

Topic 3B. Cognitive Development (Older Children)

—How to Enhance Cognitive and Language Development of Middle Childhood to Adolescence

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The Education University of Hong Kong (2021d)

Course Readings

- **Text Reading 3. Shaffer, D. R. & Kipp, K. (2014/2016c).** Chapter 4 Infancy; Chapter 6 Cognitive development: Piaget's theory and Vygotsky's sociocultural viewpoint; Chapter 9 Development of language and communication skills. In *Developmental psychology: Childhood and adolescence* (9th ed.; chs. 4, 6, 9). USA: Wadsworth Cengage Learning.
- **--OR-- Alternative Text Reading 3. McCormick, C. B., & Scherer, D. G. (2018c).** Chapter 3 Cognitive development: Piaget's four-stage theory; neo-Piagetian perspectives on development...; Chapter 6 Sociocultural theories of development and education; Vygotsky's sociocultural approaches to mind...; Chapter 7 Language development and linguistic diversity.... In *Child and adolescent development for educators* (2nd ed; chs. 3, 6, 7). New York: Guilford Press.
(https://julac.hosted.exlibrisgroup.com/permalink/f/1m20kc8/EDUHK_IZ51347160500003410)
- **Supp. Course Reading 3B. Coulter, R. A. (2009).** Understanding the visual symptoms of individuals with autistic spectrum disorder (ASD). *Optometry and Vision Development*, 40(3), 164-175.
- **Supp. Course Reading 3C. Mahoney, G., & Solomon, R. (2016).** Mechanism of development change in the PLAY project home consultation program: Evidence from a randomized control trial. *Journal of Autism and Developmental Disorders*, 46, 1860-1871. <https://doi.org/10.1007/s10803-016-2720-x>

Topic 3B. Cognitive Development (Older Children)

- 3B.1. Fundamental Debates in the Cognitive Development of Middle Childhood
- 3B.2. Facts of Cognitive Development in Middle Childhood
- 3B.3. Interventions
- 3B.4. Case Study

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The Scientific Method: Data Gathering (Shaffer & Kipp, 2014, ch. 1, pp. 10ff [pp. 41-42])

- The most common methods of data collection in child and adolescent are:
 - **Self-reports** (questionnaires and interviews*; diary study*)
 - The clinical method* (a more flexible interview method; Piaget's research on moral reasoning and intellectual development)
 - **Observational methodologies** (naturalistic observations*; structured observations [participants are observed in laboratory setting])
 - Case studies* (detailed portrait of a single individual's development)
 - **Ethnography** (participant observation commonly used in anthropology; detailed portrait of a culture or subculture)
 - **Psychophysiological methods** (measure the relationship between physiological processes and aspects of children's cognitive, social, emotional behavior/development; explore biological underpinnings of children's perceptual, cognitive, and emotional responses, *personality measures**)

Quantitative
Data

Qualitative
Data



NOTE. *Research method for writing your Individual Autobiographical Paper.

3B.1. Fundamental Debates in the Cognitive Development of Middle Children 中童認知發展的基本爭議 (Shaffer & Kipp, 2014/2016, chs. 4, 6, 9)

- What is the most important aspect of cognitive development do you think concerns a child in middle childhood (from age 5 to 12—primarily Primary School children)? 您認為中童期（5歲到12歲 - 主要是小學生）什麼方面的認知發展是最重要？
- Do you think these aspects of cognitive development are developed/matured slowly or quickly? 您認為這些方面的認知發展/成熟是緩慢或快速？



“KJ: *Music and Life*” (by King Wai Cheung, CNEX, 2009):

<https://www.youtube.com/watch?v=8w8Ls8zGCeo>

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3B.2. Facts of Cognitive Development in Middle Childhood 中童期認知發展的事實 (Shaffer & Kipp, 2014/2016, chs. 4, 6, 9)



OVERVIEW

- i. Language Development in Middle Childhood: Syntactic Development; Semantic and Metalinguistic Awareness; Further Communication Skills Development; Sensitive-Period Hypothesis
- ii. Cognitive Development (Intellectual Growth) According to Vygotsky: Socio-Historical Level; Tools of Intellectual Adaptation; Scaffolding; Guided Participation; Zone of Proximal Development; Child's Private Speech (Self-Talk)
- iii. Cognitive Development in Middle Children (According to Piaget): Age 7-12 Concrete Operational Stage; Age 12+ Formal Operations Stage
- Age 7-12 Concrete Operational State: Cognitive Development (Conservation: Decentration); Relational Logic (Transitivity); Concrete Operations (Horizontal Decalage)
- Age 12+ Formal Operations Stage: Cognitive Development (Hypothetical-Deductive Reasoning (Hypothesis Generation Basing on Theory); Inductive Reasoning (Hypothesis Generation Basing on Observations); Personal and Social Implications on Adolescent Development

A photograph of a woman with dark hair, wearing a yellow shirt and a light-colored cardigan, sitting on a grey couch. She is smiling and looking down at a young child with dark hair, who is wearing a blue shirt. The child is looking intently at a book held by the woman. The background is a simple, light-colored wall with a window visible on the left. The text "How can we promote language development in children?" is overlaid on the right side of the image in white, sans-serif font.

How can we
promote
language
development
in children?

Exposure to the Right Environment



Milestones in Language Development (Shaffer & Kipp, 2014, ch. 9, p. 362)

Age	Phonology	Semantics	Morphology/ Syntax	Pragmatics	Metalinguistic Awareness
0-1	- Discriminate speech sounds - Babble sounds of native language	- Understand intonational cues - Use gestures	Prefer phrase structure and stress patterns	- Jointly attend to objects/events with caretaker - Take turn in games/vocalizing	---
1-2	Simplify word pronunciations	- Speak first words - Expand vocabulary rapidly at 18m - Over/under-extend word meanings	- Use less holophrases and more two-word telegraphic speech - Acquire some grammatical morphemes	- Use gestures/intonational cues to clarify messages - Use etiquette 禮儀 in speech	---
3-5	Improve on pronunciations	- Expand vocabulary - Understand/Use spatial words	- Use grammatical morphemes regularly - Aware of most transformational rules	- Understand illocutionary intent 言外之意 - Clarify ambiguous messages - Adjust speech to different audiences	Have some phonemic and grammatical awareness
6-adolescence	Pronounce words <i>like adults</i>	- Expand vocabulary dramatically - Refine semantic integrations	- Correct grammatical errors - Use complex syntactical rules	- Improve on referential communication skills - Detect/repair uninformative messages	Have more metalinguistic awareness as one ages

3B.2. Facts of Cognitive Development in Middle Childhood 中童期認知發展的事實 (Shaffer & Kipp, 2014/2016, chs. 4, 6, 9)

- i. **Language Development in Middle Childhood** 中童期的語言發展 = is characterized by the development in three aspects 有三個方面的特徵: (a) **Syntactic Development** 句法發展; (b) **Semantics & Metalinguistic Awareness** 語義和元語言意識; (c) **Further Communication Skills Development** 進一步的溝通技巧發展.

During Middle Childhood (Shaffer & Kipp, 2014, ch. 9)

• (a) Syntactic Development 句法發展

- Is a period of **syntactical refinement**: Children are learning **subtle exceptions to grammatical rules** and coming to grips with the **more complex syntactical structures** of their native language
 - Clark & Clark; Eisele & Lust (1996): this development continues until adolescence/young adulthood
 - Sudhalter & Braine (1985): 7-9 yr olds: may produce complex **passive sentences** (e.g., “*Goofy was liked by Donald*”)
 - Boloh & Champaud (1993): 7-9 yr olds: may produce **conditional sentences** (e.g., “*If Goofy had come, Donald would have been delighted*”)

For an example, see Dr Ho’s “Ho-Ideology” Blog/”~ PSY2020 Human Development:

<https://hoideology.wordpress.com/2019/01/22/language-development-2-later-syntactic-development-in-age-5-12-at-6-years-5-months/>

During Middle Childhood (Shaffer & Kipp, 2014, ch. 9)

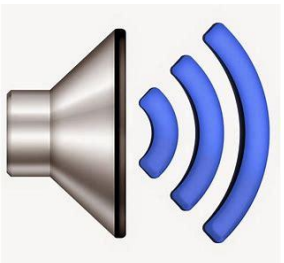
- **(b) Semantics and Metalinguistic Awareness**

語義學與元語言學意識

- **(b1) Morphological Knowledge** 詞素形態 = is one's knowledge of the *meaning of morphemes* that make up words
 - English: *sourer*, *custom-made*, *hopelessness*
 - Chinese (may not work exactly the same as English): 包, 飽, 麪, 我, 鵝
 - Anglin (1993):
 - 6-yr-olds: already understand ~10,000 words and *continue to expand* their *receptive language* (language that they can understand but not necessarily produce) at the rate of 20 words a day;
 - By age 10: they can *comprehend* 40,000+ words

During Middle Childhood (Shaffer & Kipp, 2014, ch. 9)

- **(b2) Metalinguistic Awareness** 元語言學意識 = is a **knowledge of language** and its properties; the ability to **think about language** and to **comment on its properties**; an understanding that language can be used for purposes other than communicating
 - Lonigan et al. (2000); Roth, Speece, & Cooper (2002):
 - 4-6 yr-olds: who score relatively high in such **phonological skills** as *detecting phonemes, syllables, and rhymes*, **learn to read much more quickly** and remain the most proficient readers throughout the first few grades of school
 - Anthony & Francis (2005); Schneider et al. (1997):
 - Phonemic awareness (via intervention: “phonics method”) promote **children’s reading and speaking skills**



During Middle Childhood (Shaffer & Kipp, 2014, ch. 9)

• (c) Further Development of Communication Skills 進一步的溝通技巧發展

- 6-7 yr-olds: acquire **role-taking skills**: become less egocentric and have more cognitive development/ability that can allow them to **adapt their speech** to the **needs of their listeners** in such a highly demanding situations as talking on the phone or participating in a referential communication experiment (Hoff-Ginsberg, 1997)
- 6-10 yr-olds: **provide longer messages** to unfamiliar than to familiar listeners
 - Only 9-10 yr-olds among the others in the study adjusted the content of their communications to the listeners' needs by **providing richer differentiating information** to an unfamiliar listener (Sonnenschein, 1986, 1988)

For an example, see Dr. Ho's "Ho-Ideology" Blog/"~ PSY2020 Human Development"/"Language Development 2: Referential Communication Skills ... at 6": <https://hoideology.wordpress.com/2019/01/22/language-development-2-referential-communication-skills-in-age-2-5-5/> ; <https://hoideology.wordpress.com/2019/01/22/language-development-2-further-development-of-communication-skills-in-age-5-12-at-6-years-5-months/>

Language Development: The Sensitive-Period Hypothesis (Shaffer & Kipp, 2014, ch. 9, pp. 334-335)

- Lenneberg (1967), a nativist, proposed:
 - **The Sensitive-Period Hypothesis** 敏感期假設 = the notion that human beings are most proficient at *language learning before they reach puberty*:
 - It is easier for children before puberty to learn their first language
 - Huttonlocher (2002); Stiles (2008): Adult aphasics require extensive therapy to recover a portion of their lost language skills (due to left-brain injury); whereas, child aphasics recover their lost language functions without special therapy—right hemisphere in children took over in processing language

➤ Two case studies:

- **Genie**: was locked away as an infant (heard very little language—no one was permitted to talk to her), was discovered by the authorities at 14 (Curtiss, 1977)
- **Chelsea**: was deaf and isolated by her family—was not exposed to language until 32
- Both given intensive language training as adults: Results: Despite demonstrating remarkable progress, they were *unable to master the rules of syntax* that all children can acquire without formal instruction (Curtiss, 1977, 1988)



The Importance of Exposure

3B.2. Facts of Cognitive Development in Middle Childhood 中童期認知發展的事實 (Shaffer & Kipp, 2014/2016, chs. 4, 6, 9)

- ii. **Cognitive Development (e.g., intellectual growth) according to Vygotsky 根據維果茨基的認知發展（例如智力發展） = depends largely on social and cultural influences 主要取決於社會和文化的影響** : Children acquire their culture's values, beliefs, and problem-solving strategies through collaborative dialogues 協作對話 with more knowledgeable members of the society 兒童通過與更多知識淵博的社會成員的協作對話，獲得他們的文化價值觀，信仰和解決問題的策略.

Vygotsky's Socio-Cultural Perspective (Shaffer & Kipp, 2014, ch. 6)

Vygotsky proposed that we should evaluate development from the perspective of *four interrelated levels in interaction* with *children's environment*:



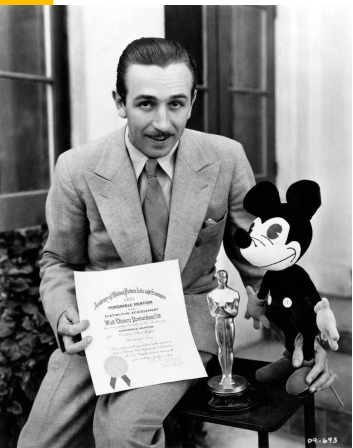
Vygotsky's Socio-Cultural Perspective (Shaffer & Kipp, 2014, ch. 6)

- **Sociohistorical Level 社會歷史性**

- *Each culture transmits beliefs, values, and preferred methods of thinking or problem solving — its tools of intellectual adaptation 促進智力適應的工具 — to each successive generation*

- *Tools of Intellectual Adaptation 促進智力適應工具 = Vygotsky's term for methods of thinking and problem-solving strategies that children internalize from their interactions with more competent members of society*

- Thus, culture teaches children what to think and how to go about it!



Mary Poppins Returns's "Trip a Little Light Fantastic":
<https://www.youtube.com/watch?v=oZ9WKQmcX2k>

Vygotsky's Socio-Cultural Perspective (Shaffer & Kipp, 2014, ch. 6)

- **Learning occurs best** when more skillful associates **properly scaffold their intervention**
 - **Scaffolding** 腳手架/棚架 = is the process by which an expert, when instructing a novice, **responds contingently to the novice's behavior** 附隨著初學者的行為回應 in a learning situation, so that the **novice gradually increases his or her understanding of a problem**



Mary Poppins's (Julie Andrews) "A Spoonful of Sugar":

<https://www.youtube.com/watch?v=HrnoR9cBP3o>

Vygotsky's Socio-Cultural Perspective (Shaffer & Kipp, 2014, ch. 6)

- Much of **what children acquire from more skillful associates** 來自更熟練的同伴 occurs **through guided participation** 引導參與—a process that may be **highly context-dependent** 高度在乎於情境/景況 (in Western cultures) or may occur in the context of day-to-day activities (as is most common in traditional cultures)



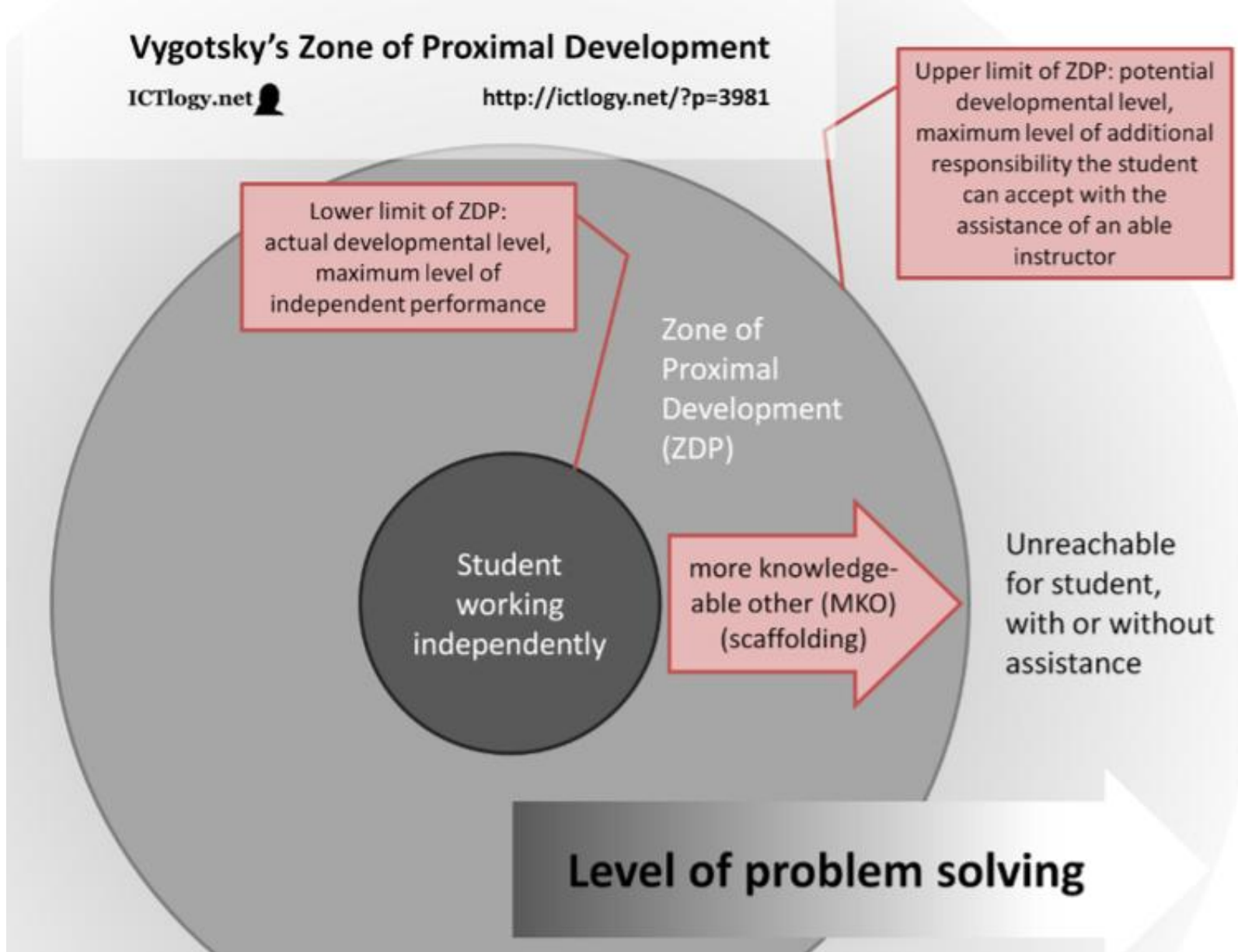
Rock's cooking at IKEA (at 8 years 7 months):
<https://hoideology.wordpress.com/2019/02/14/vygotskys-sociocultural-perspective-guided-participation-cooking-series/>



Rock's imitating a TV show host (at 9 years 9 months):
<https://hoideology.wordpress.com/2019/02/14/vygotskys-sociocultural-perspective-guided-participation/>

- **Guided Participation** 引導參與 = is the adult-child interactions in which **children's cognitions and modes of thinking are shaped** as they **participate with** or **observe adults engaged in** culturally relevant activities 是成人與兒童的互動，在這種互動中，兒童的認知和思維模式在參與或觀察從事文化相關活動的成年人時受到影響

Vygotsky's Socio-Cultural Perspective (Shaffer & Kipp, 2014, ch. 6)



Zone of Proximal Development 發展臨近區

MKO = More Knowledgeable Other, who provides the Learners scaffolding

The Power of Storytelling & Role-Playing Guided by Adults



Rock at 9 years 9 months
singing “Be Our Guest”:
<https://hoideology.wordpress.com/2019/02/14/vygotskys-sociocultural-perspective-be-our-guest/>

Vygotsky's Socio-Cultural Perspective (Shaffer & Kipp, 2014, ch. 6)

- Vygotsky claimed that a **child's private speech** (**self-talk** 自言自語) becomes a **cognitive self-guidance system** 認知自我導向系統 that **regulates problem-solving activities** and is **eventually internalized** 最終被內化 to **become covert, verbal thought** 隱藏的言語思想



Rock's playing the melody of "Walking in the Winter Wonderland" without a score on his own (at 11 years 1 month):
<https://hoideology.wordpress.com/2019/02/14/vygotskys-sociocultural-perspective-self-talk-melodian/>

Vygotsky's Socio-Cultural Perspective (Shaffer & Kipp, 2014, ch. 6)

- **Evaluation/Summary:**

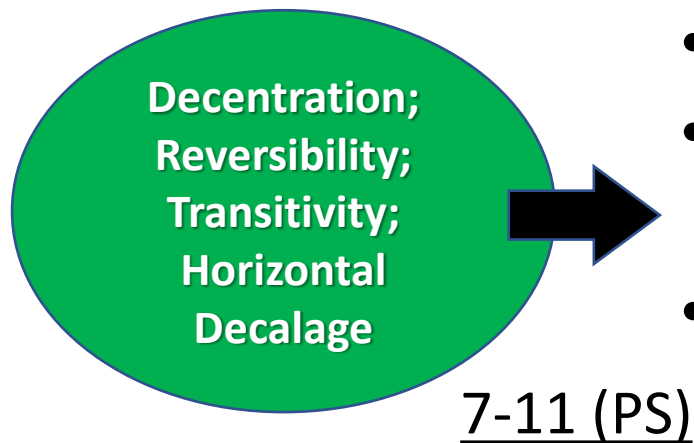
- Recent research favors Vygotsky's position over Piaget's, suggesting that *language plays a most important role in children's intellectual development*
- Vygotsky provided a valuable service by reminding us that *cognitive growth is best understood* when studied in the *social and cultural contexts* in which it occurs

3B.2. Facts of Cognitive Development in Middle Childhood 中童期認知發展的事實 (Shaffer & Kipp, 2014/2016, chs. 4, 6, 9)

- iii. **Cognitive Development in Middle Childhood (according to Piaget)** 中童認知發展（皮亞傑） = is characterized by the **Concrete Operational Stage (ages 7-12)** 具體操作階段（7-12歲） (Primary Schooling) and the achievements of understanding **Conservation** 守恒 through developing **Decentration** 克服自我中心 (*toward overcoming Centration* 自我中心), developing **Relational Logic** 關係邏輯 through understanding **Transitivity** 傳遞關係 (*toward overcoming Irreversibility* 不可逆性), and attaining **Concrete Operations** 具體操作 demonstrating **Horizontal Decalage** 橫差傾; some older children may already enter the **Formal Operations Stage (ages 12+)** 正式運作階段（12歲以上） (Secondary Schooling) toward achieving **Deductive Reasoning** 推斷推理 and **Inductive Reasoning** 歸納推理.

Piaget's Cognitive Development Stage Theory (Shaffer & Kipp, 2014, ch. 6)

- **Concrete Operational Stage 具體操作階段 (ages 7-12) (= Primary Schooling)**
 - Achievements in **Cognitive Development 認知發展** in Primary School Children:



- (a) Conservation: Decentration
- (b) Relational Logic: Transitivity
- (c) Concrete Operations: Horizontal Decalage



Piaget's Cognitive Development Stage Theory (Shaffer & Kipp, 2014, ch. 6)

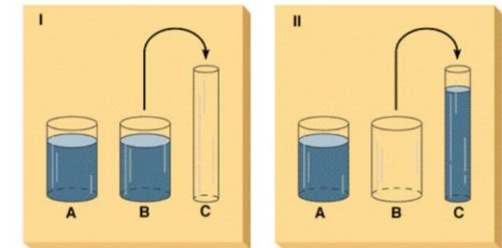
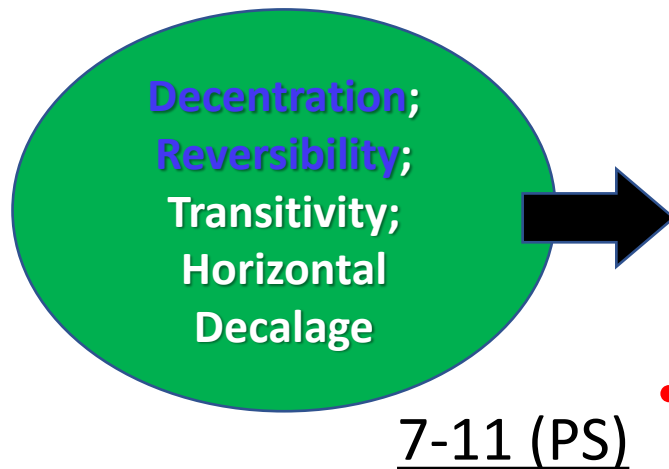
- **Concrete Operational Stage (ages 7-12) (= Primary Schooling)**

- Achievements in **Cognitive Development** in Primary School Children:
 - **(a) Conservation 守恒:**

- **achieve Decentration 克服自我中心 = consider multiple aspects** of a stimulus/situation, e.g., in math/science problems

- *Why can't "younger" kids decenter?*

- **achieve Reversibility 可逆性 (= mentally undo/reverse an operation),** e.g., water → ice → water



Piaget's Cognitive Development Stage Theory (Shaffer & Kipp, 2014, ch. 6)

- **Concrete Operational Period (ages 7-12) (= Primary Schooling)**

- Achievements in **Cognitive Development** in Primary School Children:

- **(b) Relational Logic 關係邏輯 :**

- **Achieves Transitivity 傳遞關係 = recognize relations** 識別關係 among elements in a **serial order** (e.g., if A = B and B = C, then A = C)

- E.g., If Hollywood Hotel > Disneyland Hotel; and Explorers' Lodge > Hollywood Hotel; then, Explorers' Lodge > Disneyland Hotel

(however, my 9-year-old son would say Disneyland Hotel > Explorers' Lodge!)

if



>



;



>



but



>



!

Decentration;
Reversibility;
Transitivity;
Horizontal
Decalage



7-11 (PS)

Piaget's Cognitive Development Stage Theory (Shaffer & Kipp, 2014, ch. 6)

- **Concrete Operational Stage (ages 7-11) (= Primary Schooling)**

- Achievements in **Cognitive Development** in Primary School Children:

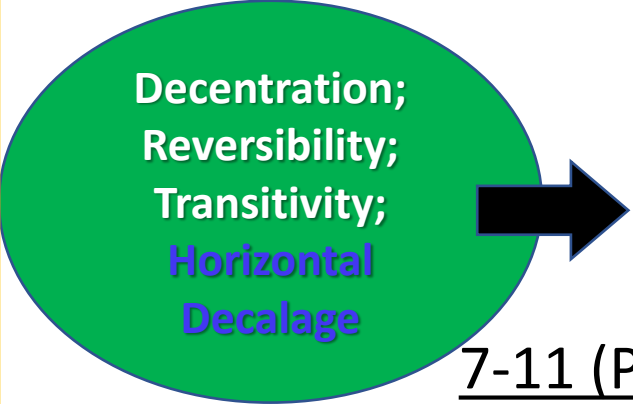
- (c) Concrete Operations 具體操作:

- *demonstrates Horizontal Decalage 橫差傾—solving Conservation tasks but NOT to the same level in all possible areas of performance (= gap/shifting)*

- *Not yet* use one operation to apply to another situation (cannot solve a task abstractly)

- E.g., understand conservation of mass but NOT conservation of volume yet

- Goal —> Understand that different levels of understanding conservation tasks seem to *require the same mental operations*



Decentration;
Reversibility;
Transitivity;
Horizontal
Decalage

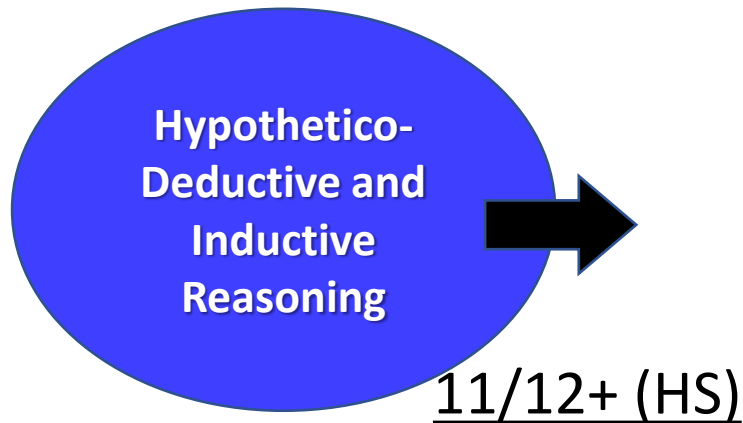
7-11 (PS)

Piaget's Cognitive Development Stage Theory (Shaffer & Kipp, 2014, ch. 6)

- **Formal Operations Stage (ages 11/12+) (= Secondary/High Schooling)**

- Achievements in **Cognitive Development** in Secondary/High School Students:

- (a) Hypothetico-Deductive Reasoning
- (b) Inductive Reasoning



Piaget's Cognitive Development Stage Theory (Shaffer & Kipp, 2014, ch. 6)

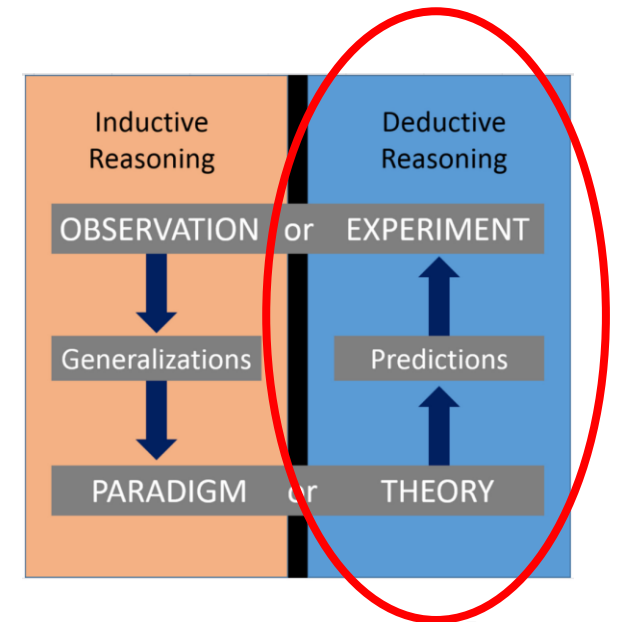
- **Formal Operations Stage (ages 11/12+) (= Secondary/High Schooling)**
 - Achievements in **Cognitive Development** in Secondary/High School Students:

- **(a) Hypothetico-Deductive Reasoning 假設推斷推理**

- = a formal operational ability 正式的運作能力 to think hypothetically 假設地想 on ideas 主意/構想/概念 and propositions 主張/議案 that may have no basis in reality
 - ***generate hypotheses***: hypothetical thinking 假設性思維
 - E.g., arbitrary, hypothetical problem in math: If $2X + 4 = 14$, what does X equal?



11/12+ (HS)



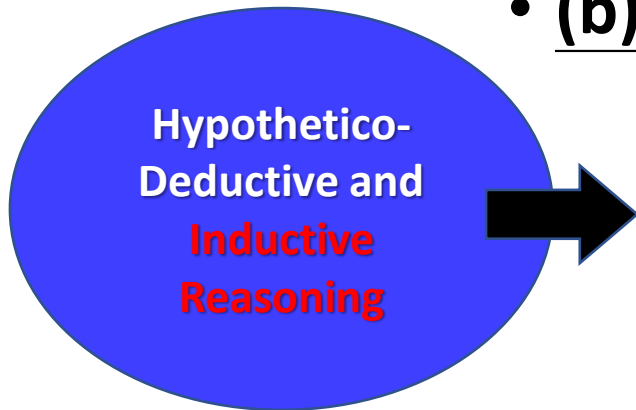
Piaget's Cognitive Development Stage Theory (Shaffer & Kipp, 2014, Ch. 6)

- **Formal Operations Stage (ages 11/12+) (= Secondary/High Schooling)**

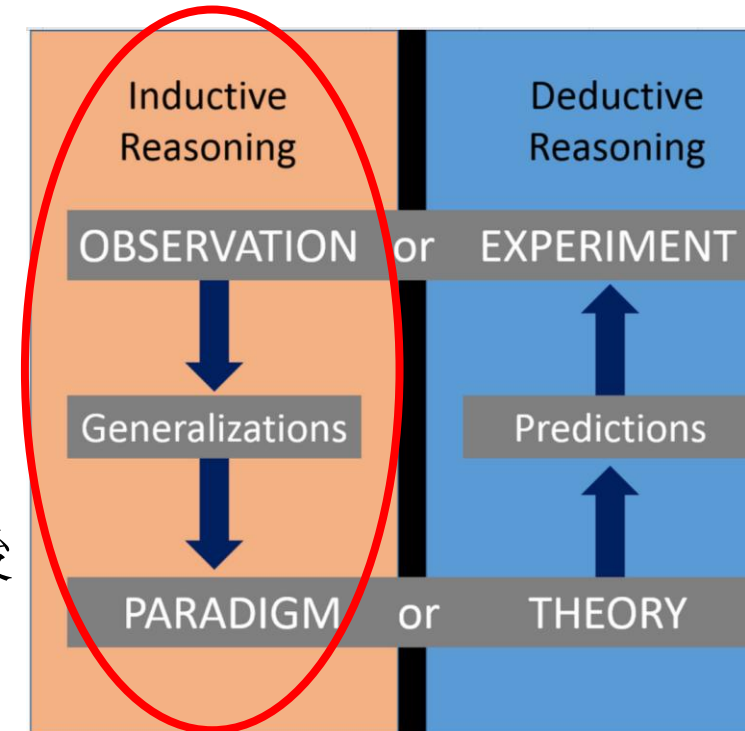
- Achievements in **Cognitive Development** in Secondary/High School Students:

- **(b) Inductive Reasoning 歸納推理**

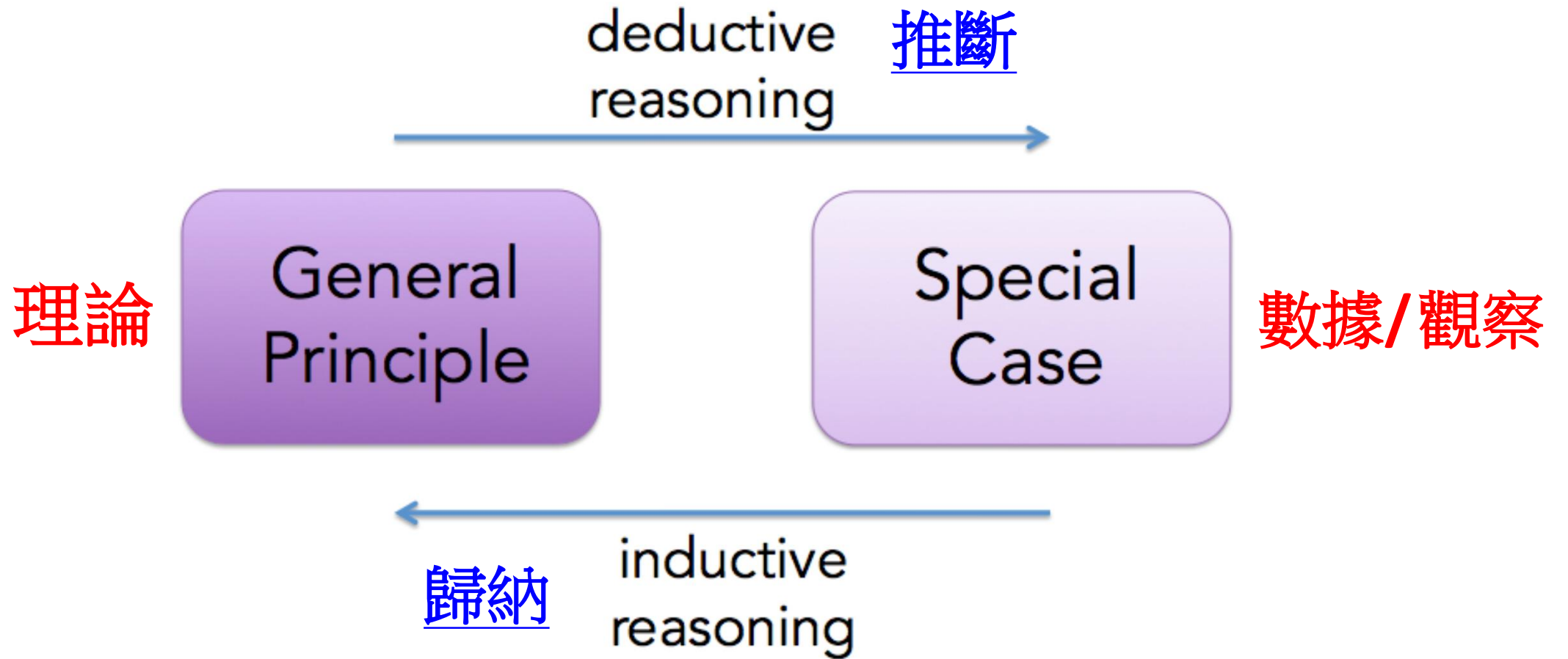
- = a type of thinking that scientists display, where *hypotheses are generated based on observations* and then systematically tested in experiments 基於觀察成假設，然後在實驗中系統地測試



11/12+ (HS)



Difference Between Deductive Reasoning and Inductive Reasoning



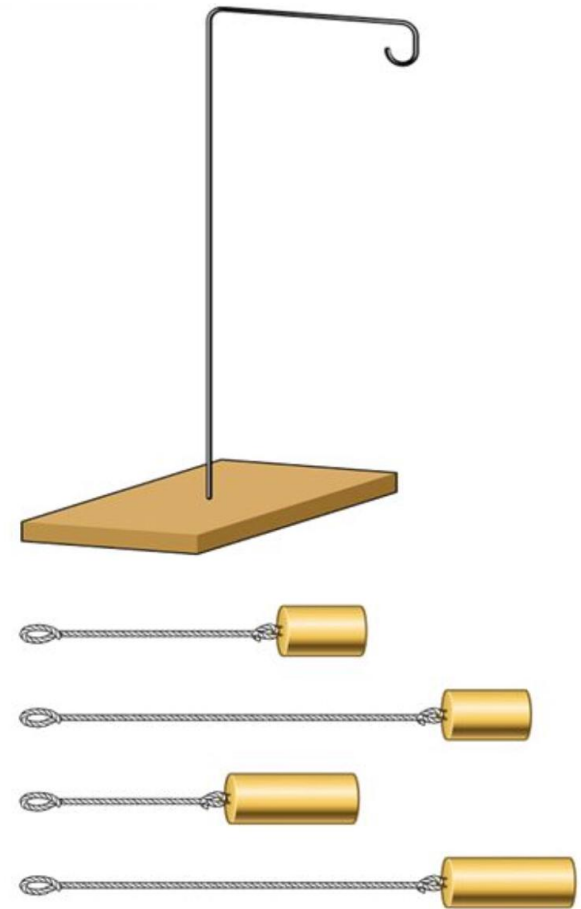
The Pendulum Problem (Inhelder & Piaget, 1958)

Problem: What makes the pendulum swing faster?

- There are 4 possible factors that may **cause/lead** the pendulum to swing fast: ***What are they?***

What is the scientific method? (deductive or inductive)

- Kids first need to ***identify*** the factors; then, form hypotheses: Each successive hypothesis is ***tested*** in ***an if-then fashion***:
 - “If the ***weight*** on the string matters, then I should see a difference in oscillation (swinging back and forth during a set time period) when I compare a string with a heavy weight to a same-length string with a light weight, ***while holding other factors constant.***”



What do you think a 9-10-year-old kid would ***do and think*** in solving this problem?

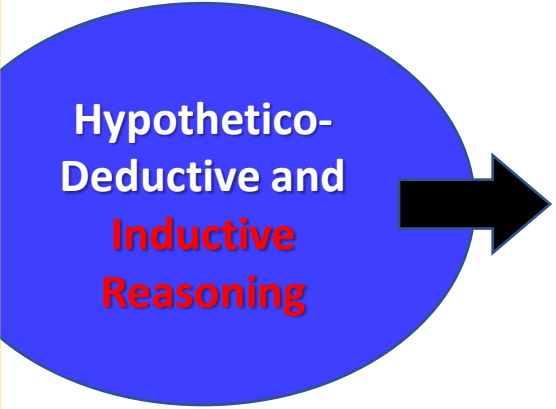
Piaget's Cognitive Development Stage Theory (Shaffer & Kipp, 2014, ch. 6)

- **Formal Operations Stage (ages 11/12+) (= Secondary/High Schooling)**

- Achievements in **Cognitive Development** in Secondary/High School Students & Adults:

- **(b) Inductive Reasoning (cont'd) (conclusion drawn from observations) 歸納推理 (從觀察中得出的結論)**

- 9-10-year-olds: unable to generate and systematically test the full range of possibilities (hypotheses) – thus they could not draw the appropriate conclusion
- This ability is NOT easily demonstrated in many adults either (Kuhn, Amsel, & O'Loughlin, 1998; Moshman, 1998)
- Older concrete operators (age ~11): can be trained to think more like formal operators when seeking solutions to problems, but they are unable to generate these rational and methodical problem-solving strategies on their own (Adey & Shayer, 1992)



Hypothetico-Deductive and
Inductive Reasoning

11/12+ (HS)

- **Formal Operations Stage (ages 11/12+) (= Secondary/High Schooling)**

- *Personal and Social Implications* (Shaffer & Kipp, 2014, p. 225)

- Adolescents 青少年 attain formal operations:

- —> understand other people's perspectives and the causes of their behavior (hypothesis setting and testing) – **can imagine hypothetical alternatives** to present realities
- —> **question everything** (e.g., their parents' authority to impose strict curfews; the government's need for spending billions of dollars on weapons; the exploration of outer space when so many people are hungry and homeless)
- —> become **frustrated** with or even display **rebellious anger** toward the agents (parents, government, etc.)
- **Imaginary Audience** = due to the **resurgence of egocentrism** (accompanying intellectual/cognitive growth), adolescents believe that everyone around them is as interested in their thoughts and behaviors as they are themselves (Elkind, 1967; Elkind & Bowen, 1979)



Topic 3B. Cognitive Development (Older Children)

- 3B.1. Fundamental Debates in the Cognitive Development of Middle Childhood
- 3B.2. Facts of Cognitive Development in Middle Childhood
- 3B.3. Interventions
- 3B.4. Case Study

3B.3. Interventions



OVERVIEW

- **Parenting Skill Training:**
 - Importance of Building a Trusting and Emotionally-Safe Environment for a Child to Learn at Home; Using a Lot of Social Reinforcers
 - E.g., Use the Developmental, Individual-Differences Relationship-Based (DIR) Interaction Model (on ASD Children) (Supp. Reading 3B. Coulter, 2009; Supp. Reading 3C. Mahoney & Solomon, 2016)
 - Importance of Using Scaffolding Strategies in Teaching a Child at Home
- **Teaching Skill Training:**
 - Scaffolding Teaching and Learning Strategy;
 - Mastery teaching and Learning Strategy;
 - Cooperative Teaching and Learning Strategy;
 - Cognitive Teaching and Learning Strategy;
 - Gamified Teaching and Learning Strategy* (not shown here)

3B.3. Interventions

- E.g., Use the Developmental, Individual-Differences Relationship-Based (DIR) Interaction Model (on ASD Children) (Supp. Reading 3B. Coulter, 2009; Supp. Reading 3C. Mahoney & Solomon, 2016)
 - **Supp. Course Reading 3B. Coulter, R. A. (2009).** Understanding the visual symptoms of individuals with autistic spectrum disorder (ASD). *Optometry and Vision Development*, 40(3), 164-175. ()
 - **Supp. Course Reading 3C. Mahoney, G., & Solomon, R. (2016).** Mechanism of development change in the PLAY project home consultation program: Evidence from a randomized control trial. *Journal of Autism and Developmental Disorders*, 46, 1860-1871. <https://doi.org/10.1007/s10803-016-2720-x> ()

On PLAY treatment for children with ASD

- Supp. Reading 3C. Mahoney, G., & Solomon, R. (2016). Mechanism of developmental change in the PLAY project home consultation program: Evidence from a randomized control trial. *Journal of Autism Developmental Disorder*, 46, 1860-1871.

Abstract This investigation is a secondary analysis of data from a randomized control trial of the PLAY Home Consultation Intervention Program which was conducted with 112 preschool children with Autism Spectrum Disorders and their parents (Solomon et al. in *J Dev Behav Pediatr* 35:475–485, 2014). Subjects were randomly assigned to either a community standard (CS) treatment group or to the PLAY Project plus CS Treatment (PLAY). PLAY subjects received monthly parent–child intervention sessions for 1 year during which parents learned how to use the rationale and interactive strategies of the Developmental, Individual-differences, Relationship-based (DIR) intervention model (Greenspan and Weider in *The child with special needs: encouraging intellectual and emotional growth*. DeCapo Press, Cambridge, MA, 1998) to engage in more responsive, affective and less directive interactions with their children. This investigation examined whether PLAY intervention effects on parents' style of interacting with their children as well as on children's social engagement mediated the effects of PLAY on children's autism severity as measured by ADOS calibrated severity scores. Regression procedures were used to test for mediation. There were two main findings. First the effects of PLAY on children's social engagement were mediated by the

increases in parental responsiveness and affect that were promoted by PLAY. Second, the effects of PLAY on the severity children's Social Affect disorders were mediated by changes in parental responsiveness and affect; however, the effects of Responsive/Affect were mediated by the impact these variables had on children's social engagement. Results are discussed in terms of contemporary models of developmental change including the developmental change model that is the foundation for DIR.

Keywords Autism · Early intervention · Parent-mediated intervention · Model of developmental change

Introduction

The PLAY Project [(PLAY)—Play and Language for Autistic Youngsters] is a relationship based early intervention (RBI) that is designed to enhance children's developmental functioning and decrease their autistic characteristics by teaching parents to routinely engage in social, play and communicative interactions that are characterized by high levels of responsiveness and affect and moderate to low levels of directiveness. PLAY has operationalized the Developmental, Individual-differences,

3B.3. Interventions

- **Scaffolding Teaching and Learning Strategies**

- i. MODEL the correct performances of a complex task—focus on the process. 對複雜任務的正確執行進行示範--關注過程。
- ii. ASK students to demonstrate how they do it and provide them feedback. 要求學生示範如何執行，並向他們提供回饋。
- iii. DESIGN learning activities or assessment tasks that can allow students a lot of opportunities to demonstrate what they have learned in front of you. 設計學習活動或評估任務，這些活動或評估任務可以使學生有很多機會在自己面前展示他們所學到的知識。

3B.3. Interventions

• Scaffolding Teaching and Learning Strategies

- i. MODEL the correct performances of a complex task—focus on the process. 對複雜任務的正確執行進行示範--關注過程。
 - For how many times? 多少次？
 - For as many times as possible until the Learner gets it and can perform the same. 越多次越好，直到學習者掌握並執行相同的操作為止。
 - Use different ways and methods to model the correct performances. 使用不同的方法和方法對正確的表現進行示範
 - Live models 現場示範
 - Videos 影片
 - Student or peer models 學生或同伴示範
 - Expert models 專家示範
 - Focus on the process and procedures—demonstrate small steps (slow motion) and how to get there. 著重於過程和步驟--示範小步驟（慢動作）以及如何到達那裡。

3B.3. Interventions

- **Scaffolding Strategies**

- ii. ASK students to demonstrate how they do it (what they have learned or whether they have learned what you've just demonstrated) and provide them feedback. 要求學生示範如何執行（亦即是他們學到了什麼，或者他們是否學到了您剛剛展示的內容），並向他們提供回饋。
 - Prompt students to the critical aspects of the task. 指示學生完成任務的關鍵地方。
 - Ask students if they know why they have to do it like that. 問學生是否知道為什麼要那樣做。

3B.3. Interventions

- Scaffolding Strategies

- iii. DESIGN learning activities or assessment tasks that can allow students a lot of opportunities to demonstrate what they have learned in front of you, so that you can give them appropriate and frequent feedback, as well as constant guidelines and instructions. 設計學習活動或評估任務，這些活動或評估任務可以使學生有很多機會在自己面前展示他們所學到的知識，以便您可以向他們提供適當且頻繁的回饋，以及不斷的指導和說明。
 - These learning activities or assessment tasks should be of a series of short tasks, so that constant feedback is possible. 這些學習活動或評估任務應該是一系列簡短的任務，以便不斷的回饋成為可能。

3B.3. Interventions

- **Mastery Teaching and Learning Strategies**

- i. Structure your course contents by breaking topics down into main units and sub-units. 通過將主題分解為主要單元和子單元來組織課程內容。
 - For example, in this course PSY3080-PSY5081, I adopted the following structure for each lecture topic: There are four sections of learning to do: (A) Fundamental Debates; (B) Facts; (C) Interventions/Teaching Strategies; (D) Case Study. 例如，在本課程PSY3080-PSY5081中，我為每個演講主題採用以下結構：學習要做的四個部分：（A）基本辯論；（B）事實；（C）干預/教學策略；（D）案例研究。
 - In my opinion, students are usually more able to remember a course's contents when the topics and subtopics are numbered and logically sequenced (e.g., Topic 1, 1A, 1B, 1C; Topic 2, 2A, 2B, 2C; etc.). 我認為，如果對主題和子主題進行編號並按邏輯順序排列（例如，主題1、1A，1B，1C；主題2、2A，2B，2C等），則學生通常更容易記住課程的內容。

3B.3. Interventions

- Mastery Teaching and Learning Strategies

- ii. Design learning activities that serve as formative assessment to measure how well students are learning the unit's materials. 設計學習活動，作為形成性評估，以衡量學生對本單元材料的學習程度。

3B.3. Interventions

- Mastery Teaching and Learning Strategies

- iii. Study **how** students have misunderstood certain concepts; Design **remedial instructions** to help students grasp troubling areas (e.g., use a variety of scaffolds); Use various ways to re-teach the materials, such as additional resources, set up study groups, conduct individual tutoring, and the like. OR Provide a lot of feedback to the Learners' conceptualizing (thinking and understanding) of the learning materials and their performance of the learning tasks (i.e., whether they are doing the tasks correctly and how they can improve their performance). 研究學生如何**誤解**了某些概念；設計**補救說明**，以幫助學生掌握麻煩的地方（例如，使用各種腳手架）；使用各種方法來重新講授材料，例如額外的資源，建立學習小組，進行個別輔導等。或向學習者對學習材料的概念化（思考和理解）及其對學習任務的績效（即，他們是否正確地完成了任務以及如何提高績效）提供了很多回饋。

3B.3. Interventions

- Mastery Teaching and Learning Strategies

- iv. Design summative assessment to evaluate students' learning outcome/performance after the remedial teaching. 設計總結性評估，以評估輔導教學後學生的學習成果/表現。
- v. Repeat this pattern for each teaching unit or each learning goal/objective when appropriate. 在適當的時候，對每個教學單元或每個學習目標重複此模式。

3B.3. Interventions

- Cognitive Teaching and Learning Strategies

- i. TEACH learning strategies to students 向學生講授學習策略
 - Metacognitive strategies 元認知(後設認知)策略: Verify their own learning/understanding and sources of information 驗證自己的學習/理解和信息來源
 - Self-regulatory strategies 自我調節策略: Set small goals, use strategies, check whether it's working 設定小目標，使用策略，檢查是否有效

3B.3. Interventions

- Cognitive Teaching and Learning Strategies
 - ii. INSPIRE them to test their learning and look for answers to their own questions 啟發他們測試自己的學習並尋找自己問題的答案
 - If they have questions, encourage them to ask you or look for answers from a good source; continue the process 如果他們有問題，鼓勵他們發問您或從好的來源去尋求答案；並繼續進行這個過程

3B.3. Interventions

- Cognitive Teaching and Learning Strategies

- iii. ORGANIZE information so that students can draw upon various sources of information (old and new) and compare them 組織信息，以便學生可以利用各種信息來源（新舊）並進行比較
 - Use different methods and ways to present the information and compare different perspectives 使用不同的方法和方式來呈現信息並比較不同的觀點

3B.3. Interventions

- Cognitive Teaching and Learning Strategies

- iv. ENGAGE students in conversations and dialogues on the materials and with the materials 與學生進行有關材料對話和與材料進行對話



3B.3. Interventions

- Cooperative Teaching and Learning Strategies

(Slide 1)

i. Class Discussions 課堂討論 (Ormrod, 2016, p. 346):

- *Discussions* 討論:

- Should focus on **topics** that ***inherently*** have multiple perspectives, explanation, or approaches 應集中在本質上具有多種觀點，解釋或方法的主題上
- Should be structured (with *thought-provoking questions and goal*)—to be effective—toward what students should be doing literally, assigning different roles to different class members, e.g., quality of evidence and validity of conclusions 應有結構（據有發人深省的問題）--才是有效的討論--針對學生應從事的工作的目標，為不同成員分配不同的角色，包括檢驗證據質量，結論的有效性

3B.3. Interventions

- Cooperative Teaching and Learning Strategies

(Slide 2)

- *Learners* 學習者: should have sufficient prior knowledge 應俱有足夠的先驗知識
- *Teachers*:
 - Should be supportive of multiple viewpoints (disagreement is socially accepted and psychologically safe) 應支持多種觀點--分歧在社交上是可以被接受的並且在心理上是安全的
 - Should emphasize understanding over right or wrong 應強調理解多於<對錯>
 - Should encourage understanding each other, open agreement/disagreement, developing compromised solutions that take into account opposing views 應鼓勵彼此理解，公開協議/分歧，制定兼顧各方利弊的妥協解決方案
 - Should provide some type of closure at the end of the discussion, tying various ideas together and summarizing key issues raised by the Learners 在討論結束時，應提供結論—將各種觀點聯繫在一起，總結學習者提出的關鍵問題

3B.3. Interventions

- Cooperative Teaching and Learning Strategies

(Slide 1)

- ii. A Specific Useful Strategy of Class Discussions特定有效的課堂討論策略 (Deutsch, 1993; Johnson & Johnson, 2009; as cited in Ormrod, 2016, p. 347):
 - 1. The class is divided into groups of 4 students apiece. Each group of 4 subdivides into 2 pairs. 將班分為4人一組。每組分為2對。
 - 2. Within a group, each pair of students ***studies*** a particular position on the issue and presents its position to the other two students. 在一個小組中，每對學生在該問題上學習一個特定的主張，並將其主張介紹給其他兩個學生。...

3B.3. Interventions

- Cooperative Teaching and Learning Strategies

(Slide 2)

- 3. The group of 4 has an open discussion of the issue, giving each student an opportunity to **argue** persuasively for his/her own position. 四人對該問題進行公開討論，使每個學生都有機會為自己的立場進行有說服力的辯論。
- 4. Each pair **presents** the perspectives of the opposing side as sincerely and persuasively as possible. 每對都盡可能真誠和有說服力地展現對立面的觀點。
- 5. The group strives for **consensus** on a position that incorporates all of the evidence presented. This part may be omitted if consensus isn't possible or desirable. 小組努力就包含所有提出的證據的立場達成共識。如果無法達成共識或不希望達成共識，則可以省略此部分。

3B.3. Interventions

- Cooperative Teaching and Learning Strategies

(Slide 1)

iii. Features of Effective Cooperative Learning 有效的合作式學習的特點 (Ormrod, 2016, pp. 350-351):

- *Teachers* 教育者:

- i. Should form groups by identifying what **Learner Combinations** are *productive*, e.g., heterogeneous group with both high achievers and low achievers, males & females 應組成小組—識別哪些學習者組合是更有生產力的，例如異質分組，具有高成就者和低成就者，男性和女性
- ii. Should provide clear guidelines (or rules) about how to behave, to avoid uncooperative, domineering, or ridiculing behavior 應提供有關行為方式的明確指南，以避免不合作, 霸氣或嘲笑行為

3B.3. Interventions

• Cooperative Teaching and Learning Strategies

(Slide 2)

- *Groups 小組*:
 - i. Groups of 3-4 should be especially effective 3-4人的小組應特別有效
 - ii. Groups should have one or more than one common goals to achieve as a group, e.g., **begin with a *driving question* that they need to answer**, while the Teacher should provide appropriate scaffolding 小組應有一個或多個共同目標要去實現，例如從他們需要回答一個推動性問題去開始，而老師應提供適當的腳手架
- ***Group Members:
 - i. **must** depend on one another to succeed doing the task 小組成員應必須互相依靠才能成功完成任務***
 - ii. *****Jigsaw** may be helpful “拼圖” 可能會有所幫助: Each member should have a different and specific FUNCTION—leader, critic, bookkeeper, peacekeeper, summarizer 例如每組員應有一個特定的功能—領導者, 批評者, 簿記者, 維和者, 總結者; or each Leader should be given different information或給每個組員不同的信息, so that each member may contribute to the discussion on the problem-solving task uniquely 這樣每個成員都可以獨特地參與有關解決問題的討論***

Small-Group Discussion Skills: Academic Conversations

- Discussion Skills for Academic Conversations: 4 Ways to Contribute to a Discussion 學術對話的討論技巧：促進討論的4種方法 (Zwiers & Crawford, 2011)
- Asking Thought-Provoking Questions 提出發人深省的問題 (Barkley, Cross, & Major, 2009)



Discussion Skills for Academic Conversations: 4 Ways to Contribute to a Discussion 學術對話的討論技巧：促進討論的4種方法 (Zwiers & Crawford, 2011)

- **Leader-Clarifier 領導澄清者** (clarify goals and paraphrase to clarify points 澄清目標和意譯以澄清要點)
 - *What we need to do is ... 我們需要做的是...*
 - *In other words, let us clarify ... 換句話說，讓我們澄清...*
 - *What I am hearing you say is ... 我聽到你剛才說的是...*
- **Elaborator 詳細說明者** (support a point with examples 用示例支持觀點)
 - *I can think of an example, such as ... 我可以想到一個例子，例如...*
 - *For example, it happens that ... 例如就是這樣...*
- **Builder-Critic 建設批評者** (add on more information or present different points 添加更多信息或提出不同觀點)
 - *I would like to add on to this point with ... 我想補充一下...*
 - *I disagree with ... because ... 我不同意...，因為...*
 - *We might want to consider that ... 我們可能要考慮...*
- **Bookkeeper-Summarizer 簿記摘要者** (keep track of conversation contents and summarize the conversation points 跟踪對話內容並總結對話要點)
 - *To summarize, we agree that ... but we disagree that ... 總而言之，我們同意...但我們不同意...*
 - *The main point of our discussion is that ... 我們討論的重點是...*

Reference: Zwiers, J., & Crawford, M. (2011). *Academic conversations: Classroom talk that fosters critical thinking and content understanding*. Portland, ME: Stenhouse.

Asking Thought-Provoking Questions 提出發人深省的問題 (Barkley, Cross, & Major, 2009)

- **To invite others to serve as Leader-Clarifier 領導澄清者** (clarify goals and paraphrase to clarify points 澄清目標和意譯以澄清要點)
 - *Can you elaborate on ...? 你能詳細說明...嗎?*
 - *Could you explain more what you mean by ...? 您能否進一步解釋...的意思?*
- **To invite others to serve as Elaborator 詳細說明者** (support a point with examples 用示例支持觀點)
 - *Could you give an example from the text? 您能從文字中舉一個例子嗎?*
 - *What is a real-world example? 什麼是真實示例?*
- **To invite others to serve as a Builder-Critic 建設批評者** (add on more information or present different points 添加更多信息或提出不同觀點)
 - *What do you think would happen if ...? 你怎麼看... 如果... ?*
 - *What might ... affect ...? 什麼可能會影響... ?*
 - *Can we compare Amy's idea to Beth's idea? 我們可以怎樣比較 Amy與Beth的想法?*
 - *Would you agree or disagree with this ...? 您會同意還是不同意... ?*
- **To invite others to serve as Bookkeeper-Summarizer 簿記摘要者** (keep track of conversation contents and summarize the conversation points 跟踪對話內容並總結對話要點)
 - *What key idea can we take away from this discussion? 從這個討論中我們可以得出什麼關鍵思想?*
 - *From all that we have discussed, what is the most important ..., in your opinion? 根據我們的討論，您認為最重要的是什麼?*

Reference: Barkley, E. F., Cross, K. P., & Major, C. H. (2009). *Collaborative learning techniques: A handbook for college faculty*. San Francisco: Jossey-Bass.

3B.3. Interventions

- Cooperative Teaching and Learning Strategies

(Slide 1)

- iv. Guided Peer Questioning or Elaborative Interrogation 同伴指導式提問或詳盡的提問 (King, 1999, p. 93; as cited in Ormrod, 2016, p. 352):
 - Learners 學習者: **pair up** and **ask each other higher-level questions** 配對並互相提問更高層次的問題
 - i. Take turn to ask each other a question from the list set by the teacher 輪流從老師設定的問題清單中互相提問
 - **Constructing Questions 建構問題:**
 - i. “Would you please describe ... in your own words?” “您能用自已的話描述一下...嗎？”
 - ii. “Would you please explain why ...?” “您能解釋一下為什麼...嗎？”
 - iii. “What do you think is the difference between ... and ...?” “您認為... 和... 之間有什麼區別？”
 - iv. “What do you think, how could ... be used to ...?” “您認為... 如何... 如何被看成... ？”

3B.3. Interventions

- Cooperative Teaching and Learning Strategies

(Slide 2)

- Pros and Cons 利與弊:
 - i. Pros 利: Good to be implemented in face-to-face setting, because the teacher can oversee the questioning process 最好可以在面對面的環境中實行，因為老師可以監督提問過程
 - ii. Cons 弊: May not be suitable to use peer questioning in virtual setting, because the teacher cannot monitor each pair's progress 可能不適合在虛擬環境中使用同伴提問，因為老師無法監控每對的進度
 - iii. Best 最好 (to use at both virtual and face-to-face learning environments 在虛擬和面對面學習環境中使用): The teacher SHOULD engage individual students in such Elaborative Interrogative teaching-learning process by asking individual students to take turn to answer these high-level thinking questions on the learning materials 老師通過要求個別學生（一次一個）回答學習材料中的<高級思維>的問題，從而使個別學生輪流參與這種<詳盡的提問> 教學學習過程

3B.3. Interventions

Parenting/Teaching Implications & Applications: Do's and Don'ts



- **Do inspire** kids and teenagers to **think like a scientist** (e.g., ask questions, look for answers)! 鼓勵孩子和青少年像科學家一樣思考（例如提出問題，尋找答案）！
 - – **Don't spoon feed** them (e.g., don't give them **model answers** right away)! 不要用匙子餵他們（例如不要立即給他們模型答案）！
- **Do allow** kids and teenagers to **wrestle 摔跤/搏鬥 with questions/problems**! 允許孩子和青少年在問題/問題上摔跤/搏鬥！
 - – **Don't scold or look down upon** them when they **make mistakes**! 當他們犯錯誤時，不要責罵或瞧不起他們！ (*My 11-year-old Son: 5.071 → 5.8?*)
- **Do develop** a **mutually trusting and respectful relationship** with your kids/teenagers/students! 與您的孩子/青少年/學生建立彼此互信和尊重的關係！
 - – **Don't hate or dislike** them!

Topic 3B. Cognitive Development (Older Children)

- 3B.1. Fundamental Debates in the Cognitive Development of Middle Childhood
- 3B.2. Facts of Cognitive Development in Middle Childhood
- 3B.3. Interventions
- 3B.4. Case Study

3B.4. Case Study:

Children with Learning Disabilities or ADHD

- ADHD (社聯頻道, 2014a): <https://youtu.be/P0gVO3zXIJ8>
- ADHD (社聯頻道, 2014b):
<https://www.youtube.com/watch?v=X0gzd237nDI&feature=youtu.be>
- ADHD (RTHK 香港電台, 2016):
<https://www.youtube.com/watch?v=CbVLoh91AwM&feature=youtu.be>
- Learning Disabilities (Now 財經新聞, 2017):
<https://www.youtube.com/watch?v=-mDTwOjlSrQ&feature=youtu.be>

References:

社聯頻道 (2014a, Sep 10). 《星期四脈搏》了解讀寫障礙 發揮子女才華. Retrieved from:

<https://www.youtube.com/watch?v=P0gVO3zXIJ8&feature=youtu.be>

社聯頻道 (2014b, Dec 14). 《星期四脈搏》訓練「聽說讀寫」助幼童改善學習困難. Retrieved from:

<https://www.youtube.com/watch?v=X0gzd237nDI&feature=youtu.be>

RTHK 香港電台 (2016, Sep 12). 醫生與你：專注力不足/過度活躍症. Retrieved from:

<https://www.youtube.com/watch?v=CbVLoh91AwM&feature=youtu.be>

Now 財經新聞 (2017, Feb 12): 【杏林在線】讀寫障礙症. Retrieved from: <https://www.youtube.com/watch?v=-mDTwOjlSrQ&feature=youtu.be>

<https://www.youtube.com/watch?v=-mDTwOjlSrQ&feature=youtu.be>

3B.4. Case Study: Children with Learning Disabilities or ADHD

- Discuss:
 - Are there any differences in teaching “normal” children and in teaching children with learning disabilities or ADHD? Why or why not? 教“正常”兒童和教育學習障礙或多動症兒童有什麼不同嗎？為什麼或者為什麼不？
 - What teaching approaches are needed in teaching/tutoring children with learning disabilities or ADHD? 教育/輔導有學習障礙或多動症的兒童需要哪些教學方法？

3B.4. Case Study: Optional Readings

[\(\(https://humandevelopmentpsy2020.wordpress.com/3-cognitive-development/\)\)](https://humandevelopmentpsy2020.wordpress.com/3-cognitive-development/)

Cognitive Development—Bargh, J. A. (2016). The incredible little shrinking man in the head. In R. J. Sternberg, D. J. Foss, & S. T. Fiske (Eds.), *Scientists making a difference: One hundred eminent behavioral and brain scientists talk about their most important contributions* (ch. 75; pp. 356-359). New York: Cambridge University Press.

<https://doi.org/10.1017/CBO9781316422250.077>

Cognitive Development—Siegler, R. S. (2016). How does change occur? In R. J. Sternberg, D. J. Foss, & S. T. Fiske (Eds.), *Scientists making a difference: One hundred eminent behavioral and brain scientists talk about their most important contributions* (ch. 48; pp. 223-227). New York: Cambridge University Press. <https://doi.org/10.1017/CBO9781316422250.050>

Summary 3B

- We should never underestimate how much of ***an impact adults can have on a child!!!***—Your role as a teacher/parent/adult is very important to children! 我們永遠不應該低估成年人對孩子有多大影響!!! - 您作為教師/家長/成人的角色對孩子來說非常重要！
- A child learns to develop his or her intellectual/cognitive capabilities, personalities, emotions/moods, values, beliefs, problem-solving skills, peer relationships, etc., ***through the guidance of the important adults in their lives***—namely, the parents, nannies, relatives, teachers, and people in their community! 孩子通過生活中重要成年人的指導--即父母，保姆，親戚，老師和社區中的人--學會發展自己的智力/認知能力，個性，情感/情緒，價值觀，信仰，解決問題的能力，同伴關係等等！

Reading Options

On Language and Socioemotional Development in Infants and TV Watching Time

- 盧珊, 崔瑩, 王爭艷, 李亞慶, 李亞慶, 梁熙 (2018). 看電視時間與嬰幼兒語言、情緒社會性發展的關係: 一項追蹤研究. *學前教育研究*, 11, 15-26.

摘要: 採用追蹤設計, 利用家庭基本情況調查表調查嬰幼兒14~25個月的電視接觸時長, 利用《漢語溝通發展量表》和《嬰幼兒社會-情緒性量表》評估嬰幼兒14~25個月語言發展及情緒社會性發展, 由此考察看電視時間與嬰幼兒語言以及情緒社會性發展的關係, 結果發現: (1) 在看電視時間與兒童語言發展方面, 嬰幼兒14個月時, 不看電視和看電視30分鐘的嬰幼兒比看電視超過60分鐘的嬰幼兒在短語理解上的表現相對更好; 每天看電視30分鐘的嬰幼兒比不看電視和看電視超過60分鐘的嬰幼兒在動作和手勢方面的表現相對更好。在嬰幼兒25個月時, 沒有發現看電視時間長短與此年齡階段語言發展的相關; 14個月嬰幼兒看電視時間與其25個月語言發展也沒有關係。(2) 在看電視時間與情緒社會性發展方面, 在嬰幼兒14個月時, 每天不看電視和看電視30分鐘的嬰幼兒比看電視15分鐘以內的嬰幼兒在能力域和掌握動機上表現更好, 並且這兩組分別在能力域和掌握動機上比看電視超過60分鐘的嬰幼兒表現更好。在嬰幼兒25個月時, 不看電視的嬰幼兒比看30分鐘以內和看電視超過60分鐘的嬰幼兒在注意力方面表現更好; 看電視不超過60分鐘的嬰幼兒比每天看電視超過60分鐘的嬰幼兒在親社會同伴關係中擁有更好的表現。看電視時間在跨年齡段的比較結果顯示, 每天不看電視的嬰幼兒有更多的同伴攻擊行為, 但不看電視的嬰幼兒比看電視15分鐘以內以及看電視超過60分鐘的嬰幼兒注意力表現更好; 看電視在15分鐘以內的嬰幼兒擁有最多的內隱行為問題和焦慮行為; 看電視30分鐘的嬰幼兒比看電視15分鐘以內和超過60分鐘的嬰幼兒在能力域和注意力方面表現更好, 且該組嬰幼兒比其他組的嬰幼兒擁有更好的移情能力。嬰幼兒看電視時間對其語言和情緒社會性發展的影響有利有弊, 需要家長高度重視, 採用合理的方式積極引導嬰幼兒養成良好的看電視習慣, 從而促進其語言和情緒社會性等方面的健康發展。

Reading Options

On Vygotsky's Cognitive Development Theory and Task-Based Teaching

- 陳慧媛 (2005). 任務教學法及其理論基礎和意義. *綏化學院學報*, 6, 110-115.

摘 要：任務教學法提倡以有意義的交流活動為主,提倡能力的培養,強調學習者主體的作用。這與Vygotsky的理論之中個體發展的許多觀點有相通之處。Vygotsky語言與思維的發展理論注重社會環境與個體的相互作用,也試圖闡述了個體在與社會環境的交互作用之中自我調節功能的作用以及思維語言能力的不斷發展的觀點,把Vygotsky有關個體思維和語言發展的理論作為任務教學法的理論基礎來進行討論能揭示許多語言獲得中的基本問題,把Vygotsky的理論作為一個理論框架,對於更清楚的認識任務教學法,提高對語言習得和外語教學的認識也有一定的啟示作用,也為任務教學法提供了一個可供參考的社會心理語言方面的理論基礎。

Reading Options

On Multisensory Teaching for Students with Learning Disabilities

- 許珠芬, 邱莉婷, 王明泉 (民104). 多感官教學對注音符號學習困難學生學習成效之研究. 特殊教育與輔助科技學報, 8, 43-74.

摘要

本研究旨在探討多感官教學對提升注音符號學習困難學生注音符號拼音能力之成效。研究方法採用單一受試研究法的跨受試多探測研究設計，研究對象為三位四年級學習障礙學生，以多感官教學策略為自變項，依變項為學生注音符號拼音能力。每一位研究對象每週接受四節課，每節六十分鐘，合計十八節課的教學實驗。分別於基線期、介入期及保留期蒐集學生注音符號能力測驗結果，分析學生在注音符號指認拼音、認讀拼音及聽寫拼音能力上的立即成效與保留成效。研究結果以目視分析法和 C 統計進行分析。綜合本研究結果如下：

- 一、經過多感官注音符號教學後，注音符號學習困難學生之指認拼音能力有顯著的立即成效與保留成效。
- 二、經過多感官注音符號教學後，注音符號學習困難學生之認讀拼音能力具有立即成效與保留成效。
- 三、經過多感官注音符號教學後，注音符號學習困難學生之聽寫拼音能力有明顯的立即成效與保留成效。

Reading Options

On Intrinsic Motivation Based Teaching for Students with Learning Disabilities

- 李曼曲 (民 103). 學習困難學生內在動機之策略初探. *特殊教育發展期刊*, 58, 23-40.

摘要

學習困難學生在學習上有著低度的學習動機，研究顯示目前在閱讀與數學的特定學科領域上，內在動機與學業有密切關連，特別是經由老師與父母的自主支持，來提升學生的學習動機，學生學習的內在動機，若經過訓練或培養，是可讓學生在學業以及社交/情感方面有所進步，本文旨在探討學習困難學生學習的內在動機，與學習動機有關的自我決定理論，以及對學習困難學生提升內在動機策略之建議。

Reading Options

摘 要

On Cooperative Learning for Students with Learning Disabilities

- 李建億, 胡政文 (民 107). 在課堂中運用自動動態分組於合作學習以協助學習困難之學生. 人文社會學報, 14(2), 117-137.

本研究旨在課堂上探討如何運用自動動態分組策略應用於同儕學習活動中，以協助學習困難的學生，並進而提昇其學習成效。本研究採準實驗設計，研究對象為臺南市某國小五年級六個班的學生共 154 人，分為三組，每組隨機選取兩班，其中，實驗組為 52 人，採用動態分組策略組成同儕學習；對照組一為 50 人，採用隨機分組方式組成同儕學習；對照組二為 52 人，採用先前學科學期成績為立意分組進行同儕學習。進行為期四週實驗教學，三組在實驗教學後以單因子共變數進行統計分析，以瞭解不同的分組方式應用在同儕輔助學習對電腦課程的學習成效差異。研究結果發現：(一) 實驗組與對照組一的學生，在學習成效上有顯著性的差異；(二) 實驗組與對照組二的學生，在學習成效上則沒有顯著性的差異；(三) 在同儕輔助學習的環境下，性別因素在學習成效上沒有顯著性的差異。

Teaching/Parenting Applications

- <https://www.parents.com/baby/development/talking/9-ways-to-help-your-childs-language-development/>

Singing songs, reading books, etc., can expand a child's language skill beyond its developmental milestones!
Why?

9 Ways to Help Your Child's Language Development

Speed up and improve your child's language skills.

By Colleen Davis Gardephe

