 增進弱勢兒童的技能，以便讓他們能與其他一般兒童有較接近的學習起點。
- **1965至1999**
- **3至4歲**
- **80萬學童受益**
- 中央提供規準，地方執行運作。



# 啓蒙方案的主要內涵

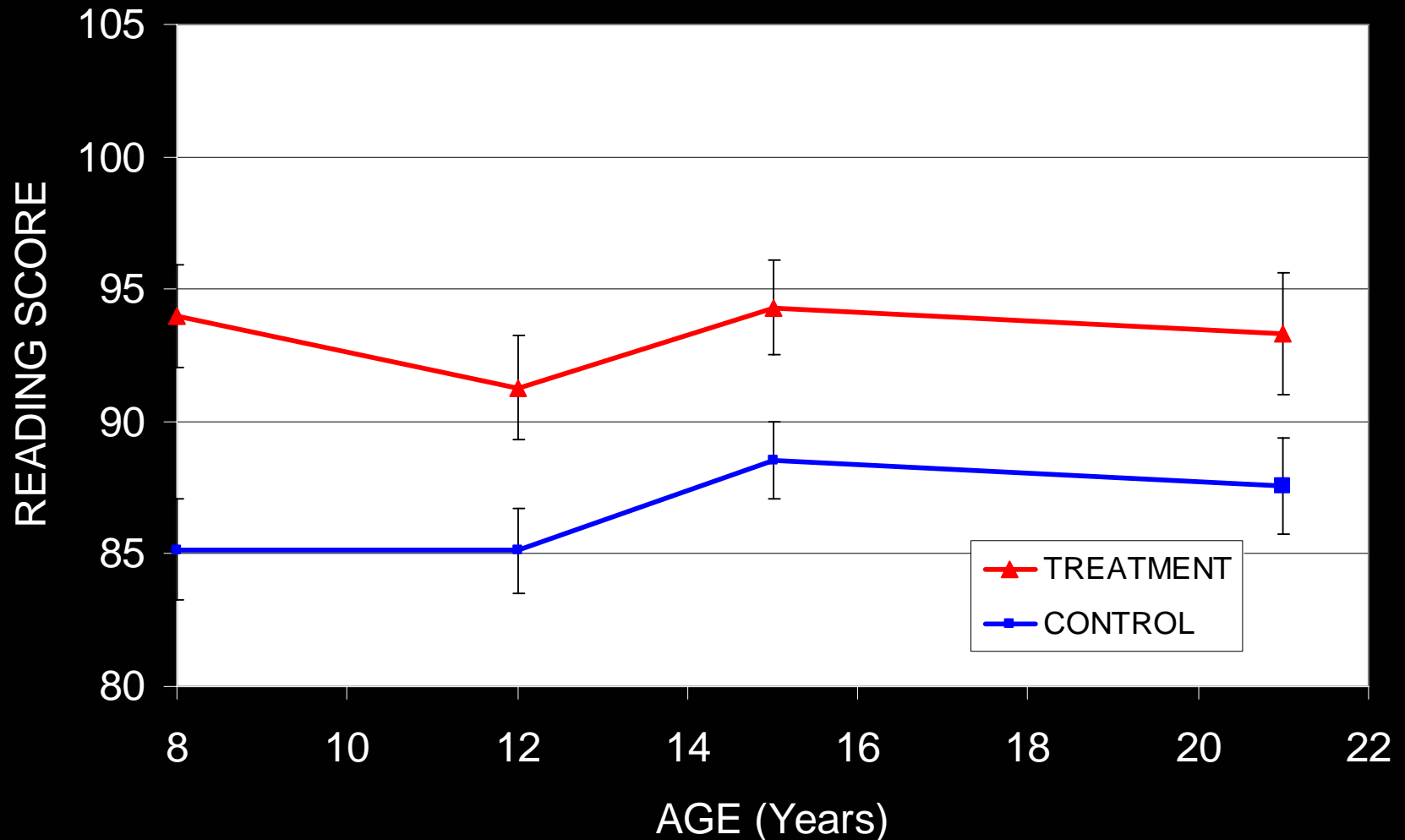
- 直接教學
- 醫療照護
- 營養
- 家長參與
- 家長服務

# the Carolina Abecedarian Project

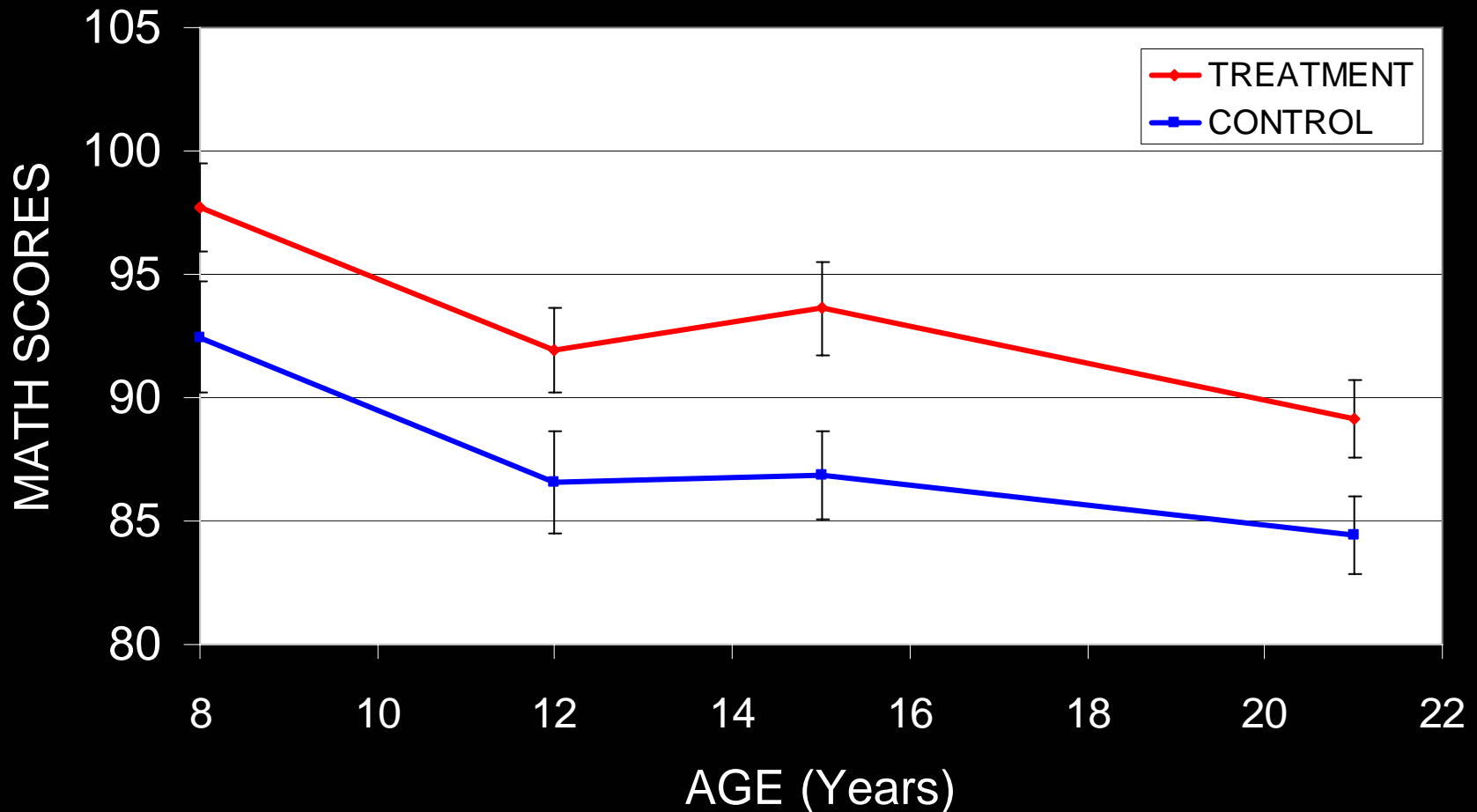
- 每天8小時
- 一週五天
- 0至5歲
- 師生比 1：3 至1：6
- 21歲時追蹤：學業成績較高

完成學業以及進入大學的人數是控制組的兩倍

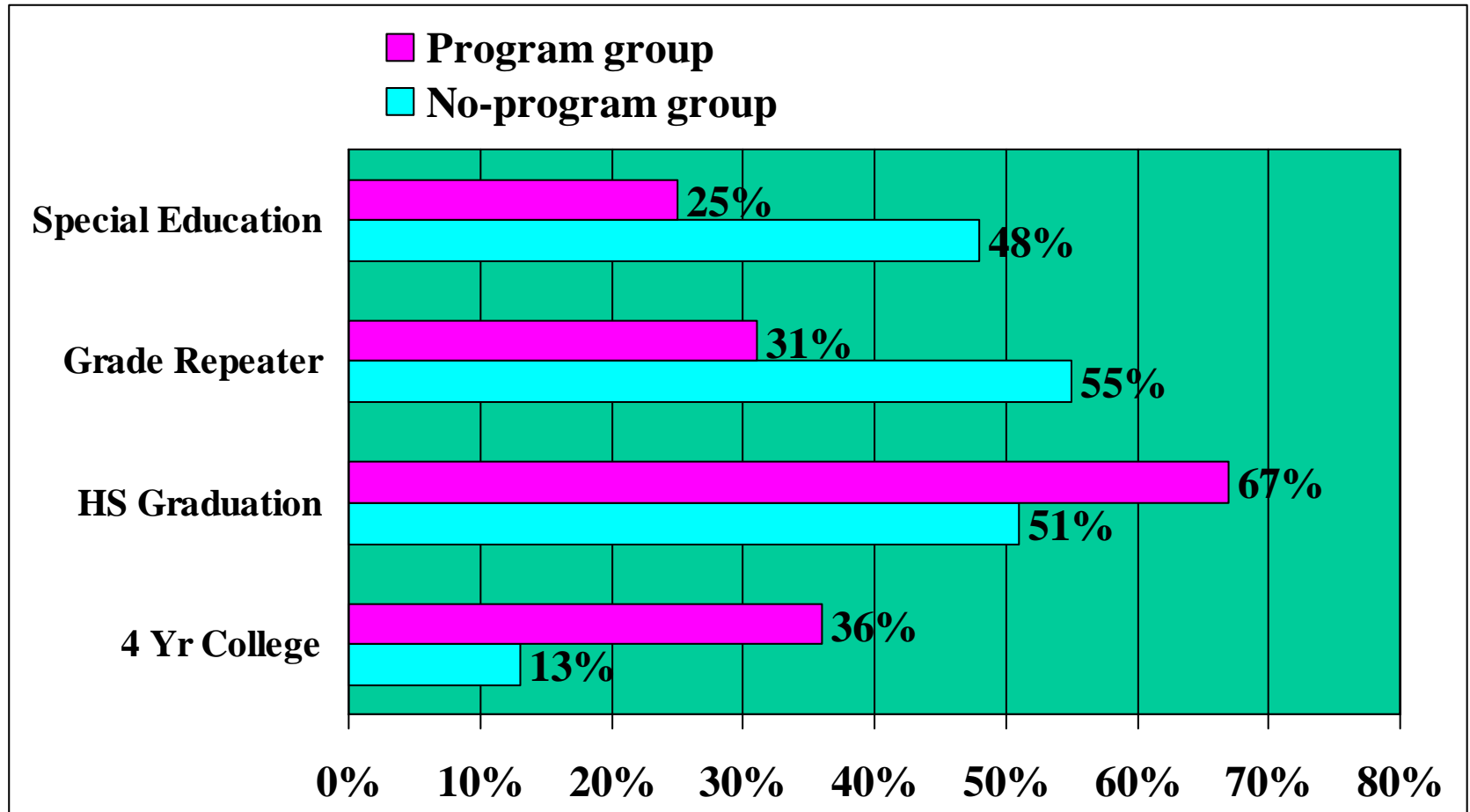
# Abecedarian 閱讀成就長期追蹤



# Abecedarian 數學成就長期追蹤



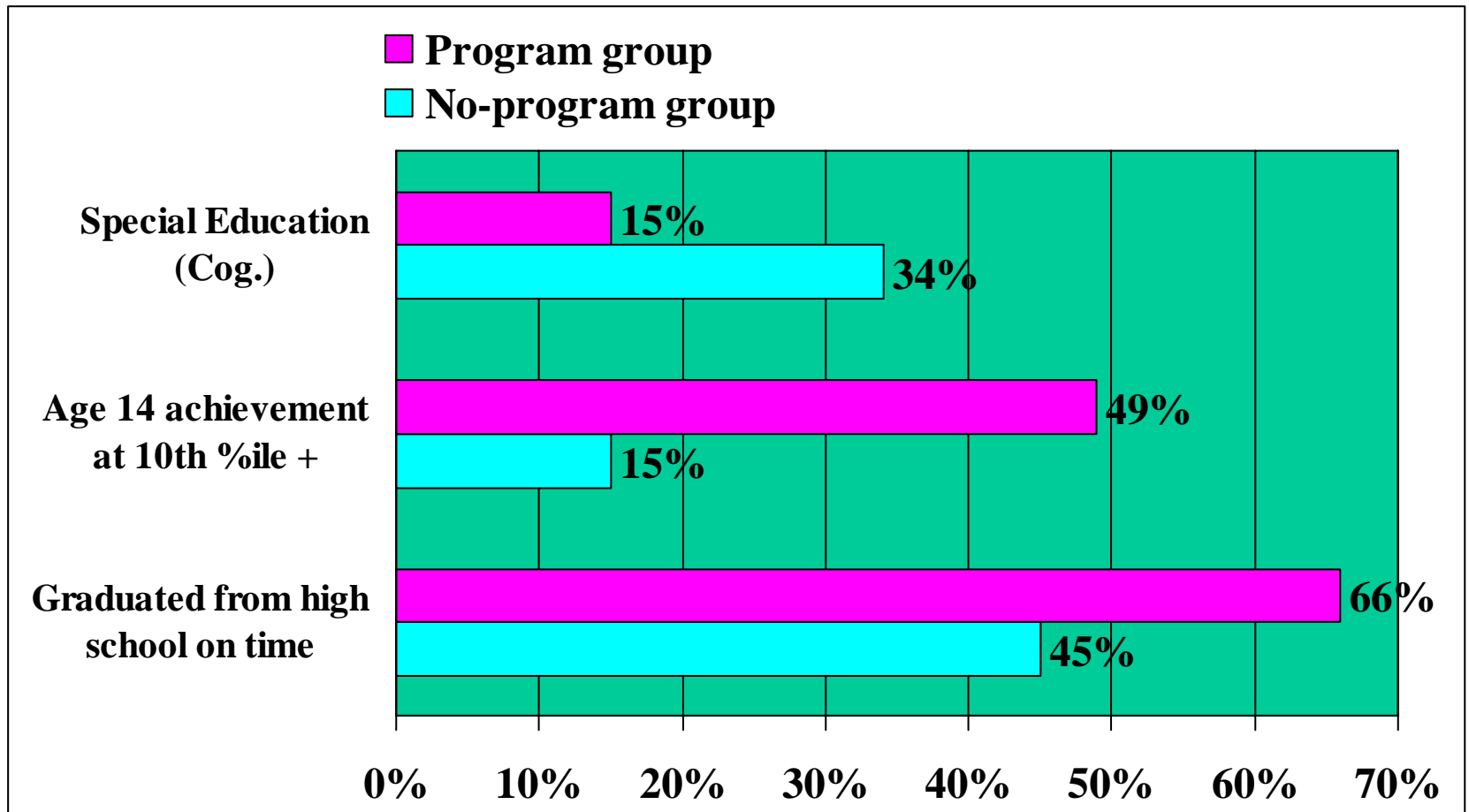
# Abecedarian : 學科成效



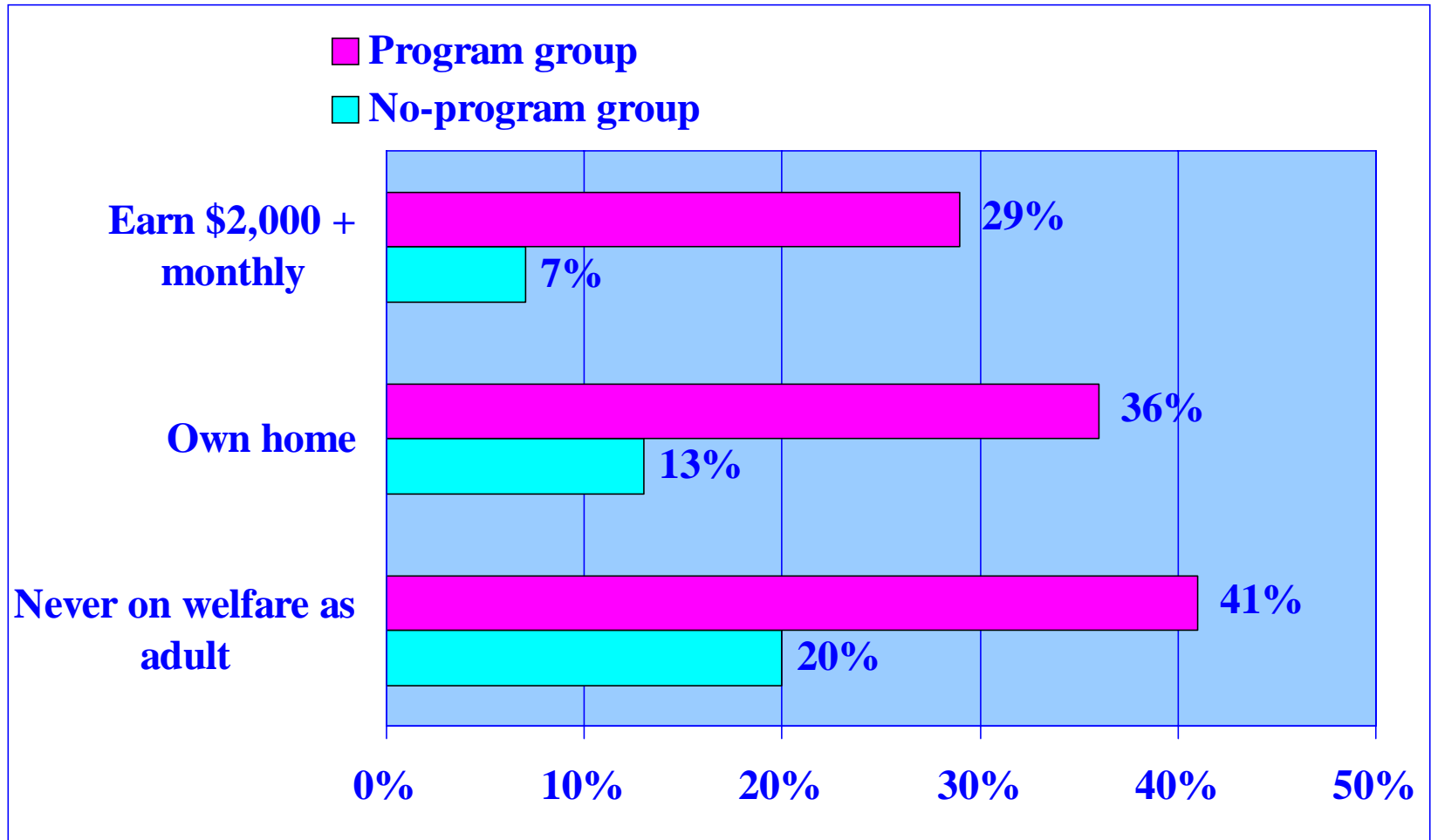
# Perry Preschool Project

- 一週五個半天
- 每週家訪一次90分鐘
- 一年8個月
- 爲期兩年
- 師生比 1：6
- 師資皆有碩士學位，專長於兒童發展
- 於27歲時追蹤：成就測驗較高、完成高中比率較高、收入較高、犯罪率較低、接受社會福利較低

# Perry Preschool: 教育成效



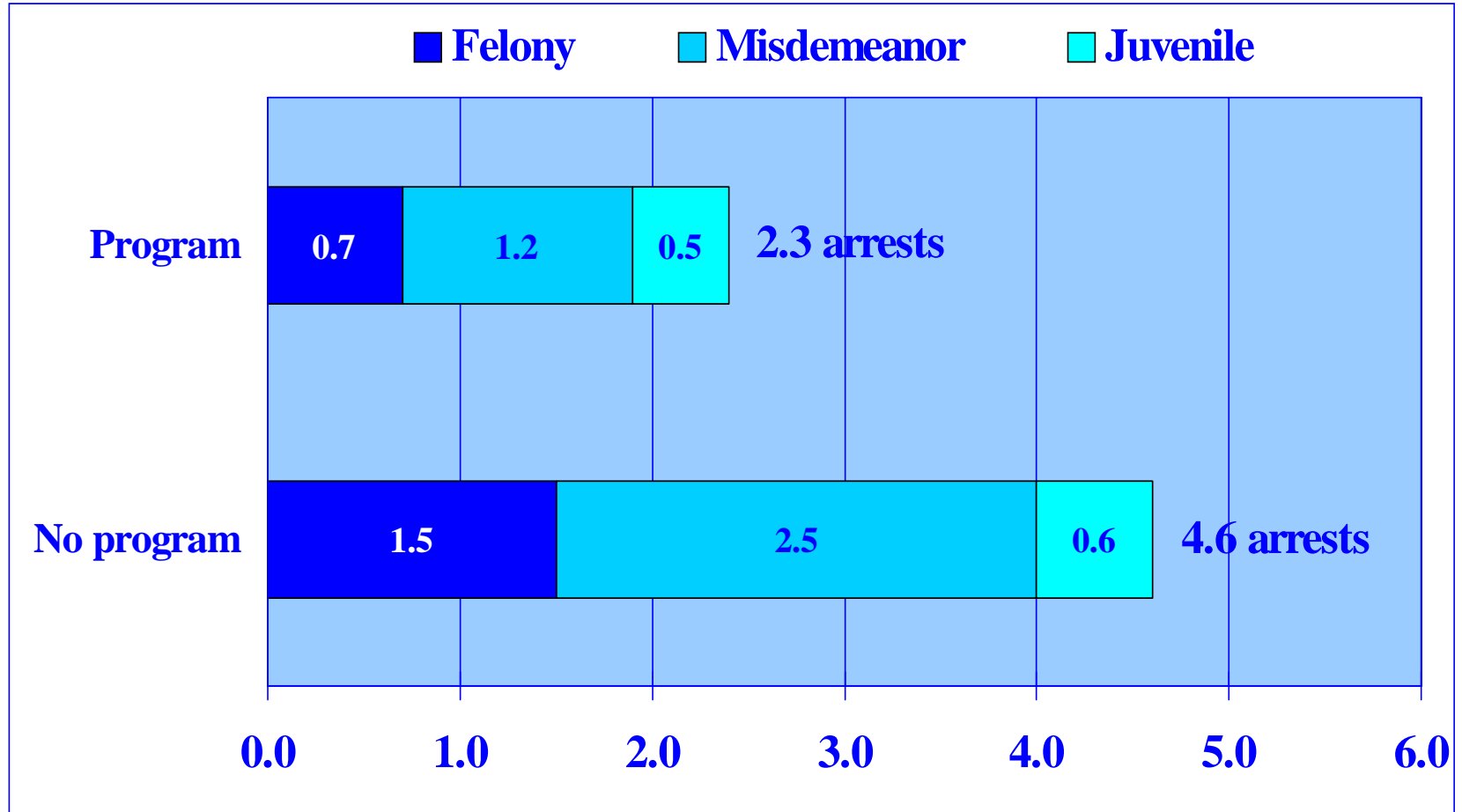
# Perry: 27歲時的經濟效益



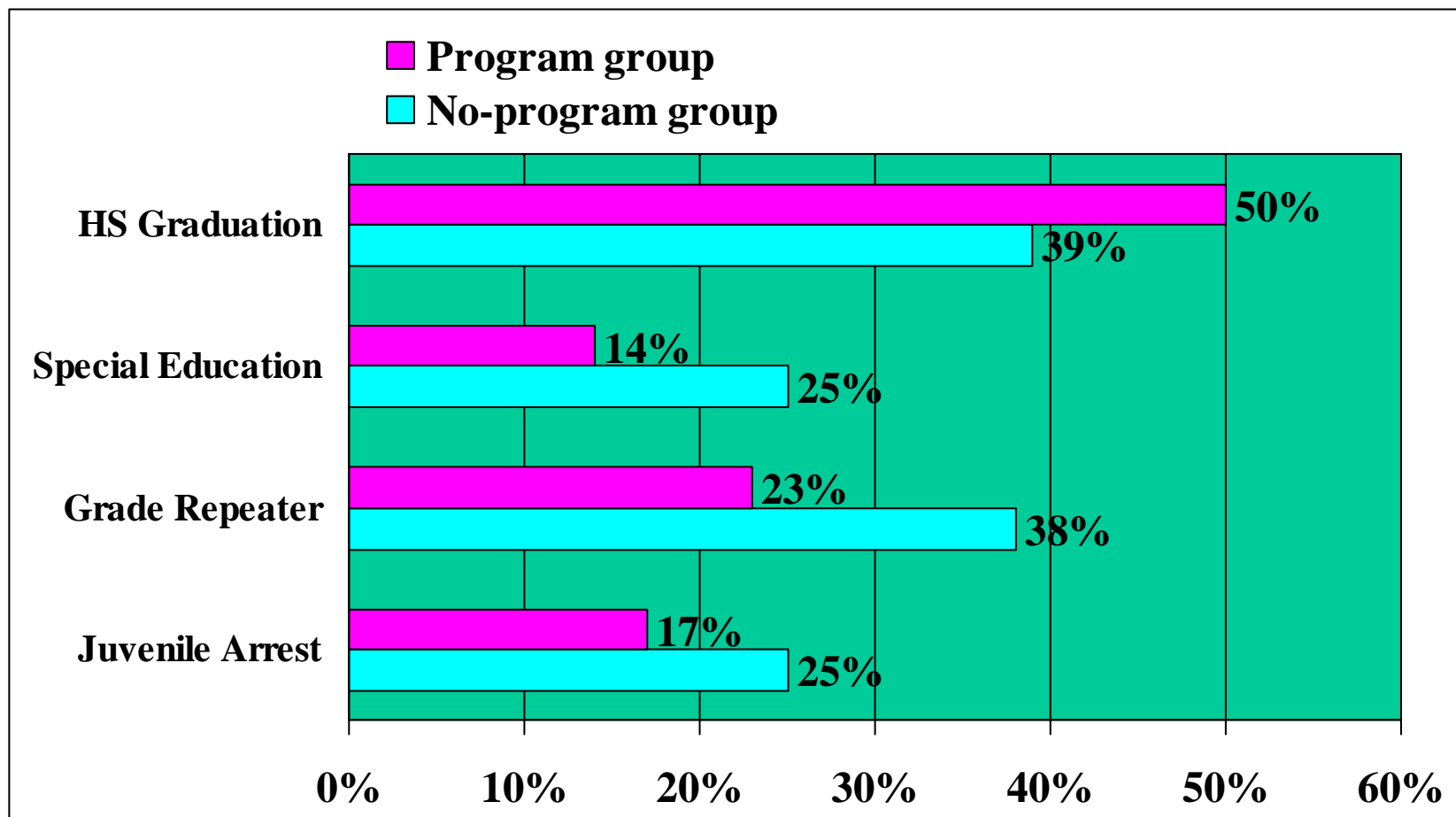


# Perry: Arrests per person by age

## 27



# CPC: Academic and Social Benefits at School Exit



# 學前弱勢學生教育之經濟效益

	Cost	Benefits	B/C
<b>Perry Pre-K</b>	<b>\$16,264</b>	<b>\$277,631</b>	<b>17.07</b>
<b>Abecedarian</b>	<b>\$36,929</b>	<b>\$139,571</b>	<b>3.78</b>
<b>Chicago</b>	<b>\$ 7,417</b>	<b>\$ 52,936</b>	<b>7.14</b>

# 早期介入

- 避免馬太效應：  
貧者愈貧，富者愈富（Stanovich, 1986）。
- 避免習得無助：  
努力看得到成效，成效會得到鼓勵
- 降低成本：  
早期的補救，能使約40%的嚴重閱讀障礙學生回歸到普通教育（Torgesen, Alexander, Wagner, Rashotte, Voeller, & Conway, 2001）

# 何時介入？

- 爲了預防問題變得嚴重，介入必須在國小三年級以前做。(Kennedy, Birman, & Demalina, 1986)
- 閱讀補救教學從一年級開始做最有效；有一些學生必須提供持續性的支持 (Pikulski, 1994)
- Chapter 1的研究建議，學習問題在小學以後進行補救是沒有成效的。(Wasik & Slavin, 1993)

# 長時密集式的補救教學

- 提供額外的閱讀課程，對閱讀高危險群是必須的，但非充分條件，Hiebert等人（1992）的研究發現，不是增加閱讀教學時間，就能使閱讀進步。

# 介入時間要多長？

- 介入的時間**一年以上到兩年**，對於預防閱讀失敗和幫助低成就學生是必要的  
(Barbara, Anthony, Keith, Dennis, 2003 ; Pikulski, 1994)
- 社交技巧訓練的研究也發現，在第二年結束比第一年結束時，兒童的問題降低、能力顯著較佳。(Mcconaughey, Kay, & Fitzgerald, 2000)

## 介入要多密集？

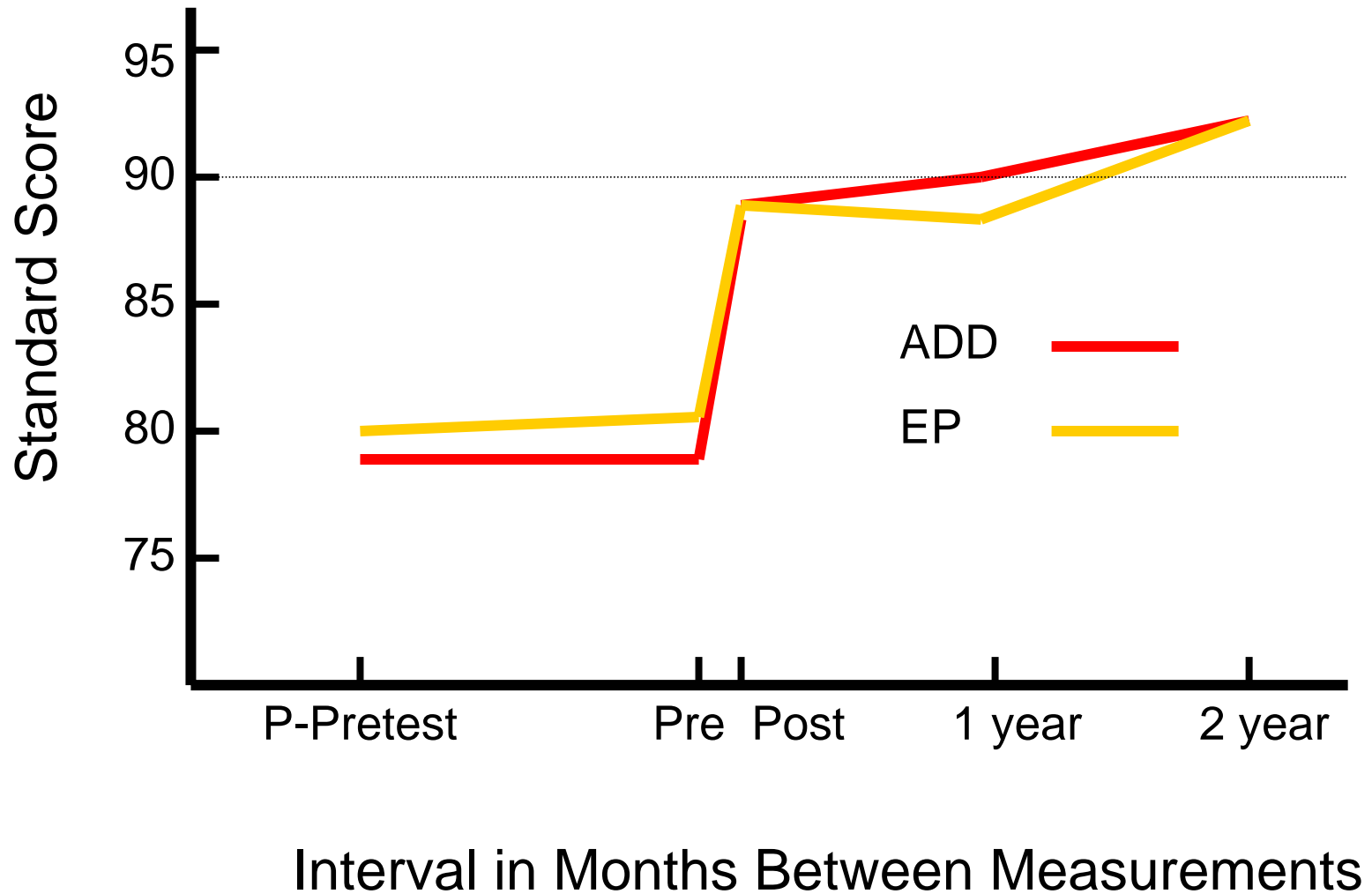
一個密集介入的研究 (Torgesen, Alexander, Wagner, Rashotte, Voeller, & Conway, 2001)

- 對象：8-10歲，60位嚴重閱讀障學童，隨機分派到兩個教學方案中。
- 介入時間：平均67.5一對一的教學，八週每天兩個小時
- 教學方法：

ADD(Auditory Discrimination in Depth)方案  
EP (Embedded Phonics) 方案



## Growth in Total Reading Skill Before, During, and Following Intensive Intervention



# 考慮作業難度， 維持學生高成功率的機會

- 教材難度設計依據：
  - 1.字頻和文長
  - 2.和兒童生活經驗的關連

## IRI 評量結果之參考

層次	認字	理解
獨立自學 水準	100-96%(a) 98% (b)	100-90%
教學水準	95-90% 學前到二年級87-94% 三到六年級 92-96% 六年級以上 96%	89-70% (a) 75-85% (b)
挫折水準	90%以下	70%以下 (a) 50% (b)

洪儷瑜整理

(a) 參考McCormick, S. (1995) , pp. 107-119

(b) 參考McLoughlin & Lewis (1986)

# 明確的教學

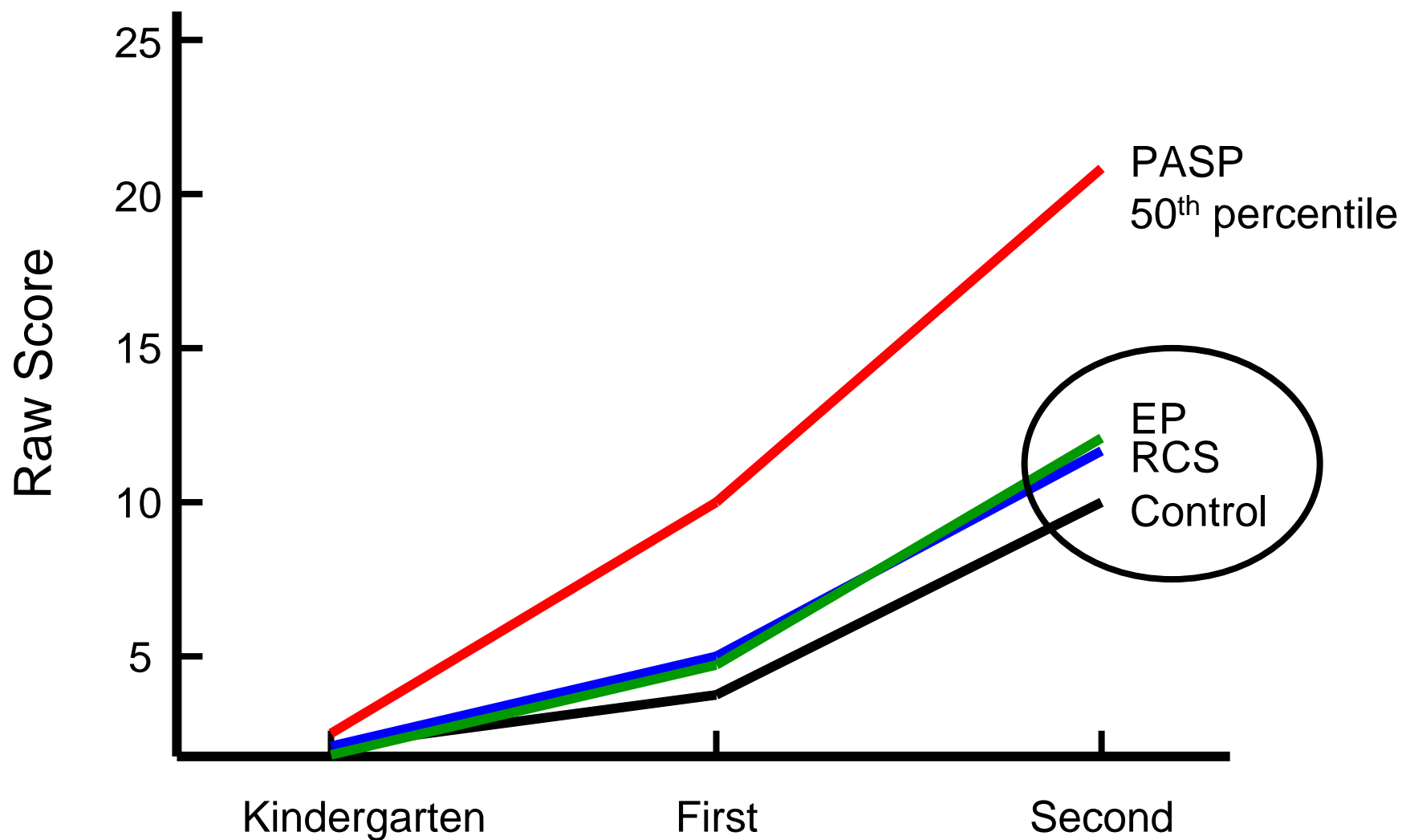
- 閱讀不是自然習得，解碼、字彙辨識和閱讀理解技巧必須直接且系統的被教(Lyon, 1998)
- 清楚明確且一致性的訊號指示，讓學生知道要做什么。 ( Kameenui & Simmons,1990；引自林素貞，2003 )
- 明示的教學比隱含的教學成效佳 ( Torgesen, Wagner, Rashotte, Rose,Lindamood, Conway, &Garvin, 2001 )

# 研究

- 對象：180閱讀障礙幼稚園學童，隨機分派為4組。
- 介入時間：每週4次20分鐘的小組教學，從幼稚園到二年級
- 教學方法：
  1. PASP-Phonemic Awareness and Synthetic Phonics
  2. EP- Embedded Phonics
  3. RSC-Regular Classroom Support
  4. Control

## Growth in alphabetic reading skills from K through 2

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# 結構化與流暢的教學程序

- 低成就兒童經常出現注意力的問題，但在結構化的情境下，兒童較可能清楚的知道「自己在那裡」，也可以預期等一下會發生什麼事，就比較能善用有限的注意力。
- 有效能的教師教學節奏清楚、流暢  
(Englert, 1984 ; Kameenui & Simmons, 1990)

# 教導策略

- 閱讀的策略：預測、畫重點、寫摘要與評價、複習、文章結構策略
- 看故事書，不認識的字怎麼辦？
  - 1.看圖畫
  - 2.看注音
  - 3.看上下文的字
  - 4.看字形，猜字音



- 考試的策略：如先做最拿手的、不要一直停在同一個題目上..等。
- 記憶術：「新的、學習的材料」與「有意義的舊經驗」進行聯想。如八國聯軍是那八國，記憶術是「餓的話每日熬一鷹(俄德法美日奧義英)」

# 與先備經驗做充份的聯結

- 注重先備經驗  
選編教材--學習的內容和兒童的背景知識產生關連。
- 具體的教具（回到發展早期的認知表徵）
- 新材料的意義化

### 三、一所反敗爲勝的學校

弱勢低成就的學童，仍有可爲——**維吉尼亞州Johnson公立小學**的故事

請看附件

# 結語：美國語文教育改革給 台灣的幾個啓示

- 權力及資源由聯邦掌理
- 強調績效責任制，並以定期的監控執行
- 政府有胡蘿蔔，也有棒子
- 強調拉近弱勢族群兒童與常模的差距  
（社經 & 族裔）
- 特別強調早期介入（三年級以前）
- 強調科學證據本位的教材教法