MYTHS and MISUNDERSTANDINGS about EARLY DUAL LANGUAGE LEARNING

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CHILDHOOD BILINGUALISM
“The point is that my daughter has to speak 3, sometimes 4 languages simultaneously….

My concern is:
- How to not overload the child's brain ….
- How to not cause a delay in her vocabulary development…
- Should we separate one language from another in terms of a territory or a time of use?
- Should we all switch to English while helping her to work on her homework?
- Is there a such thing as a right or an optimal way raising a multilingual child? ............

…. questions, questions, and more questions”
“.... I am a psychologist working in English schools in a very French environment ....My knowledge of the problematic was leading me to believe that adding yet another language on a child having difficulty mastering his mother tongue could be putting too much pressure and setting the child up for failure.”

CONCERNS from a SCHOOL PSYCHOLOGIST
MY GOALS

• To identify common concerns about early dual language learning:
  – Simultaneous and successive bilinguals
  – Pre-school and school-age learners
  – Majority language and minority language children
  – Children with learning challenges

• To review research findings relevant to each and consider their implications for teaching, learning and support
MYTHS

1. myth of the monolingual brain: at-risk children
2. more exposure is better
3. younger is better
4. monolingualism is the gold standard
MYTH of the MONOLINGUAL BRAIN
AT-RISK LEARNERS

Commonsense view:
for children with language learning difficulties, learning an L2 is a burden and jeopardizes L1 development

Alternative view:
children with language impairment have difficulty learning any language & impairment will be the same whether they learn 2 languages or only 1

At-Risk Language Learners
- Specific language impairment
- Down Syndrome
- Autism Spectrum Disorder
FRENCH-ENGLISH BILINGUALS with SPECIFIC LANGUAGE IMPAIRMENT (SLI)


bilinguals with SLI*
(8-years old)

Fr monos with SLI
Eng monos with SLI
RESULTS

a) **Severity of impairment:**
   
   bilingual children = monolingual children
   
   (in English & French)

b) **Patterns of impairment:**

   bilingual children = monolingual children
   
   (in English & French)
SPANISH-ENGLISH CHILDREN WITH LANGUAGE IMPAIRMENT
(Gutierrez-Clellen & Wagner, 2006)

BILINGUAL CHILDREN

- typically-developing (Eng. Dominant)
- typically-developing (Sp. Dominant)
- impaired development (Eng. Dominant)

ENGLISH-L1 CHILDREN

- Mono Typically-Developing
- Mono impaired development
CHILDREN WITH DOWN SYNDROME
(Kay-Raining Bird, Cleave, Trudeau, Thordardottir, Sutton, & Thorpe, 2005)

Bilingual Children

Typically Developing

Monolingual Children

Typically Developing

Down Syndrome

NO DIFF.

bilingual children with ASD = mono children with ASD
IMMERSION STUDENTS with LANGUAGE IMPAIRMENT


\[
\text{Immersion students with impairment} = \text{Non-immersion students with impairment}
\]
AT-RISK STUDENTS IN IMMERSION

Students:

- below average academic ability (Genesee, 1976)
- low SES backgrounds (Lindholm-Leary & Block, 2010)
- ethnic and linguistic minority groups (Jacobs & Cross, 2001; Lindholm-Leary & Block, 2010)
- special education needs: learning disability, developmental delay, emotional difficulties (Myers, 2009)

Immersion Students = Non-immersion students
CAVEAT!

ALL CHILDREN ARE DIFFERENT

EACH CHILD SHOULD BE CONSIDERED INDIVIDUALLY
OTHER FACTORS

• **Community**: what is the use of or need for L2?

• **Family**: what is the significance of L2 in the nuclear and extended family?

• **School**: can the school provide the additional support child needs?

• **Parents**: do parents have the resources, energy & patience to support the child & the school?

• **Individual differences** in children’s ability to cope with their additional learning challenges
MYTH 2: MORE EXPOSURE IS BETTER

more exposure $\Rightarrow$ more competence

relationship between time and language learning is complex – no simple correlation between amount of exposure to language (at home or in school) and competence

a) simultaneous bilingual acquisition

b) from L2 learners in school
a) SIMULTANEOUS BILINGUALS

MONOLINGUAL MILESTONES

- word segmentation (7 mths)
- babbling (10-12 m)
- first words (12 mths)
- vocabulary spurt (18 mths)
- word comb. (24 mths)
- grammar/communicat’n (beyond)

bilingual milestones are the same

(Genesee & Nicoladis, 2006)
How much exposure is enough?

- minimum input is needed to achieve these milestones:

  Thordardottir et al. (2011) – 40% exposure to achieve age-appropriate scores on standardized tests in that language

  bilingual children do not need twice as much exposure

- subtle differences in grammatical accuracy due to amount of input (Paradis & Gruter, 2014)

?? WHAT DO DIFFERENCES MEAN??
b) L2 LEARNING IN SCHOOL: TIME-ON-TASK

• “time-on-task”: more instruction results in greater levels of achievement

⇒ “important” school subjects are taught early and often

⇒ immigrant parents or parents of L2 students are often encouraged to use societal language (L2) at home to give their children an early start

⇒ minority students were discouraged from using home language in school
WHEN TIME IS NOT CRITICAL: BILINGUAL EDUCATION in U.S.

🌟 BILINGUAL INSTRUCTION FOR SPANISH-L1 MINORITY STUDENTS:

a) English-only vs bilingual instruction: same competence in English-L2

b) 90% vs 50% instruction in Spanish-L1: same competence in English-L2

Genesee & Lindholm-Leary (2012)
WHEN TIME IS NOT CRITICAL: IMMERSION in CANADA

ENGLISH-SPEAKING STUDENTS IN FRENCH IMMERSION

a) English-only instruction vs French-English instruction
   ⇒ same competence in English

b) total immersion vs partial immersion in French
   ⇒ same competence in English

( Genesee, 2004 )
WHEN TIME DOES MATTER...

CANADA:

L2 IMMERSION FOR MAJORITY LANGUAGE STUDENTS:

☀ more French-L2 ⇨ more competence

U.S.:

BILINGUAL EDUCATION for MINORITY LANGUAGE STUDENTS:

☀ more Spanish-L1 ⇨ more competence
EXPLAINING DIFFERENCES

Mi Nanny, Mi Teacher

Immigrant Care Givers Double as Language Instructors

NAVALING

Mi Nanny, Mi Teacher

Hispanics threaten U.S. melting pot

Immigrants must learn English or country will suffer in long run

Since the United States established itself as an English-speaking country, never has an immigrant group so threatened the "melting pot" concept.

In his book Empires of the Word, Nicholas Ostler argues English became the dominant language of the United States in large part because English-speaking colonists were far more likely to arrive in families than colonists from other parts of Europe.

Consequently, their numbers grew more rapidly than, say, those of the French, whose fur-trading coureurs de
CROSS-LINGUISTIC CONNECTIONS

ASSUMPTION:
Languages are learned, develop & used independently

⇒ immigrant parents should expose children to English ASAP

⇒ languages should be taught and used separately in immersion & bilingual programs

⇒ deficit view of bilingualism
CHALLENGING ASSUMPTIONS
(see also Cummins, Grosjean, Edwards)

- These assumptions ignore growing evidence of neuro-cognitive interactions between bilingual’s languages:
  - semantic processing: lexical access
  - code-mixing
  - Bilingual bootstrapping: reading acquisition
(1) CODE-MIXING

TYPES OF CODE-MIXING

• **Intra-Utterance:**
  – Funny *chien*

• **Inter-Utterance:**
  – Mother: What’s this one?
  – Child: *cheval*
  – Mother: What’s that one?
  – Child: *cow*
10 French-English children (1;10 – 3;8), 10,000+ utterances

a) **WORD ORDER CONSTRAINT**: (e.g., “I les like.” [I like them.])

   \(\Rightarrow < 1\%\) violations

b) **MORPHOLOGICAL CONSTRAINT** (e.g., “bross-ing dents”):

   \(\Rightarrow\) only 3 utterances violated constraint
The grammars of bilinguals can be simultaneously activated during real time language use in order to avoid grammatical violations.

These processes are automatic; they are not learned.

They reveal a form of bilingual processing capacity that confirms that bilinguals’ two languages are an integrated system.
(2) BILINGUAL BOOTSTRAPPING
L1 language predictors
L1 reading predictors

L2 language outcomes
L2 reading outcomes

Fall K  Spring K

At-risk: 93%
Not-at-risk: 87%

Grade 3

predictors
outcomes

Learners: English-L1 children in total French immersion programs
MYTH 3: CHILDREN ARE LINGUISTIC SPONGES

- young children have biological endowment for language learning:
  - they are efficient and effective language (L2) learners
  - mere exposure to native speakers is all it takes
  - native-like competence in L2 is assured
YES, BUT...

- studies of age effects usually compare children to adolescents or adults, not to other children
- they often focus on language for social purposes and not language for academic purposes
- they use normative approach where there is little variation among native speakers
ARE SCHOOL-AGE LEARNERS LINGUISTIC SPONGES?


⇒ achieving native-like levels of proficiency in English:
  – can take 5-7 years to attain native-like levels of proficiency in English for academic purposes
  – many minority ELLs fail to achieve native-like proficiency

b) Canada: ESL students in primary school (Paradis, 2006):

⇒ same pattern of results
AMERICAN INSTITUTE for RESEARCH: ESL Students in the U.S.

- **8.5%** annual redesignation rate of EL students to native-like
- **25-30%** take > 5 yrs to achieve proficiency like English-L1
- **75%** NOT designated native-like after 5 years
PRESCHOOL IMMIGRANT CHILDREN in SWEDEN
Abrahamsson & Hyltenstam (2009)

ALL SOUNDED LIKE NATIVE SPEAKERS

3/31 SCORED LIKE NATIVE-SPEAKERS

20+ years in Sweden
MYTH 4: MONOLINGUALS ARE THE GOLD STANDARD

- Monolinguals are used as the standard for assessment

- Language learning trajectories, outcomes and underlying processes of acquisition in monolinguals taken to be the norm – criteria for determining “normal”

- Monolingual bias in research has revealed some important similarities and differences

- Limitations of the monolingual bias are evident in interpretations of differences ⇒ often interpreted as deficits
THE CASE OF INTERNATIONALLY-ADOPTED CHILDREN
(Delcenserie & Genesee, 2014):

Adopted children from China; btwn 12-24 mths old

1. ADOPTED children = CONTROL children: cognitive and socio-emotional development

2. **ADOPTED children = language test norms**

3. ADOPTED children < SES-matched controls
MORE THAN ONE WAY TO BE A NATIVE SPEAKER
(Pierce, Klein, Chen & Genesee, PNAS 2014)

INTERNATIONALLY-ADOPTED
(mono. French)

BILINGUAL
CHINESE-FRENCH

MONOLINGUAL
FRENCH

(9-17 years of age)
THE TASK: CHINESE

HEAR: mà ... mà  ⇒  RESPOND: same
HEAR: mà ... mã  ⇒  RESPOND: different
NEURO-COGNITIVE TRACES of CHINESE

Monolingual: French only

International Adoptees: French (discontinued Chinese)

Bilingual: Chinese-French

R posterior STG & supramarginal gyrus
L anterior STG & planum temporale
L anterior STG & planum temporale
BEHAVIORAL RESULTS

⇒ **NO** group differences on accuracy or reaction time on 0-back, 1-back and 2-back conditions

⇒ **NO** group differences on block design (spatial ability)
NEURO-COGNITIVE PROCESSING of ADOPTED LANGUAGE

L anterior insula & L frontal operculum = WORKING MEMORY

a) weak activation L insula
b) strong activation of temporal regions in both hemispheres

same pattern as bilinguals
IMPLICATIONS

1) IA Children retain neuro-cognitive traces of L1
   ⇒ primary language areas are attuned to birth language

2) IA children use different neuro-cognitive systems to learn and use the adopted language

3) back-up systems are less language specific and are linked to general cognitive processes

4) may be true of other “delayed” L2 learners

5) IA children can achieve same level of language proficiency as typical L1 learner but also exhibit subtle differences
CONCLUSIONS

1) Early dual language learning is not a challenge for most children – even children with language learning difficulties can become bilingual.

2) Young dual language learners differ from monolinguals -- usually for reasons related to the learning environment.

3) Young learners can acquire competence in two languages comparable to that of monolinguals despite reduced input.

4) Dual language acquisition does not require twice as much exposure.

continued...
5) Efficiencies in early dual language learning are related to the cross-linguistic connectivity of the developing languages.

6) Neural plasticity allows for alternative routes to language competence.

7) Learning environment/history will shape the nature of the neuro cognitive systems learners engage.
thank you
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