

Academic Oral English Development Among Spanish-speaking English Language Learners: Comparing Transitional Bilingual and Structured English Immersion Models

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Introduction

- ❖ Nation-wide: 11.3 million immigrants, among most recent arrivals (2000-2005), 58% from Latin America (Center for Immigration Studies, 2005)
- ❖ Texas
 - 684,007 English language learners (ELLs) in 2004-2005, 94% Spanish speakers, 87% economically disadvantaged (TEA, 2005)
 - 711,237, representing a dramatic increase of 106% from 1990, and accounting for 15.8% of the entire school population (TEA, 2006)
- ❖ Challenges for Hispanic population
- ❖ Challenges schools face
- ❖ ***Which program type, or instructional model that best accelerates oral English development?***

Review of Literature

- Until fairly recently, the literature has been dominated by language of instruction and overwhelmingly focused on reading outcomes.
- Very little is known on what schools can do to accelerate oral English language development among ELLs.
- The development of academic oral English is of particular concern because of its salience to school achievement (Peregoy & Boyle, 2001; Saunders & O'Brien, 2006).
- This study addresses the question of accelerating academic oral English language development, in two different types of programs under two conditions over a two-year age span.

Debate on Language of Instruction

- ❖ Among ELL population 49% are placed in TBE programs and 38% in SEI programs (Alanis, 2000). Both aim to foster language minority students' English proficiency in order to succeed academically in English-only classroom.

- ❖ ***Transitional bilingual education (TBE) model***
 - All students are of the same minority linguistic background. The goal is to instruct language minority students in their native language as a bridge to learn English and finally mainstream them. Students' L1 is used at the early stage of reading instruction, as students approach higher grade levels, the use of L1 declines (Genesee, 1999; Lara-Alecio, Irby & Meyer, 2001).

- ❖ ***Structured English immersion (SEI) model***
 - In this self-contained classroom, English is used for all subjects with very few L1 clarification, and ELLs are expected to master grade-level academic English skills within 2 to 3 years (Ovando, Combs, & Collier, 2006; Ramirez, Yuen, Ramey, & Pasta, 1991). Students do not necessarily share the same linguistic background. In the state of Texas, it is an alternative either due to parental denial of bilingual program or insufficient number of students with same native language (less than 20) (Lara-Alecio, Galloway, Irby, Rodriguez, & Gomez, 2004).

TBE and SEI: Response to Academic and Linguistic Needs of ELLs

❖ Empirical Studies

- Ramirez et al. (1991): early-exit TBE students perform slightly but not significantly better than those in SEI in the rate of growth in English language and math. Late-exit TBE students demonstrated a significantly faster growth rate than students in other two models in English language and math
- Thomas & Collier (2002): late-exit model very promising, while early-exit model also provided some positive evidence, yet not as powerful as it from the other two. SEI is the least-effective model for long-term academic performance.
- Findings must be interpreted with caution due to poor methodological design (Meyer & Fienberg, 1992)
- Slavin, Madden, Calderon & Duran (2007): students in SEI outscored students in TBE with mean effect size (ES) = .45 (reading) and .29 (oral).

❖ Research Syntheses

Pros

- Willig (1986) pinpointed the positive impact of quality L1 instruction with (ES= .33).
- Rolstad, Mahoney, & Glass (2005) in favor of all bilingual programs (ES =.23)
- Slavin & Cheung's (2005) analyses that there is benefit for ELLs in reading programs with bilingual approach as compared to English only approach (ES = .33).
- National Literacy Panel (Francis, Lesaux, & August, 2006) with ES ranging between small (.01) to large (.77)

❖ Cons

- Baker & de Kanter (1981) did not favor bilingual education
- Rossell & Baker (1996): none of the 12 methodologically sound studies evidenced the advantage of TBE over SEI when the outcome is English reading, language and math.

Rates and Patterns of L2 Oral Development

- ❖ Only six studies documenting oral English development, and “With one exception (Hakuta, Butler, and Witt, 2000), no U.S. study published within the last twenty years has explicitly addressed the rates of oral English language proficiency attainment” (Saunders & O’Brien, 2006, p. 23).
- ❖ Approximately equal gain each year in terms of English oral proficiency among Spanish-speaking ELLs, regardless of program type, namely two-way immersion, ESL, or English-only. ELLs with lower level of oracy tended to develop faster (Saunders & O’Brien)
- ❖ For Spanish-speaking ELLs with high poverty level, oral English proficiency increased at a constant rate at least from kindergarten to grade four (Hakuta, Butler & Witt, 2000)
- ❖ A positive linear trend of L2 oral language development among Hispanic ELLs from kindergarten to 2nd grade (Miller et al., 2006)

Academic Oral English: Definition

- ❖ Cummins (1981)
 - An expansion of BICS and CALP theory: four quadrants continuum. context-laden and cognitively undemanding to context-reduced and cognitively demanding level
- ❖ Cummins (2000)
 - academic language proficiency is the ability to make complex meanings explicit in either oral or written modalities by means of language itself rather than by means of contextual or paralinguistic cues (Cummins, 2000, p. 69).
- ❖ My premise
 - oral proficiency is part of the academic language, and the ability to understand and communicate orally in an English academic setting (Collier, 1987; Roberts & Neal, 2004).

Discrete Aspects of Academic Oral Proficiency: Vocabulary, Comprehension and ELLs

- ❖ vocabulary, grammar, and listening comprehension are significant factors of oral language proficiency (August, 2003)
- ❖ Younger learners first acquire oral vocabulary and most of that vocabulary is receptive so that they can familiarize oral vocabulary knowledge with what is read to them (letter-sound correspondence) (Kamil, 2004; Snow, Burns, & Griffin, 1998)
- ❖ aural proficiency is necessary for successful communication in social and academic settings (Gottlieb, 2006) and the assessment of oral language should include measures of auditory comprehension (NICHD, 2005).
- ❖ of primary importance in academic language development is the “related elements of vocabulary and comprehension (Hickman, Pollard-Durodola, & Vaughn, 2004)

Rationale

- ❖ Lack of empirical-derived evidence regarding the nature of ELLs' L2 oral development in academic setting
- ❖ paucity of experimental and quasi-experimental longitudinal study coupled with random selection or random treatment from a developmental point of view (Miller et al., 2006)
- ❖ A handful of quantitative studies addressing practices that best support ELLs' language and literacy acquisition, however, did not provide a full array of description on the instructional programs, which has obscured the interpretation of findings (August, 2003; Lindholm-Leary & Borsato, 2006)
- ❖ Although the most recent meta-analyses have provided a better basis for making a point about the positive effects of primary language instruction, the focus has targeted second language (English) reading outcomes without attention to specific program type and/or the quality of instruction.

Purpose of the study

(a) to capture the growth trajectory and rate of oral English acquisition among Spanish-speaking ELLs; and

(b) to compare program models (TBE and SEI) in relation to ELLs' L2 language acquisition in a two-year experimental study.

Methodology

- Sampling and Research Design
- Measures
 - The Wookcock Language Proficiency Battery-Revised (WLPB-R) (Woodcock, 1991)
 - Picture Vocabulary (58 points) & Listening Comprehension (38 points)
- Intervention Procedure
- Research Questions
- Classroom Observation
 - TBOP (Lara-Alecio & Parker, 1994) with .9 inter-rater reliability
- Data Collection & Analysis
 - Data were collected in Fall 2004, Spring 2005 and Spring 2006
 - Latent growth modeling (LGM) LISREL (Jöreskog & Sörbom, 2005)
 - Chi-square difference for group comparison

	Structured English Immersion (SEI)	Transitional Bilingual Education (TBE)	Total n
Enhanced (11 schools total)	Classrooms: 12 Students: 88	Classrooms: 17 Students: 210	Classrooms: 29 Students: 298
Typical (12 schools total)	Classrooms: 16 Students: 125	Classrooms: 11 Students: 111	Classrooms: 27 Students: 236
Total	Classrooms: 28 Students: 213	Classrooms: 28 Students: 321	Classrooms: 56 Students: 534



SEI

TBE

Enhanced

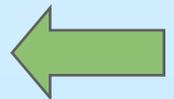
Level 1- teachers and staff provided with bi-weekly professional development workshops;
Level 2 – student intervention
Tier 1: regular language arts
Tier 2: 75(K)/90(1st) minutes structured ESL intervention (Santillana, STELLA, and AOL);
Tier 3: communication game for low-performing students (oracy and vocabulary development)

Same ESL intervention;
70/30 (Spanish component with language arts and content area in k; Spanish reading and language arts, math, and science 1st)

Typical

45 minutes (k-1st) ESL rarely are clarifications from Spanish made

45 minutes ESL strategies;
80/20 (k-1st)



Research Questions

- ❖ What is the respective growth trajectory and rate of oral English development among 1st grade Spanish-speaking ELLs after two years of placement in enhanced and typical transitional bilingual and structured English immersion program types?
- ❖ Is there any significant difference in the trajectory and rate of oral English development among 1st grade Spanish-speaking ELLs after two years of placement in enhanced and typical transitional bilingual and structured English immersion program types?



Results

- ❖ Normality check, correlation matrices
- ❖ Model evaluation and mean structure estimation in respective models
- ❖ Group comparison

Correlations Matrix among Variables Measured Repeatedly (SEI-E)

Variable	1	2	3	4	5	6
1. PV1	---					
2. LC1	.41***	---				
3. PV2	.31*	.32*	---			
4. LC2	.26*	.45***	.46***	---		
5. PV3	.43***	.46***	.54***	.54***	---	
6. LC3	.27*	.42***	.41***	.58***	.55***	---

Note. $N = 102$. * $p < .05$. *** $p < .001$.

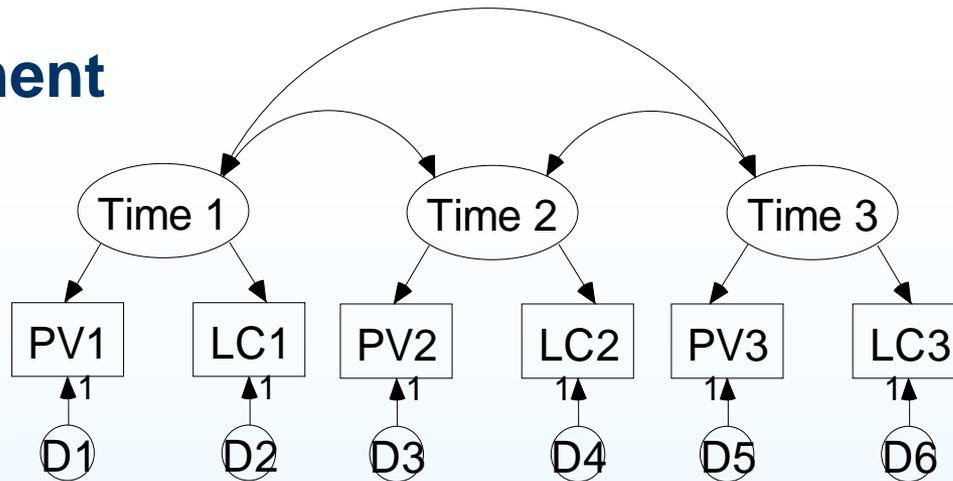
Descriptive Statistics on Picture Vocabulary Across Time

	Time	N	Mean	Std.	Skewness	Kurtosis
	1	88	16.375	4.552	-0.223	0.799
SEI-E	2	88	22.375	3.022	-0.233	0.704
	3	88	24.341	2.963	0.074	-0.505
	1	125	18.488	5.051	-0.205	-0.037
SEI-T	2	125	22.896	2.744	0.308	-0.195
	3	125	24.176	5.055	-2.781	11.263
	1	210	12.324	4.720	-0.147	-0.367
TBE-E	2	210	18.024	2.995	0.040	-0.035
	3	210	20.524	3.466	0.401	-0.459
	1	111	11.901	4.771	-0.567	0.035
TBE-T	2	111	16.775	3.870	-0.860	1.142
	3	111	19.496	3.922	-0.112	-0.318

Descriptive Statistics on Listening Comprehension Across Time

	Time	N	Mean	Std.	Skewness	Kurtosis
SEI-E	1	88	5.795	4.350	0.516	-0.860
	2	88	9.330	4.842	-0.198	-0.872
	3	88	14.227	4.396	-0.849	0.929
SEI-T	1	125	6.728	4.438	0.407	-0.512
	2	125	9.536	4.734	-0.007	-0.162
	3	125	14.384	4.543	-0.814	1.339
TBE-E	1	210	2.124	2.899	1.631	1.940
	2	210	4.281	3.933	0.745	-0.474
	3	210	9.071	4.635	0.119	-0.749
TBE-T	1	111	1.532	2.013	1.510	1.896
	2	111	3.496	3.746	1.094	0.569
	3	111	7.108	5.212	0.602	-0.394

Measurement Model



Fit Indices

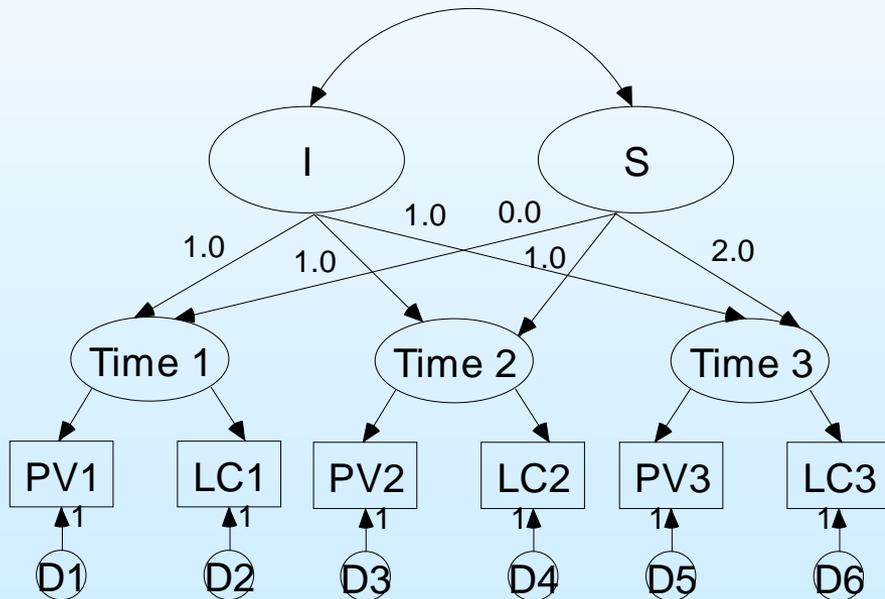
$$\chi^2(4, N = 88) = 3.078$$

$$p = .545$$

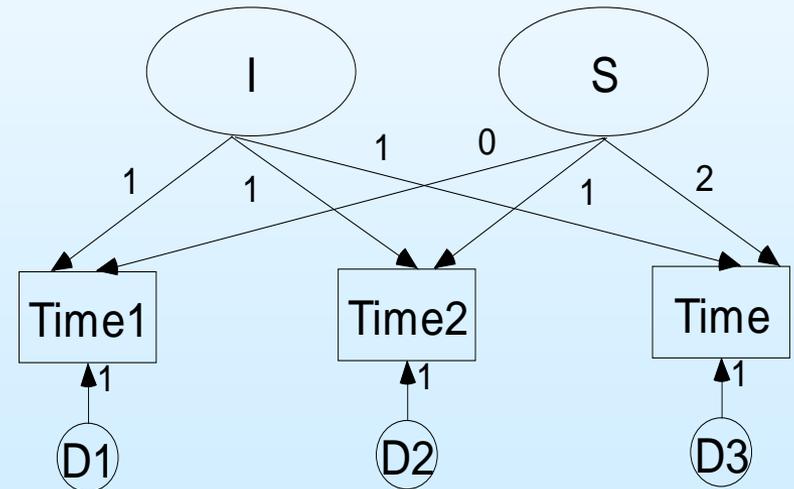
$$RMSEA = .00$$

$$CFI = 1.00$$

$$SRMR = .03$$



Hypothetic Model

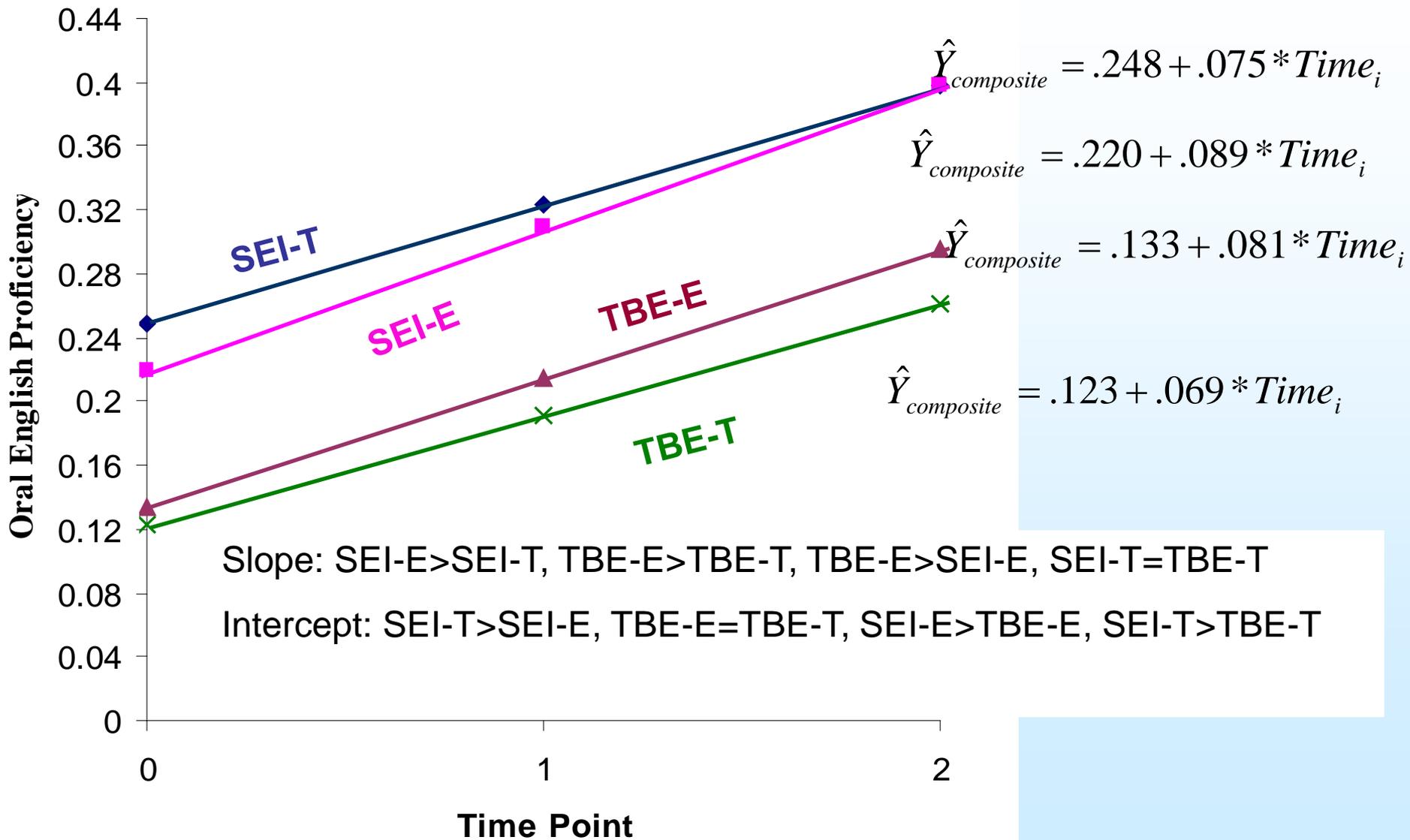


Hypothetic Model final

Fit Indices of Linear Trajectory Model Investigation

Program	χ^2	<i>p</i> -value	CFI	RMSEA	SRMR
SEI-E	1.562	0.211	0.989	0.079	0.000
SEI-T	2.108	0.349	0.999	0.028	0.055
TBE-E	2.95	0.229	0.996	0.048	0.036
TBE-T	2.863	0.239	0.994	0.061	0.06

Growth Trajectory of L2 oral proficiency



Discussions and Conclusion

- ❖ Significant linear growth (four instructional practices) supported by previous studies (Hakuta, et al.; Miller et al.)
- ❖ Magnitude varies:
 - TBE-E vs. TBE-T ($p < .05$, $d = .71$)
 - SEI-E vs. SEI-T ($p < .5$, $d = .64$)
 - TBE-E vs. SEI-E ($p > .05$)
- ❖ The English intervention has accelerated young ELLs' academic oral language acquisition.
 - L1 instruction did not impede the learning of a second language (Cummins, 1979; Thomas & Collier, 2002)
 - alterations in TBE and SEI program models are needed to nurture English oracy at a faster growth rate
 - quality instruction can catalyze subsequent L2 acquisition regardless of beginning at a lower level of language proficiency.

Recommendations

- ❖ researchers compare students in Project ELLA with their English-speaking peers so as to identify the gap, if there is such, between native and non-native English speakers. Follow-up studies be implemented beyond the whole project period as students move to late-elementary, middle school and high school levels to determine the long-term effect of program placement.
- ❖ a latent curve model be hypothesized to document the trajectory and rate of literacy acquisition among those students, along with the progression of oral language proficiency and to testify the threshold theory (Cummins, 1979).
- ❖ a close investigation and analysis of TAKS (Texas Assessment of Knowledge and Skills, high-stakes testing mandated by Texas) results will be powerful and informative
- ❖ case studies are needed to identify individual differences in terms of their background and interplay of family, school, and communities, factors
- ❖ cross-linguistic transfer factors that are attributed to L2 literacy acceleration.

Classroom Observation

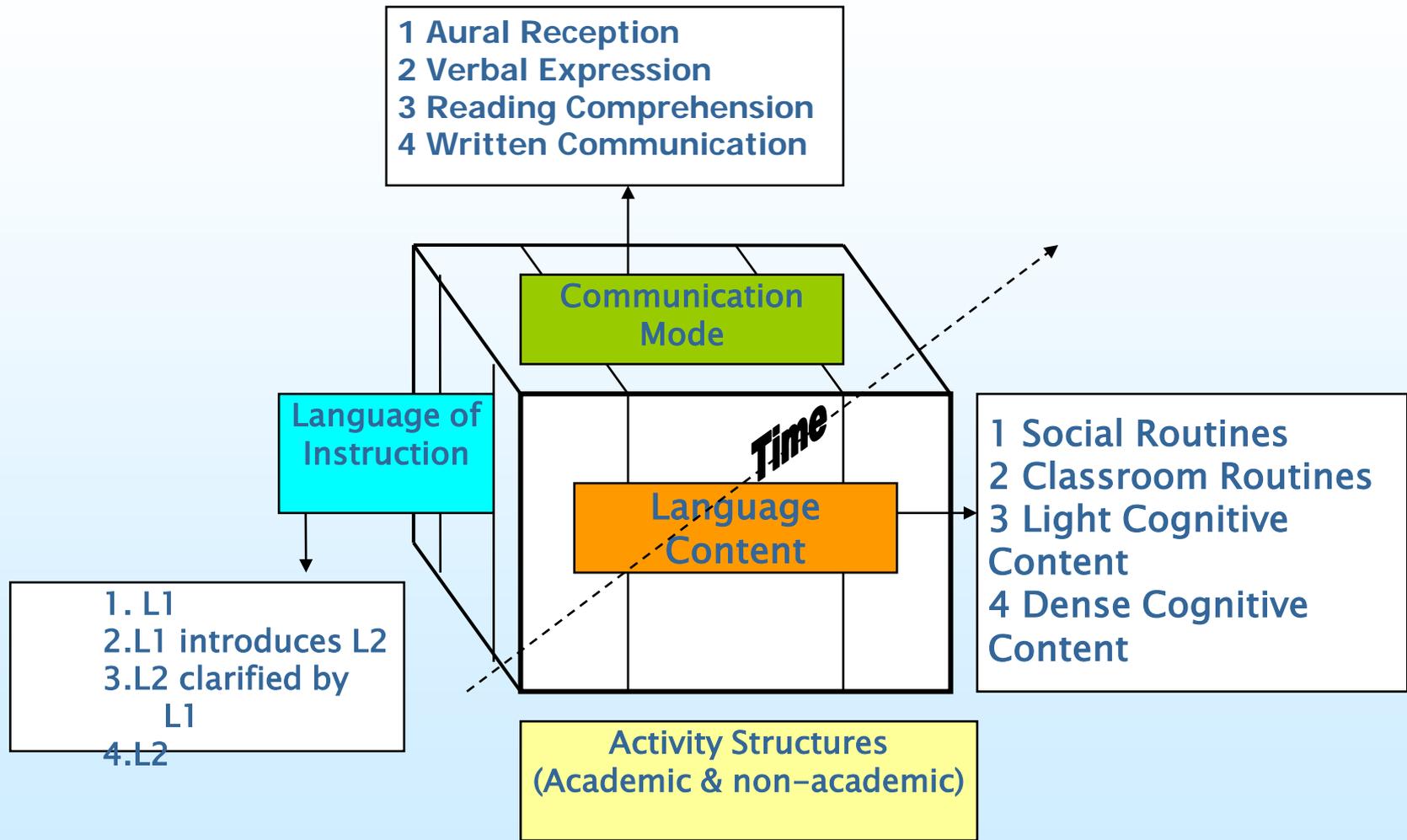


Figure 1. Transitional Bilingual Observation Protocol (Lara-Alecio & Parker, 1994).

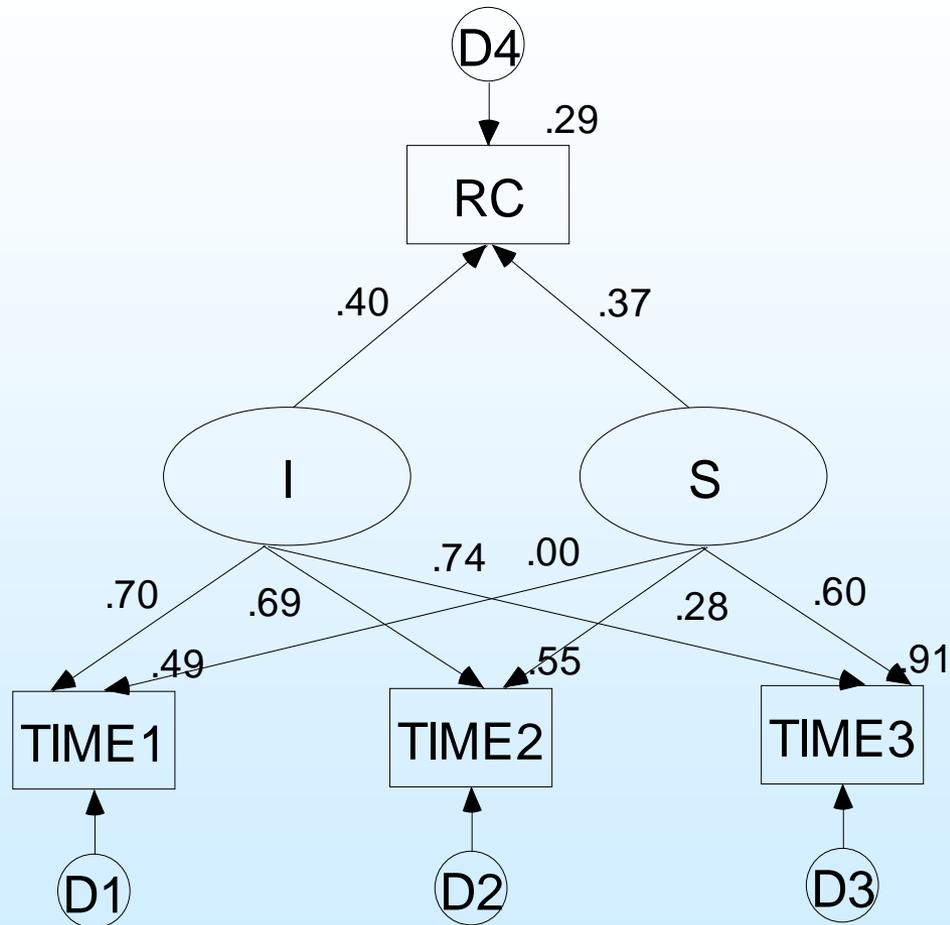
Mean Structure and Variance Estimation by LISREL

Program	Parameter	Mean	z-value	variance	z-value
<i>SEI-E</i>	Intercept	.220	26.180***	.004	3.059*
	Slope	.089	19.362***	.001	2.301*
	Intercept * Slope			-.001	-1.614
<i>SEI-T</i>	Intercept	.248	31.921***	.006	6.143***
	Slope	.075	20.869***	0	
	Intercept * Slope			-.001	.19
<i>TBE-E</i>	Intercept	.133	28.837***	.003	7.920***
	Slope	.081	32.566***	.000	2.591
<i>TBE-T</i>	Intercept	.123	22.814***	.003	6.111***
	Slope	.069	19.796***	.001	3.739***

Note. * $p < .05$. *** $p < .001$.

Hypothetic model 2

$\chi^2(2, N = 102) = .0187 \quad p = .991$
RMSEA = .0, CFI = 1.000, SRMR = .003



LISREL-derived structural equation model of prediction on reading comprehension with standardized regression (SEI-E)

Models	Fit Indices
SEI-T Hypothetic model 1 final	$\chi^2 = 8.139(6, N = 102), p = .228$ RMSEA = .066, CFI = .992, SRMR = .03
TBE-E Hypothetic model 1 final	$\chi^2(2, N = 206) = 3.970 \quad p = .137$ RMSEA = .07, CFI = .992, SRMR = .044
TBE-T Hypothetic model final	$\chi^2(2, N = 126) = 1.18 \quad p = .554$ RMSEA = .0, CFI = 1.00, SRMR = .02

Standardized Path Coefficients of L2 Oracy on L2 Reading Comprehension

Group	Intercept	Slope
SEI-E	.40	
SEI-T	.82	
TBE-E		.41
*TBE-T	.43	.58

Thank You !