



Review

Not so silent after all: Examination and analysis of the silent stage in childhood second language acquisition



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ABSTRACT

A period of silence has been advanced as a characteristic feature of childhood second language acquisition. Evidence is presented to document that the presumption of silence as the second of four typical stages of second language acquisition has influenced policy and practice in preschool classrooms. A narrative review examines the extent and quality of the evidence for a silent stage in second language acquisition in young children. Twelve studies meeting inclusion criteria were reviewed and evaluated. Evidence of a silent, non-verbal, pre-production, or receptive language stage was limited. Significant conceptual and methodological limitations within the largely qualitative studies were found. Four major issues raised by the studies are elaborated upon: the theoretical clarity and operational definitions of *silence* and *stage*, *phase*, or *period*; the psychological meaning and consequences of silence; the cross-context consistency of individual patterns of silence; and how adult language elicitation and support techniques may modulate silence. Recommendations based on contemporary evidence of language acquisition processes are made for the future study of (1) second language acquisition in preschool children and (2) pedagogical practice within preschool settings to promote second language acquisition. Finally, historical, theoretical, empirical, and contextual influences likely to have given rise to the appeal and ready endorsement of silence as a consistent and typical characteristic of childhood second language acquisition are presented.

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The percentage of preschool children who are learning English as a second language in the United States continues to increase. Recent estimates are that about one third of preschool children come from families where a language other than English is the primary language used to communicate in their homes (United States Census Bureau, 2010; U.S. Department of Health and Human Services, Administration on Children, Youth, and Families, 2008, 2011). These children are referred to as English language learners (ELLs) or dual language learners (DLLs). Speaking a first language other than English, along with low family income and minority status, are established risk factors for academic achievement and particularly for reading achievement in the United States (August & Shanahan, 2008; Kindler, 2002; Snow, Burns, & Griffin, 1998). These risk factors are reflected in the consistently reported achievement gap between dual language learner (DLL) and English only (EO) children on both school-based tests and research measurements of language, reading, and academic content knowledge (August & Hakuta, 1997; National Center for Education Statistics, Institute of Education Sciences, 2007, 2009).

Ensuring that children learning English as a second language develop high levels of L2 competence is important on its own merits and is an important foundation for second language literacy and broader school achievement. Recent volumes synthesizing the evidence on the educational achievement of dual language learners in K-12 concluded that language ability in both first language (L1) and second language (L2) are strongly related to school achievement in English (August & Shanahan, 2008; Genesee, Lindholm-Leary, Saunders, & Christian, 2006). Relationships among measures of broad language ability, specific language abilities such as vocabulary and phonemic awareness, and achievement outcomes are the main basis for these conclusions. These volumes along with similar earlier reports (August & Hakuta, 1997) noted the dearth of research specific to young DLLs on language development, literacy development, and the instructional practices that promote both.

The importance of the preschool years for language development and later academic success has been documented for English only and dual language learner children (Camilli, Vargas, Ryan, & Barnett, 2010; Dickinson, McCabe, & Essex, 2006; Duncan et al., 2007; Hammer, Lawrence, & Miccio, 2007; National Institute of Child Health and Human Development (NICHD) Early Childcare Network, 2005; Scarborough, 2001; for review see Snow et al., 1998). Advancing oral language competence in preschool children has proven to be a challenging task (Preschool Curriculum Evaluation Research (PCER) Consortium, 2008) and perhaps particularly so for DLLs in part because achieving proficiency in a second language is a lengthy process estimated to typically take three to seven years (Hakuta, 2011; MacSwan & Pray, 2005; Saunders & O'Brien, 2006). Additional evidence suggests that preschool DLLs who enter kindergarten proficient in English can keep pace with English only children in kindergarten and beyond (Halle, Hair, Wandner, McNamara, & Chien, 2012) and that DLL children benefit more from Head Start intervention than their non-DLL peers (U.S. Department of Health and Human Services, Administration on Children, Youth and Families, 2010).

For these and other reasons, the preschool period is increasingly capturing the attention of researchers, policy-makers, and practitioners as fertile ground for advancing language and other foundations for academic achievement dependent upon it (Brown, 2007; Kagan & Scott-Little, 2004; Neuman & Roskos, 2005; Roberts, 2011b). Calls for change in preschool practice based on this burgeoning evidence have been sounded. The 2003 Head Start Reauthorization Act moved language and literacy and other school readiness skills to center stage in the Head Start national agenda by specifying school readiness as its main purpose (Head Start Reauthorization Act, 2003). Early Reading First, a federally funded, competitive grant program established in the No Child

Left Behind (NCLB) Act of 2001 explicitly targeted enhancement of preschoolers' language, cognitive, and early literacy development as its purpose and funding priority. In 2009 the National Association for the Education of Young Children (NAEYC) released a new position statement on developmentally appropriate practice that endorsed the importance of literacy skills and the role of teacher-led intentional pedagogies in their development. Previous NAEYC official position statements, particularly the 1987 statement that was the genesis of the term *developmentally appropriate practice* (Bredenkamp, 1987), eschewed academic readiness skills and teacher-directed learning. Piaget-based (1972) and Vygotsky-based (1978, 1986) orientations to development and classroom practice were favored. This view of developmental appropriateness has pervasively shaped early childhood practice in the United States for the last twenty-five years; as of 1994 more than 300,000 copies of the position statement had been sold. This current and historical context highlights the importance of high-quality research that accurately characterizes the development of childhood second language acquisition (SLA) and research building on this knowledge that establishes sound instructional practice to promote it.

1. Silence in second language acquisition

The idea that a *silent stage, period, or phase* is characteristic of childhood second language acquisition is prominent in early childhood contexts in the United States and is purported to have been established by research evidence. The term *silent stage* refers to a period of time following introduction to a second language during which children do not orally produce the second language. Additional descriptors used to refer to this period of time include *nonverbal, receptive, or preproduction* and *period or phase*. In this paper, the term *silent stage* will be favored because this descriptor was the first to be used although *period* and *phase* are used as appropriate.

Silence as a stage of childhood second language acquisition has been explicitly articulated by scholars, represented in contemporary frameworks and position statements of organizations and agencies serving young children, and endorsed by early childhood practitioners (Bowman, Donovan, & Burns, 2001; Goldenberg, Hicks, & Lit, 2013; Goldstein, 2002; National Association for the Education of Young Children (NAEYC), 1995; Paradis, 2007; Roseberry-McKibbin, 1995; Samway & McKeon, 2002; Toppelberg, Tabors, Coggins, & Lum, 2005; U.S. Department of Health and Human Services, Administration on Children, Youth and Families (ACYF), 2005).

As one illustrative example, Head Start Bulletin #78. *English Language Learners* (U.S. Department of Health and Human Services, Administration on Children, Youth, and Families, 2005) contains this explanation:

For example, during the nonverbal period, staff and parents, too, may be very worried about the child's language development. Roseberry-McKibbin (1995) suggests that children typically go through the silent period for about 3-6 months, which may cause great concerns for professionals when children do not seem to be talking. In fact, at this stage, the child is working actively to gather information about how to communicate with peers and adults in the new language. During this non-verbal phase, researchers also note that children may isolate themselves as they take on the role of spectator or observer (Brice, 2002; Tabors, 1997). In "safe" environments (such as solitary play), they may rehearse new words they have heard. Although a teacher might interpret this tendency to keep to themselves as problematic, the English language learners are often watching classmates and adults and attempting to figure out how to communicate. (p. 56)

The [National Association for the Education of Young Children \(1995\)](#) validates the silent stage in the following manner:

Just as children learn and develop at different rates, individual differences exist in how children whose home language is not English acquire English. For example, some children may experience a silent period (of six or more months) while they acquire English. . . . Each child's way of learning a new language should be viewed as acceptable, logical, and part of the ongoing development and learning of any new language. (p. 1)

The [California Department of Education \(2009\)](#) devotes an eleven-page chapter to stages of second language development and includes this assertion:

Generally, children acquiring a second language move through the following four stages, the names of some stages having been modified to reflect current thinking ([Tabors & Snow, 1994](#)). In the first stage children may attempt to use the home language to communicate with others who are speaking a different or second language. In the second stage many pass through a period of observation and listening. They next use telegraphic and formulaic speech in the new or second language and finally begin to use the second language with more fluency. (p. 55)

A very recent article ([Goldenberg et al., 2013](#)) in the *American Educator*, published by the American Federation of Teachers, states a similar claim:

In her volume, *One Child, Two Languages*, dual language researcher Patton Tabors describes the sequence that children follow as they begin learning a second language in preschool. First, young children often attempt to use their home language, then, when they realize their home language is not working in this context, they tend to become silent. DLLs listen and observe, gaining an understanding of the classroom language. . . . (p. 28)

Instructional recommendations for addressing silence are consistent with initial views of developmental appropriateness because they rely on the assumption that children will actively figure out and acquire a second language, urged on by the capacity and inclination for self-development. The purpose of this article is to examine critically the nature, extent, and quality of the evidence for silence as a characteristic and discernible stage of childhood second language acquisition and to reference the findings to language development practices within preschool classrooms.

The silent stage is usually represented as the second step in a four-step developmental sequence put forth by scholars in diverse disciplines including early childhood, special education, and child psychiatry ([Paradis, 2007](#); [Roseberry-McKibbin, 1995](#); [Samway & McKeon, 2002](#); [Tabors & Snow, 1994, 2001](#); [Toppelberg et al., 2005](#)). This four-step developmental progression in second language acquisition is hypothesized to begin with the use of the home language (L1) in the first stage, followed by a silent stage, which is then followed by a period of formulaic, telegraphic, and single word language, which leads to the fourth stage characterized by productive second language (L2) usage that includes evidence of syntax and construction of novel utterances. The silent stage is believed to precede productive language use and to set the foundation for it. The term *productive language* refers to the spontaneous use of novel spoken utterances that demonstrate use of syntax.

Multiple and diverse conceptualizations of silence, or non-productive language, and its relationship to its converse, productive language, have been put forth although conceptualizations of silence are often implicit and difficult to delineate within studies. The term *silent* has been conceptualized as the absence of any spoken second language ([Ervin-Tripp, 1974](#); [Karniol, 1990](#)), lack of application of syntactic rules in spoken language ([Tabors, 1987](#)), lack of spontaneous or creative use of L2 ([Huang & Hatch,](#)

1978), or lack of L2 spoken to others ([Krupa-Kwiatkowski, 1998](#); [Saville-Troike, 1988](#)). Several scholars have suggested that during the hypothesized silent stage, the child is engaged in active second-language learning ([Clarke, 1989](#); [Saville-Troike, 1988](#); [Tabors, 1987](#); [Winitz, Gillespie, & Starcev, 1995](#)), while others have suggested that silence may indicate psychological uncertainty or distress about the new language ([Clarke, 1989](#); [Itoh & Hatch, 1978](#)) or significant incomprehension of it ([Gibbons, 1985](#)). The silent or nonverbal stage in SLA is purported to last from several weeks to a year ([Dulay, Burt, & Krashen, 1982](#); [Tabors, 1997](#)).

The belief in the existence of this silent stage has led to three significant implications for pedagogy aimed at second language development of preschool children attending group settings or classrooms where they are learning English as a second language. These implications are that (1) young children need not be expected to engage in second language production for some time after entering a second language school setting, (2) young children will begin to use their second language when they are ready as a result of having acquired sufficient second language skill, and comfort and motivation to use it, and (3) premature expectations for young children to use their second language is potentially emotionally damaging and can derail the natural language-learning process ([California Department of Education, 2009](#); [NAEYC, 1995](#)). An influential assertion of this instructional perspective was stated by [Krashen \(1982\)](#) in the context of recommendations for classroom teaching of a second or foreign language:

Real language acquisition develops slowly, and speaking skills emerge significantly later than listening skills, even when conditions are perfect. The best methods are therefore those that supply 'comprehensible input' in low anxiety situations, containing messages that students really want to hear. These methods do not force early production in the second language, but allow students to produce when they are 'ready', recognizing that improvement comes from supplying communicative and comprehensible input, and not from forcing and correcting production. (pp. 6-7)

In the first section of this paper, studies purported to investigate silence in childhood second language acquisition are reviewed in detail. The major theoretical and methodological issues raised in the review are then identified and elaborated upon. The third section presents recommendations for the future study of childhood second language acquisition to promote it in preschool classroom settings. The review closes with a construction of the historical, theoretical, and empirical foundations argued to have provided fertile ground for the idea of silence as an expected feature of childhood second language acquisition. This construction draws on theory and evidence within the fields of second language acquisition, foreign language teaching, linguistics, and cognitive development. The contribution of the paradigm shift from behaviorism to cognitive psychology occurring at the same time as these other historical and contextual forces will also be explicated.

2. The evidence for the existence of a silent stage, phase, or period in childhood second language acquisition

Two groups of search terms were developed to locate research reports on silence in childhood second language acquisition. The terms in one group were *silent, nonverbal, receptive, pre-production, and mute*. The terms in the second group were *stage, phase, and period*. Each of the terms from the first group was combined with each of the terms from the second group. These 15 combinations were used to perform 15 child development multi-searches of the electronic databases EBSCO (included Academic Search Premier, Psych info, ERIC, & Education Full Text), Science Direct, and Wiley

Table 1

Summary of authors, participants, methodology, and results of studies selected for review.

Study	N	Age	SES	First language	Definition of silence	Duration of silence	Evidence source/s	Study duration	Language goals	Research context	Individual variation
Clarke (1989)	1	Preschool	N/A	Vietnamese learning English	Spoke no English	21 weeks	Video tapes of at least 1 h every two weeks; Total: Cannot be determined	11 mos.; Feb. to January	Not stated	Kindergarten classroom in Australia; 80% ELL; majority spoke Vietnamese	Shyness and reticence
Ervin-Tripp (1974)	2; 29 in 2nd sample	5;0, 6;7	High	English learning French	Lack of spontaneous language production	6 weeks; 8 weeks; some many months	Home Diaries & taped conversation; Researcher statements; Total: Cannot be determined	Not stated	To learn French within French only classrooms with no bilingual teachers	Case study of 2 children in informal home setting; English-speaking children of author attending French school; each child only Anglophone in class	Not applicable
Gibbons (1985)	47	4;7-11;9	N/A	European (n=25), Asian, (n=16), Arabic (n= 4), other (n= 2) learning English	Spoke no English	Any production: mean days = 15.2, sd = 12.2, 0-56 day range; Phrase production: mean weeks = 5.5; sd = 4.5 weeks	Retrospective teacher survey; Total: Cannot be determined	1 time survey	Not stated	Catholic Australian schools	Large variation in silent period
Huang and Hatch (1978)	1	5	N/A	Taiwanese learning English	Lack of spontaneous speech	3 days or less child imitated utterances; at one month began using novel utterances	Daily observational data from 9-11:30 in the play-school; 14 h of week-end observation at home where only Taiwanese was spoken by adults; Total: 118 h	4.5 months	Not stated	Morning 2 h play-school (dancing, toys, art, stories, games, singing); teacher talked the most	Not applicable
Itoh and Hatch (1978)	1	2;6	Lower middle-class	Japanese learning English	Repetition of adult speech	3 months	38, 3 h sessions of speech in the classroom; weekly taped sessions in the home for 4 months; Total: 114 h	6 months	To not "teach" language	Nursery school and home; mother present for 2 months in classroom; 5 El children in the nursery school, 2 were Japanese	Rejection of second language
Karniol (1990)	1	1;10	High	English learning Hebrew; Hebrew exposure from 0;05 to 1;02 mos.	Lack of spoken language	<2 mos.; sudden increase in L2 after 2 mos.	First 8 mos., diary of all L2 speech; Next 6 mos., selective diary of new constructions and context variation; Total:900 utterances	7 months	Bilingualism	Hebrew daycare 4-6 h daily; home	Not applicable

Table 1 (Continued)

Study	N	Age	SES	First language	Definition of silence	Duration of silence	Evidence source/s	Study duration	Language goals	Research context	Individual variation
Klenk (2004)	1	5	N/A	Spanish learning English	Lack of speech	none	Weekly audio tape of 30–40 minute tutoring sessions from November to June; Total: 15 h 8 Video tape sessions (seven hours of tape); 2 audiotapes w/field notes; information from after school teacher and adult friends; Total: 7+ hours	8 months	English acquisition	Individual tutoring by college faculty member in separate setting	Not applicable
Krupa-Kwiatkowski (1998)	1	6;3	High	Polish learning English	Drop in language vocalization; refraining from initiating interaction with others	3 months initially claimed; concluded no evidence of silent period	Weekly audio and video taping; transcription of 130 h of child language in classrooms; Total: 130 h	3 months	Understand L2 social interaction	Home, after school program, friend's houses; social settings with interactions with American, Polish-American, non-American children who were non-Polish	Not applicable
Saville-Troike (1988)	9	3;3-8;3	High	Chinese, Japanese, Korean learning English	No language interaction w/others; Responding to others minimally	3/9 = none 5/9 = 4–11 weeks	8 videotapes of 30 minute ESL lessons in Oct & Feb.; Coded situations, communicative functions in conversations & narratives; Total: 8 h	6 months	Promote positive attitude toward different languages	One or more same language peers in classroom	Inner- & outer-directedness
Saville-Troike et al. (1984)	20	7–9	High	Japanese, Korean, Hebrew, Spanish, Icelandic, Polish learning English	Non-verbal	Variable; 6/20 used English in first videotape in first week of school; some used no language for 2–3 months	4 lab tests of phoneme production; 38 1-h observational sessions at home	5 months	English language development	Daily 30 min. ESL pull-out instruction; analyzed child-directed segments; mixed language classroom	Stringer or holistic tactics
Winitz et al. (1995)	1	7;6	Low	Polish learning English	No or minimal L2 production	Unclear: at 7 weeks utterances with syntax recorded	Field notes of 28, 1.5 h free choice sessions; Total: 42 h	3 years	Not stated	Public school and home; lab speech samples and tests; few DLLs in school setting	Not applicable
Tabors (1987)	6	Preschool 2;9, 2;9, 3;3, 3;7, 3;8, 4;2	High	2 Japanese, 1 Brazilian, 1 Russian, 1 Taiwanese learning English	Absence of speech; absence of syntax; Frequency count of native, non-verbal, garbled, formulaic, & productive language	Not discernible		6 months	Highly responsive teachers	University part-day preschool; 1.5 hrs. choice; snack, lunch, story time, outside play; 7 EO children; 2 Japanese-speaking children	Omega children

Interscience. The Dissertation Abstracts database was also searched with the same terms. The term *children* was included as a search delimiter. Abstracts of studies returned with these searches were reviewed. Articles, chapters, and books were obtained for studies whose abstracts or summaries referred to or implied possible reference to a silent stage. Reference lists, literature reviews, and discussion sections of the obtained articles were hand-searched to identify additional sources that were cited or described as bearing on silence in SLA. A total of 53 sources were identified and obtained with this method.

Initial review of the obtained papers revealed that most had been published before 1990; employed descriptive methodologies where definitions of key terms *silent* and *stage*, *phase*, or *period* were typically implicit; included short descriptions of methodologies and analytic procedures; and presented limited data. Liberal criteria for articles to be selected for detailed review were therefore established. These criteria were that (1) qualitative or quantitative data on initial second language acquisition were collected, (2) the data were ostensibly used to comment on or to draw conclusions on the existence of silence or nonverbalness in childhood second language acquisition, and (3) some study participants were under the age of eight. These inclusion criteria were applied to the acquired sources. Twelve studies met the criteria and were reviewed. One additional investigation regularly cited as providing evidence of silence in childhood second language acquisition was also examined (Hakuta, 1974, 1976, 1978). Key features of the reviewed studies are summarized in alphabetical order in Table 1. In cases of multiple disseminations of the same data, the earliest publication or unpublished work (such as a dissertation) was selected for review. Additional publications based on the same data or that were a second publication of an original study are noted in the review. Studies are reviewed in the order they appear in the Table and descriptors in the table are the same as those used in the reports.

Clarke (1989) studied a preschool-age boy whose first language was Vietnamese. Quoc attended a preschool in Australia. Eighty percent of the children were described as EL and Vietnamese was identified as the most frequent first language. English and Vietnamese language support was provided by staff assigned to the class.

Video- and audio-tapes of the boy were collected in the classroom for at least one hour every two weeks from when he first entered the preschool in February to the following December (11 months). The method used to analyze the videotapes or description of Quoc's language based on that analysis is not presented. The author noted that Quoc appeared to be very aware of the microphone that was attached to him for voice recording. The author described anecdotes drawn from the videotapes to illustrate claims related to his language usage. There was no explicit definition of how silence was operationalized. The author claimed that Quoc first used English in the twenty-second week of preschool attendance and that by November he was still hardly speaking in either English or Vietnamese, even when addressed by Vietnamese-speaking staff. Analysis of one segment of video at the end of the eleven-month study led the author to conclude that Quoc had acquired English at a level equivalent to at least one other more talkative Vietnamese first-language child in the classroom. No details on the video segment or linguistic analysis of the language contained within it were provided. Based on this video segment, Clarke claimed that in spite of his silence, Quoc gained access to the second language. She also cautioned against overly interpreting one video segment. Clarke concluded the study showed some children may need a silent period and that a silent period was not damaging to second language acquisition. However, the level of Quoc's English language was not assessed. The nature of language stages or how they could be determined was not discussed.

The focus of Ervin-Tripp (1974) is revealed by the title of the article, "Is Second Language Learning Like the First?" To answer this question, Ervin-Tripp tested all of the English first-language children between 4 and 9 years of age ($N=31$) who attended a French school in Geneva, Switzerland on a variety of language measures. Classroom instruction was in French and participants had been exposed to French for less than nine months. Children were described as typically being the only Anglophone in their class. The author stated that there were more younger than older children in the sample, although specific ages were not reported. The parents of the children were described as well-educated professionals. Two of the 31 children were the author's 5;0 and 6;7 year-old children.

Observer diaries and audio-taped, natural conversation of the author's two children at home provided the only data related to the existence of a silent stage. No explicit operational definition of silence was provided, but it can be inferred that spontaneous language production of any sort marked its end. The report did not describe the linguistic features or extent of the diary and taped language corpus or method of analysis of the data. One of two tables for the dairy material presented the first spontaneous second-language utterances spoken by the author's two children (ages 5;0 and 6;7 years-old) at home. The diary material led Ervin-Tripp (1974) to claim, "My own children began speaking six and eight weeks after immersion in the school setting" (p. 115). It cannot be determined if the spontaneous use of L2 occurred at the same time in the French classroom because no dairy material was collected in that setting. The sole reference to silence in the other 29 children in the study was one sentence in which Ervin-Tripp claimed that "Some of the children said nothing for many months, so we do not know what they were learning" (p. 115). Silence as one of four stages in SLA was not examined. The study was first published in 1974 in the journal *TESOL Quarterly*. It was re-published in Hatch's (1978) collection of readings (Ervin-Tripp, 1978).

Gibbons (1985) study was motivated by his analysis that the number of studies, number of participants in previous studies, and contradictions among the studies had yielded insufficient evidence to support the conclusion that there was a silent period in childhood second language acquisition. He also expressed concern that the child and adult studies were often not carefully differentiated. He sought to clarify these issues by conducting a retrospective survey of primary grade teachers in Catholic schools in Sydney, Australia. English was the language of instruction in these schools and the second language of children for whom teachers completed surveys. Surveys for 47 children who ranged between 4;7 to 11;9 years-of-age were returned; the response rate was not specified. Survey questions were designed to retrospectively probe teacher's assessments of the length of time individual DLL children attended school before they had begun to speak any English and to use memorized English phrases. Silence was not explicitly defined. Analysis of the survey questions led me to infer that silence was operationalized as no spoken English and that the use of any English, including imitation, would signal the end of silence.

Descriptive data on age and socioeconomic status (SES) of participants were not provided. Means were calculated for teacher's retrospective estimates of the length of time in days or weeks before each child first spoke in English (L2) and before each child began to use memorized English phrases. Teachers estimated silent periods that ranged from 0 to 56 days with a mean duration of 15.2 days of silence (standard deviation (SD) = 12.2 days). Teachers retrospectively estimated that memorized English phrases began to be used after 0–18 weeks with a mean of 5.5 weeks (SD = 4.5 weeks). It is not possible to distinguish estimates of silence for the younger and older children in the study. The author did not purport to determine if silence was a discernible stage in SLA. The evidence of substantial individual variation and the short duration of silence

led Gibbons to caution against too readily accepting a silent period as characteristic of SLA and as beneficial to it.

Hakuta (1974, 1976, 1978) is frequently cited as providing evidence for a silent period in second language acquisition (California Department of Education, 2009; Tabors & Snow, 1994, 2001). Hakuta (1978) is a reprint of Hakuta (1974). Hakuta (1974, 1978) began his naturalistic study of a single Japanese-speaking, 5-year-old girl learning English three months after she entered an English-speaking kindergarten, which she attended for two hours a day. Her parents were visiting Harvard University for two years, presumably as scholars. Japanese was spoken at home.

The author visited Uguisu in her home once a week and recorded all her spontaneous English during 1–1.5 h sessions (estimated 20–30 h total). In the first three home sessions with Uguisu, she spoke 11, 3, and 27 English utterances. Hakuta (1974) noted, “The very first visit, Uguisu yielded some 11 utterances” (p. 20). Hakuta then prompted Uguisu’s language production by using pictures and in this manner successfully elicited sufficient language for analysis of grammatical morphemes. Hakuta coded the morphological elements in the L2 samples taped in Uguisu’s home. Graphs showing acquisition curves across time for various grammatical morphemes revealed gradual acquisition of morphological structures similar to that documented in L1. But there was no evidence of or comment on a silent stage.

Subsequent publications have apparently erroneously used the following statement from Hakuta (1974) as evidence of a silent stage: “This project studying the development of her English began in February of 1973, but it yielded so little data as to be useless” (p. 20). For example, Tabors and Snow (1994) described the Hakuta (1974, 1978) study this way: “During the intervening time, she was attending kindergarten and playing with neighborhood English-speaking friends, but, much to the researcher’s chagrin, she was not producing any English” (p. 107). Similarly the California Department of Education (2009) publication titled, *Preschool English Learners: Principles and Practices to Promote Language, Literacy and Learning* claimed “it can take up to six months, as noted by Hakuta (1974) in his observations of a Japanese girl attending kindergarten in the United States who did not speak for six months” (p. 47).

A naturalistic, observational study of a single Taiwanese-speaking child who was 5;0 years old when the study began was described in Huang and Hatch (1978). The study was based on different analyses of data from the child described in two other reports: a dissertation (Huang, 1971) and a limited dissemination report published by the University of California Los Angeles, Department Of English (Hatch, 1972).

Paul enrolled in an English-speaking playschool at age 5;1, one month after he arrived in the United States from Taiwan. For the month prior to enrollment, Paul and his three-year-old brother were cared for at home by their grandmother who did not speak English. Taiwanese was typically spoken by Paul’s parents, although some English may have been used in the home. The family’s socioeconomic status was not stated. The playschool Paul attended for 2.5 h each day was characterized as emphasizing singing, art, stories, and playing. One hour a day was spent in outside play. Journal notations from classroom and playground observations were made five days a week for 2.5 h over 4.5 months for a total of 104 h of notations. Thirteen sessions were video-taped in Paul’s home and provided 14 h of additional data. Notes on language used in the car to and from school were also made.

Analysis of the data using unspecified methodology led the authors to claim that Paul used discernible multiple word utterances in L2 from his first day of school attendance. An anecdote from day 3 claiming he said “Get out of here” (p. 121) was used to support the claim. Huang and Hatch described much of Paul’s early speech as imitations. Examples of utterances described as

productive language because they contained syntax were reported after two months of exposure. A table comparing eight of the forms of English utterances Paul would have constructed if he were simply using L1 syntax to structure L2 utterances amplified the authors’ claim that Paul’s utterances at eight weeks of preschool attendance provided evidence of emerging productive (syntax-based) English. No effort to determine or comment on silence as one stage in SLA was made.

Itoh and Hatch (1978) studied a boy named Takahiro from age 2;6 to 3;1. Takahiro’s first language was Japanese and only Japanese was spoken in the home. He was enrolled in an English language nursery school in a lower middle-class neighborhood 14 months after his family moved to the United States. The subject’s mother, who spoke only Japanese, was present in the classroom each day of his first two months of attendance. Journal observations were collected for 38, 3-h sessions in the nursery school over six months. Videotape data were collected in Takahiro’s home beginning in the third month of the study. Any use of spoken L2, including imitation, signaled the end of silence in this study although no explicit operational definition of silence was presented.

Initial review of the data led the authors to conclude that the traditional methods of describing the journal and video data (calculation of mean length of utterance (MLU), T-unit (phrase) or morpheme counts, and rule-writing for utterances) did not accurately capture the acquisition processes reflected in the language data. These traditional descriptions of the data were not reported. The analytic procedures used to derive these descriptions or the raw language data were not described.

As an alternative, Itoh and Hatch (1978) proposed that the “most sensible way to talk about the data seemed to be in three general stages which we have called (1) a rejection stage, (2) a repetition stage, and (3) a spontaneous speech stage” (p. 78). Evidence for a rejection stage was the claim that Takahiro spent most of his time on a tricycle away from the other children during the first three months in the school and refused to use the second language at home. The sole piece of data presented in support of a repetition stage was a statement that Takahiro had used English during a “repeat after me” game at home initiated at the beginning of the fourth month of the study by a visiting aunt. Takahiro initially participated in this game for three minutes and five days later played it for over an hour. Evidence for the claim that productive language followed an imitation stage was the reported observation that Takahiro spoke an average of 2.6 words (MLU) in each English utterance two weeks after the imitations began (4.5 months after preschool enrollment). However, no conceptual delineation of the proposed stages or the criteria for determining their presence was presented. No summary data, frequency counts, or other analysis of the language corpus documenting the sequencing and timing of Takahiro’s English acquisition with respect to these stages were reported. Note that this stage model differs from the four-stage model postulating silence as the second stage.

Itoh and Hatch concluded that Takahiro was intensely silent in L2 at home and school for three months. The researchers considered the possibility that these behaviors constituted an extended listening phase in preparation for learning English, but concluded this was unlikely as Takahiro did not appear to be listening to anyone other than his mother. The potential influence of the presence of Takahiro’s Japanese-speaking mother in the classroom each day for the first two months of his second language acquisition was not commented upon.

Karniol (1990) was interested in understanding the necessary conditions for L2 acquisition after minimal competence in L1 had been achieved. She studied her Israeli-born daughter between the ages of 1;0 to 3;0, which included two periods of immersion in the Hebrew language (L2). The parents spoke English to Karen at home although they spoke Hebrew to each other. The child attended a

Hebrew daycare in Israel from the age of 0;5 to 1;3 followed by attendance in an English language (L1) daycare in the US between 1;4 and 1;10 years-of-age after which the parents returned to Israel and Karen was re-enrolled into a Hebrew language (L2) child care.

Upon Karen's second enrollment (at age 1;10) in the Hebrew-dominant daycare, a diary of all of Karen's L2 speech (Hebrew) in the home was kept for eight months. After six months (age 2;4) diary notes focused on new acquisitions and varied contexts of language use because it was claimed that so much Hebrew (L2) was used it was impractical to record all utterances. The author noted that the language corpus included about 900 utterances collected over the course of the 14-month study. There was no further summary description of the data and there was no description of how the data were analyzed. No explicit definition of language silence was provided.

Karniol (1990) stated that there were only three Hebrew utterances at home in the first three months of immersion of the not yet two-year-old girl, but there was a "sudden and rapid onset of production of L2 during the third month" (p. 151). There was no conceptual discussion of stages or specification of how stages would be measured. The complicated social and linguistic history of the child renders her case a very unusual one. Karen's attendance in Hebrew daycare during infancy and the ongoing exposure to Hebrew at home via the interactions between parents fluent in Hebrew documents that substantial Hebrew exposure began in early infancy rather than enrollment in daycare after return to Israel at age 1;10. These circumstances could be argued to disqualify the study as relevant to the silent stage in second language acquisition.

In a book chapter, Klenk (2004) reported on her language tutoring of a five-year-old kindergarten girl whose first language was Spanish. The author began tutoring the child eight weeks after she entered kindergarten because school personnel were concerned that she was not speaking English in either the English-language or bilingual classroom she attended during the school day. The author individually tutored the child once a week for 30–40 min from early November to mid-June for a total of approximately 15 h. The child was audiotaped and field notes taken during these sessions. No observation or measurement of language use in the two classrooms was collected. No explicit definition of silence was given. I inferred that silence was treated as no oral production.

The author did not observe a silent period during the tutoring sessions. She described a variety of naming and guessing games that successfully elicited spoken language from the child starting with the first tutoring session. For example, one game was "guess the color" where the author pointed to items of the child's clothing and the child was asked to name its color. Language transcriptions of brief interactions between the tutor and child were presented to substantiate the success of these elicitations. The stage construct was not defined or measured. Klenk (2004) assumed its existence, "During the silent period, it is considered desirable that children not be pressured to talk" (p. 235).

In another study by an author of her own child, Krupa-Kwiatkowski (1998) studied the interaction strategies utilized by her son, Martin (age 6;3), over three months. She described Martin as in the silent period at the beginning of the study, "Martin appeared to be going through the silent period. During the Christmas vacation, Martin started speaking profusely and the silent phase was over" (p. 139). Discussion of the silent period as an established feature of SLA was included in the literature review. The mother/researcher described her methodology as a participant-observer, single-case study. Eight video- (seven hours) and two audio-taped (duration not reported) sessions accompanied by field notes were recorded and later transcribed. Martin's attempts to interact with L2 speakers were identified and analyzed based on the author's subjective determination of his goals, and techniques and tactics to achieve them in each attempt to interact. The data

from this analysis were not presented and no further detail on the analysis of these interactions was presented.

Multiple and effortful readings of the paper suggested that the author defined the silent period as (1) reduced L1 vocalization after Martin matriculated into an English dominant classroom coupled with (2) Martin's tendency to refrain from initiating use of the second language. These two implicit criteria for silence and the qualitative data bearing on them are barely discussed. In fact, in the discussion section within the paper, Krupa-Kwiatkowski (1998) stated, "First of all, he evidently favored English over Polish. . ." (p. 166) and that "He instantaneously learned to use a large number of (L2) expressions" (p. 166). Thus the author initially claimed that Martin was in the silent period and that it lasted for three months, but then claimed at the end of the study, based on the video- and audio-taped data, that he spoke English during the first observation and experienced no silent period. These inconsistencies leave the findings of the study obscure and the internal coherence of the paper problematic. The silent stage construct was used solely to conceptually frame the paper and its measurement was not addressed.

Saville-Troike's (1988) major purpose was to determine if children used private speech to support second language acquisition even when they were in a presumed silent period. Participants were nine children aged 3;3 to 8;3 who were native speakers of Chinese, Japanese, or Korean. Subjects were children of graduate students at the University of Illinois. All but one child had one or more native language peers in the research setting although most children in the classrooms were described as English speakers. All utterances children spoke in their classrooms were either audio-taped or video-taped (for six participants) at approximately weekly intervals for the first six months they were learning English. Sessions lasted 1–3 h and resulted in 130 h of taped language.

Saville-Troike (1988) explicitly defined the silent period as a "period of some weeks, during which they engaged in virtually no verbal interaction with English-speaking adults or peers and responded to them minimally or not at all" (p. 572). She further elaborated, "the 'silent' period is not necessarily one of categorical silence, but its onset is marked by a dramatic drop in language directed to speakers of the second language" (p. 577). On this definition, instances of private speech defined as verbalizations without eye contact and no apparent expectation of a response, and imitations or repetitions of utterances of other children or adults were counted as silence. This definition reveals a counterintuitive concept of silence and would undoubtedly lead to increased estimates of it. Social use of L2 to others indicated cessation of silence.

Audiotapes were transcribed. Utterances that either a native speaker of English or a native speaker of the child's first language felt was not private speech were excluded. The presented results were "drawn primarily from the private speech of the younger children in the study, concentrating on utterances produced during the 'silent period'" (p. 574). There was no further description of the data analysis procedure.

The author concluded that children acquiring a second language go through three phases of social speech with a silent phase intervening between phase 1 and phase 2 in the process. Some children were claimed to have used the native language in the first phase although the author reported that no child over the age of 5 used the native language with anyone who did not speak it. This observation is inconsistent with the proposed native language stage in the four-stage model. In the second phase, children began to use L2 single words, memorized routines, or repetition of others. Phase three began when children responded to and directed utterances to others with social intent identified by the presence of eye contact and expectation of a response. Illustrative anecdotes of the three phases comprised the empirical support for the sequence; no summary data such as frequencies or percentages of utterances for each

stage or time period were reported. Conceptual explanation of the meaning of stages in the context of the study was not provided. Three children (34%) were reported to have no silent stage while six (66%) experienced a phase of silence, suggesting significant individual variation in social silence.

Saville-Troike, McClure, and Fritz (1984) reported striking variations in the amount of child language in an ESL classroom of 20 DLL children ranging in age from seven- to nine-years-old, although the exact numbers in each age were not reported. Saville-Troike et al. stated that in September “1) all the subjects knew very little or no English, 2) were already literate in their native language, and 3) had well-educated parents (professors or graduate students at the University of Illinois)” (p. 61). Eight hours of videotape were collected from a daily 30-minute ESL pull-out classroom: 4 h in October and 4 h in January. Teacher- and child-directed portions of ESL classroom activities were taped. The tapes were transcribed and a thorough and explicit coding system was applied to the data and reported in summary tables. All communicative acts were coded with a nine-category system (requests, responses, description, statement, acknowledgements, organizational devices, interactional, performatives, and exclamations) derived from previous research (Dore, 1978). Four researchers achieved good coding reliability.

Distributional analyses relying on frequency counts and percentage calculations of the coded data led the authors to conclude that child L2 utterances were strongly affected by the type of classroom activity. A chart showed that child utterances were observed 3–4 times more often during unstructured child-directed activities than teacher-directed sessions at the beginning of the school year with a shift to the greatest number of L2 communicative acts occurring during teacher-directed instruction by January. Frequency count data and percentages presented in tables indicated that children tended to use more non-verbal means of communication with other children and more verbal communication with teachers. Transcripts within the report revealed that at least six of twenty children used English in the first videotape made in September, revealing English production from the beginning of the study. Saville-Troike et al. did not quantify or describe language silence and made no claims about silence as a stage, but claimed that some children “used virtually no language at all in a group context for 2–3 months” (p. 71) and that children who did not engage in social interaction “appeared either to be less aggressive or to hold themselves aloof” (p. 68).

Tabors (1987) is the unpublished dissertation of the author. Tabors studied six of the nine DLLs, ranging in age from 2;9 to 4;2 years-old, who attended a part-day traditional preschool program. Choice of centers (1.5 h) and outdoor play (.5 h) were the predominant activities. There were also seven English-only children in the program. Participant’s parents were associated with Harvard University. A participant-observer methodology was implemented over six months (September–February). Twenty-eight classroom observations were conducted primarily during the 1.5 h free-choice time. A total of 42 h of observational data were collected, following the “ebb and flow of activities in the classroom, choosing to take notes on the interaction (or lack thereof) of the target children in the classroom as they moved from one activity to another” (p. 30). One target child attended infrequently and another was described as developmentally delayed. A lack of overt language and spoken language that did not include evidence of syntax were treated as evidence of silence in different parts of the dissertation.

Individual language events identified in the field notes were summed together and coded into four categories: verbal communication (647 events), non-verbal communication (99 events), non-communicative talk (62 events), and non-communicative activities (210 events). These frequency counts showed that the number of verbal communications (647 events) made by the DLL

children over the six-month period exceeded the combined non-verbal category frequencies (309 events) by greater than a 2:1 ratio. The verbal communication category was further coded by individual utterance type aligned with the stage model of SLA. Native language, unintelligible talk, strings with English words and sounds, formulaic/telegraphic utterances, and productive verbal utterances were distinguished with good reliability (Cohen’s Kappa = .99).

Tabors (1987) concluded that there was ample evidence of silence, and “My conclusion from this analysis is that it is necessary to look at language use in the classroom during this time as being far more complex than the hypothesized developmental pathway . . . would suggest” (p. 95). Illustrative anecdotes were presented to support these claims. Consistent with the author’s conclusion, the single table in the dissertation showed that all utterance types (native language, unintelligible talk, strings with English words and sounds, formulaic/telegraphic utterances, productive verbal utterances) were observed each month. This pattern presents a challenge to the empirical and theoretical viability of characterizing childhood SLA as progressing through distinct stages. Claims for a stage-like progression would depend on individual children showing native language use preceding silence that in turn preceded formulaic/telegraphic language use and ended with productive language. No analysis of individual children’s patterns of language across time was performed.

It is both noteworthy and puzzling that the conclusions from the dissertation became very different in the book and two chapters relying on the dissertation data (Tabors, 1997; Tabors & Snow, 1994, 2001). A clear claim for silence as a characteristic feature of a specific four-step sequence was articulated in all three. These publications have been extensively referenced as the research base for advancing silence as a characteristic stage, phase, or period of SLA in early childhood position statements and early childhood clinical and educational practice contexts. They are therefore briefly discussed. One quote from each of these publications describing the four stage sequence follows. Tabors and Snow (1994) commented:

Researchers have noted a consistent developmental sequence for children acquiring a second language: First there may be a period of time when the children continue to use the home language even in second language situations; second, most children then enter a nonverbal period; following this period, children begin to use telegraphic and formulaic phrases in the new language; and finally, children begin to develop productive use of the second language. (p.105)

Tabors (1997) described the four-stage sequence in the following manner:

Although there will be differences in the way that children pursue learning a second language, researchers have noted a consistent developmental sequence for young children:

1. There may be a period of time when children continue to use their home language. . . .
2. . . .children enter a nonverbal period as they collect information about the new language and perhaps spend some time in sound experimentation.
3. Children begin to go public, using individual words and phrases in the new language.
4. Children begin to develop productive use of the second language (p. 39).

In the 2001 publication, Tabors and Snow stated:

Research has shown that young children who are exposed to a second language in an out-of-home setting such as an

English-language early-childhood classroom move through a specific developmental sequence that includes the following four phases (Tabors, 1997):

1. Home language use. . .
2. Nonverbal period in the new language. . .
3. Telegraphic and formulaic language. . .
4. Productive use of the new language. . . (p. 167).

Four studies supporting the proposed language development sequence were cited in the Tabors and Snow (1994) chapter: Ervin-Tripp, 1974; Hakuta, 1974, 1978; Itoh & Hatch, 1978; Tabors, 1982). Reviews of the first three studies presented in this article revealed concerns about their methodological adequacy, the strength of evidence for a silent period, or relevance to it (Hakuta, 1974, 1978). The Tabors (1982) unpublished paper did not meet review inclusion criteria because child language data on the beginning of SLA were not reported. Discussion of the nonverbal period in Tabors (1997) popular book titled, *One Child Two Languages: A Guide for Preschool Educators of Children Learning English as a Second Language* cites these same four studies as evidence for a nonverbal period (pp. 42–43). In the Tabors and Snow (2001) chapter, the single citation accompanying the assertion of a specific developmental sequence is to the Tabors (1997) book, leading back to the same four studies that together included ten children.

Winitz et al. (1995) performed a case study focused on foreign accent and native-like speech of a Polish boy (AO) who had emigrated to the US from Poland at age 7;5. His parents were described as unskilled workers who spoke only Polish at home. The researchers were interested in language silence because they hypothesized that silence during second language acquisition would benefit phonosyntactic development because children would be more likely to accurately internalize L2 phonosyntactic properties when they were less burdened with the semantic and syntactic demands of language production. Therefore, establishing that AO had experienced a period of linguistic silence was important because silence was theorized to be a facilitating condition for attaining native-like speech. I inferred that language silence meant the absence of spoken L2, although as in most other studies, no explicit operational definition of silence was given.

AO's spoken English (L2) was recorded in a university lab setting four times over three years to investigate the quality of his L2 speech. Fifteen trained native English-speaking college students rated tapes of his speech for the degree of native-like production. To track the nature of AO's L2 acquisition, 38 observations of about one hour each at both home and school were also made with accompanying notes on language and social development. The authors stated that the notes showed that AO was largely silent for about six weeks, with some minimal language production during this time. Winitz et al. (1995) reported that by the seventh week, AO was asking and responding to questions with 2–3 word utterances and said the following two fairly complex utterances, "This is no my dog," (p. 131), and "Look dog, no garage," (p. 131) (spoken to urge the dog from his garage). The study did not examine or conceptually elaborate a stage sequence of childhood SLA.

3. Summary and evaluation of the studies

A number of conclusions about the nature and quality of the evidence for the existence of a silent stage in childhood second language acquisition emerge from the review of the 12 studies (Table 2). The database is notably limited and dated. Twelve studies comprising a total of 91 children and only ten identifiable preschool children met the liberal inclusion criteria. The three largest samples included 47 children (Gibbons, 1985), 20 children (Saville-Troike

et al., 1984), and 9 children (Saville-Troike, 1988), accounting for 84% of the total participants. Seven studies were case studies of a single child (Clarke, 1989; Huang & Hatch, 1978; Itoh & Hatch, 1978; Karniol, 1990; Klenk, 2004; Krupa-Kwiatkowski, 1998; Winitz et al., 1995).

Participants were from high socioeconomic status (SES) families in six of the eight studies for which family SES could be clearly determined, with children's parents typically associated with universities (Ervin-Tripp, 1974; Karniol, 1990; Krupa-Kwiatkowski, 1998; Saville-Troike, 1988; Saville-Troike et al., 1984; Tabors, 1987). Two studies included a single participant from a lower than middle-class family (Itoh & Hatch, 1978; Winitz et al., 1995). It was not possible to determine the SES of children's families in four studies (Clarke, 1989; Gibbons, 1985; Huang & Hatch, 1978; Klenk, 2004). Participants spoke a variety of first languages with a notably large number of Asian languages represented (Table 1, column 5). Four of the studies' participants were comprised solely of Vietnamese, Japanese, Korean, and Chinese speakers (Clarke, 1989; Huang & Hatch, 1978; Itoh & Hatch, 1978; Saville-Troike, 1988). Only two studies identified as study participants any children who spoke Spanish as their first language ($n = 2$) (Klenk, 2004; Saville-Troike et al., 1984). Clearly participants in the studies are not representative of the SES and primary language demographics of the majority of current preschool dual language learners in the United States. These sample characteristics alone necessitate caution in using findings from studies on the silent stage as a basis for recommendations in position statements and policies or recommendations for educational practices for language-minority and socioeconomically vulnerable children from language groups currently represented in the United States.

A striking feature of the studies as a group is that the key constructs of language *silence* and *stage*, *phase* or *period* as it applies to second language acquisition are not adequately specified theoretically or methodologically. Conceptual and operational definitions of silence were loosely stated (2 studies) or missing (10 studies) and had to be inferred from effortful and repeated culling through the methodology, literature review, and discussion sections of the studies. Stated or implied definitions revealed very different views of silence. Silence was conceptualized as absence of spoken language, lack of syntax, lack of novel and spontaneous language use, and lack of talk to others.

None of the studies provided a theoretically-grounded or measurement specification of the stage construct within the context of SLA. In spite of this, the stage construct was discussed in relationship to study data in six studies (Clarke, 1989; Itoh & Hatch, 1978; Klenk, 2004; Krupa-Kwiatkowski, 1998; Saville-Troike, 1988; Tabors, 1987). The remaining studies did not address stages, periods, or phases of SLA at all.

There are a number of methodological features of the studies that render the warrants made problematic. Reports typically reported very little data. Demographics of participants and summary of language data were minimally reported or not reported at all in ten of the studies (Clarke, 1989; Ervin-Tripp, 1974; Gibbons, 1985; Huang & Hatch, 1978; Itoh & Hatch, 1978; Karniol, 1990; Klenk, 2004; Krupa-Kwiatkowski, 1998; Saville-Troike, 1988; Winitz et al., 1995). Ten of the studies (excluding Gibbons, 1985 and Saville-Troike et al., 1984) based their conclusions related to silence in childhood second language acquisition on researcher analysis of audio- and video-tape, observational, and anecdotal data without clear and complete specification of the qualitative methodologies used to analyze the data (Table 2, row 3). The evidentiary foundation for study conclusions was most often an author assertion accompanied by anecdotes or transcriptions from the language data that were consistent with that interpretation. Simple quantitative methods such as aggregate and category-based frequency analyses of utterances, and percentages and chi-square analyses designed to

Table 2
Summary of study characteristics: participants, methodological approach, definitions of key constructs, data analysis, and results.

Study characteristic	Category	Number of studies	
Number of participants	47	1/12	
	20	1/12	
	9	1/12	
	6	1/12	
	2	1/12	
	1	7/12	
Participant SES	High	6/12	
	Middle	0/12	
	Low	2/12	
	Unspecified	4/12	
Type of methodology	Survey	1/12	
	Qualitative		
	Single-case study	7/12	
	Observational (n > 1)	4/12	
	Quantitative	0/12	
Definition of silence	Absence of speech	7/12	
	Absence of creative/spontaneous speech	4/12	
	Absence of syntax	2/12	
	Absence of talk to others ^a	2/12	
Treatment of stage construct			
	Definition of stage		
	Stated	0/12	
	Not Stated	12/12	
Discussed stage construct	Yes	6/12	
	No	6/12	
Research context/s	School		
	Informal	5/12	
	Formal ^b	2/12	
	Home and community	3/12	
	School and home	2/12	
	N/A	1/12	
Type of data on the silent period	Anecdotes/transcriptions/videotape	11/12	
	Summary of language corpus	3/12	
	Reliability	3/12	
	Linguistic calculations (MLU)	4/12	
	Data distributional analysis	2/12	
	Non-parametric/parametric analysis ^c	2/12	
Measurement of:			
	Language learning	Measured; not measured	0/12; 12/12
	Literacy learning	Measured; not measured	0/12; 12/12
School achievement	Measured; not measured	0/12; 12/12	
Length of silence	None	6/12	
	<1 month	3/12	
	1–3 months	6/12	
	>three months ^d	1/12	

^a A total greater than 12 is due to 2 studies using multiple definitions of silence.

^b A total greater than 12 is due to 1 study being conducted in a formal and informal school setting.

^c A total greater than 12 is due to studies presenting multiple types of data.

^d The length of silence represented is based on author claims; A total greater than 12 is due to individual variability in the length of silence within studies with more than one participant.

reveal distributional properties of categories of language use were reported in only two studies (Saville-Troike et al., 1984; Tabors, 1987). Use of these analytic approaches would have led to greater clarity and more compelling evidence for what a study revealed.

Furthermore, the scant data reported in the studies cast doubt on the existence of a silent stage in SLA. Silent stages of three months or less were claimed in eleven of the twelve studies. Three studies reported no silent stage (Huang & Hatch, 1978; Klenk, 2004; Krupa-Kwiatkowski, 1998). An additional three studies reported no silence for some children (Gibbons, 1985; Saville-Troike, 1988; Saville-Troike et al., 1984). Researchers explicitly noted that children spoke L2 on the first day of observation in three studies (Huang & Hatch, 1978; Krupa-Kwiatkowski, 1998; Saville-Troike et al., 1984). Substantial individual variability in the presence and duration of silence was also found.

The potential influence on children's language usage of classroom features such as teacher support, group size, peer

interactions, or learning activities was investigated only in Saville-Troike et al. (1984). Context variation was minimally examined in two additional studies where data were collected in both classrooms and homes/communities (Itoh & Hatch, 1978; Winitz et al., 1995). Only five studies were conducted in preschool classrooms or daycare (total of 10 participants) (Clarke, 1986; Huang & Hatch, 1978; Itoh & Hatch, 1978; Karniol, 1990; Tabors, 1987) and the data were collected during informal activities believed to most accurately capture natural SLA.

The review of the 12 studies on the silent period in childhood second language acquisition compels the conclusion that contrary to what is widely believed and extolled by scholars, practitioners, and early childhood organizations and agencies, the extent and quality of the research evidence for a silent stage in childhood second language acquisition is extremely limited. The data are limited in terms of the number of studies, the number of children included in them, and the similarity of study participants to the majority

of preschool DLLs in the US with respect to first language and the SES of their families. The clarity of key constructs that have framed the investigations is wanting. The quality of the analytic methodologies and the evidence used to support the conclusions drawn is problematic. These characteristics of the studies support the conclusion that it has been premature to claim that silence is a typical feature of SLA or to make recommendations for second language acquisition policy and pedagogy for preschool DLLs based on the presumption of silence in SLA.

4. Theoretical and evidence-related issues and ambiguities

Four of the most significant theoretical and evidence-related issues and ambiguities raised by the studies will be elaborated upon. These issues and ambiguities are (a) the theoretical clarity and operational definitions of the concepts of silence and stage, (b) the psychological meaning and consequences of silence, (c) the cross-context consistency of individual patterns of silence, and (d) how silence may be modulated by adult language elicitation and support techniques.

4.1. What denotes silence in second language acquisition?

Four different definitions of silence are reflected in the reviewed studies although silence was not explicitly defined in three fourths of the reports. Silence has been explicitly or implicitly defined as the absence of speech (Gibbons, 1985; Karniol, 1990; Klenk, 2004; Winitz et al., 1995), the absence of syntactic features in speech (Tabors, 1987), the absence of novel or spontaneous speech (Dulay et al., 1982; Ervin-Tripp, 1974; Huang & Hatch, 1978; Itoh & Hatch, 1978), and the absence of speech directed to second language speakers (Krupa-Kwiatkowski, 1998; Saville-Troike, 1988). These variations in how language silence was viewed within different investigations reflect different theoretical stances about the nature of language.

Absence of speech is the simplest and most straightforward definition of language silence. It relies only on observation of behavior—the child does not talk. However, there are conceptual and measurement challenges even with this behavioral definition reflecting the commonly accepted meaning of silence. Must the child remain completely silent during an observation or only for some threshold percentage of the time? Must the child remain silent even when directly asked to respond? Is the notion of agency relevant such that a determination of silence applies only when it is self-initiated?

Other definitions of silence in the reviewed literature are more complex. Within these more complex definitions, silence is a default condition identified by the absence of positive evidence for language according to a particular conceptualization of language stated or, more typically, implied in a study. Defining second language silence as absence of syntax is derived from Chomsky's (1965, 1968) theory of language. According to Chomsky, acquisition is fundamentally the process of acquiring a language's grammar, which occurs by instantiating an innate universal grammar framework with the particulars of a specific language. Acquisition of the rules of syntax is believed to be at the heart of knowing a language. Therefore, evidence of syntax is necessary to demonstrate *productive* first or second language. Thus, speech without evidence of learner-generated syntax has by default been counted as silence, pre-production, or some other early language level in some studies (Table 2, row 4). Other theories of language acquisition do not adhere to the syntax = language view and acknowledge the importance of interaction among multiple structural features of language and communicative processes (Eggins, 2004; Nichols, 1984; Tomasello, 2003).

Similarly, Chomsky's theory suggests that novel and spontaneous utterances are a necessary feature of productive language because it reveals genuine evidence of acquired grammar. On this definition utterances that express routines, patterns, and imitations are, remarkably, viewed as language silence (Dulay et al., 1982). This view would lead to counting as silence children's participation in many preschool teacher-directed language development activities such as chanting nursery rhymes, singing, or retelling familiar storybooks. Theoretical objections have been raised to discounting the use of familiar and formulaic utterances as productive language over many years (Cook, 1993; Hakuta, 1976; Huang & Hatch, 1978; Saville-Troike, 1988; Tomasello, 2003; Wong-Fillmore, 1979). Researchers have argued that children orchestrate formulaic fragments and memorized forms into novel and creative utterances that mirror syntactic functions. For example, Hakuta (1976) documented an interaction between imitation and emerging rules that he described as "prefabricated patterns".

A substantively different conceptualization of language silence was put forth by Saville-Troike (1988). She defined the silent period as a time during which children did not talk to others in English. Saville-Troike's approach to silence was derived from a theoretical distinction between language's communicative and cognitive-regulatory functions. A result of this conceptualization was that utterances coded as private speech, limited repetitions, or responses to questions were considered silence.

These strict syntax-based and communicative function conceptualizations of language discount speech that does not conform to these conceptualizations, leading to increased estimates of the presence of silence. In addition, four different ways of conceptualizing silence, and the absence of explicit definitions of silence and description of how silence was measured reveals theoretical and measurement ambiguity and difficulties regarding language silence within the studies examining it.

4.2. What constitutes a stage, period, or phase of language acquisition?

Stage conceptualizations of cognitive development and language development have invigorated research for many years. Interest in and debate about the viability of stage conceptualizations in developmental psychology was fueled by the emergence of Piaget's genetic epistemology theory and in linguistics and second language acquisition research was fueled by evidence of consistent sequences in syntactic development in both L1 and L2 (Brainerd, 1978; Cook, 1993; Dulay & Burt, 1974a; Flavell, 1982; Ingram, 1989; Piaget, 1972, 1977). Piaget's genetic epistemology and the evidence of universal acquisition sequences in first and second language were very influential when the idea of a silent period was most studied and initially popularized in the 1970s to 1980s. Evidence of an invariant sequence across individuals and cultures with discrete transition from one stage to another within individuals has played a pivotal role in the many studies evaluating Piaget's stage conceptualization of cognitive development. While contemporary developmental scholars may be informed about the challenges associated with stage models of development, the stage model of SLA and the pedagogical practices associated with it have continued to be endorsed by scholars, as well as practitioners and policy-makers. Therefore drawing attention to the theoretical challenges inherent in stage conceptualization of SLA is relevant and important.

Theorists have distinguished the capacity of stage constructs to label, describe, or explain behavior (Brainerd, 1978; Cook, 1993; Ingram, 1989). Brainerd (1978) described aesthetic, descriptive, and explanatory stage conceptualizations in developmental theories in his influential paper titled, "The Stage Question in Cognitive-Developmental Theory". According to Brainerd, *aesthetic*

stage constructs are metaphorical and do not relate to specific and measurable aspects of behavior. *Descriptive* stage constructs are based on behaviors observed to change with age that are then sliced into categories representing this chronological sequence with each slice referred to as a stage. *Explanatory* stages incorporate a descriptive stage construct and add to it the specification of antecedent variables that lead to behavioral shifts between stages and thus begin to address causal mechanisms responsible for moving from one stage to the next. Within Brainerd's taxonomy, the four-stage progression that includes a silent stage in SLA is simply aesthetic and metaphorical. The progression does not qualify as a descriptive stage model because clear conceptualizations of native language, silence, formulaic/routines, and productive language, and how to distinguish them in language usage have not been worked out theoretically or methodologically. The progression does not qualify as an explanatory stage model because the antecedents and mechanisms leading to progression from one stage to the next have not been specified.

Ingram (1989) proposed a different taxonomy of L1 acquisition stages. She discussed continuous stages (age differences), plateau stages (a behavior remains constant), co-occurrence stages (two or more arbitrary behaviors overlap), succession stages (one behavior replaces another), and principle stages (several different behaviors are related by one principle or one aspect of behavior necessarily implies another). On the basis of Ingram's framework, the hypothesized four stages in childhood SLA are at best succession stages where the underlying principles of language acquisition they may reflect are not identified.

Cook (1993) argued that most treatments of the stage construct in SLA are post-hoc applications of Ingram's co-occurrence and succession types of stages and that it is the development of principle stages that have the potential to lead to behavioral insight and the theoretical development that can accompany it. Cook also raised the important question of the relevance of stage theories to SLA since the endpoint of L2 development is far more variable than that of L1 development.

Six of the reviewed studies discussed findings in relationship to a silent stage, phase, or period in childhood second language acquisition. However, none of these six incorporated previous theory or research on developmental stages or tackled in new ways the thorny issue of the essential features of language stages and the nature of the evidence that would either support or refute them. Moreover scholars have often accompanied a presentation of the stages of second language acquisition with statements that exceptions to it may be expected. The extent of exception data has been of longstanding relevance in debate about the evidence for Piagetian stages with exception data used as counter evidence (Brainerd, 1978; Cook, 1993; Flavell, 1982). Describing SLA as a stage progression and simultaneously characterizing the progression as having many exceptions to it and expected individual variability is conceptually ambiguous and inconsistent. Importantly, this tactic leaves the nature of SLA in all exception children unexplained.

In addition, the data from the studies themselves challenge the idea of silence as a discernible stage in second language acquisition. Five studies reported no silent stage for at least some children (Gibbons, 1985; Huang & Hatch, 1978; Klenk, 2004; Krupa-Kwiatkowski, 1998; Saville-Troike, 1988). In studies with more than one participant, the estimates of the duration of silence – defined as no use of the second language – were highly variable or notable individual differences were reported (Gibbons, 1985; Saville-Troike, 1988; Saville-Troike et al., 1984) (Table 2, rows 5, 9). For example Gibbons (1985) reported a range of 0–56 days of silence and Saville-Troike (1988) reported that three of nine children had no period of silence. Only one study reported silence lasting more than three months (Clarke, 1989). And yet some reports have described the silent stage as potentially lasting many

months or even up to a year, with this characterization being more typical in secondary sources (California Department of Education, 2009; Dulay et al., 1982; Tabors, 1997).

The reported variability within and between studies in the presence, duration, and individual variability of language silence raises significant questions regarding the theoretical viability of postulating a silent stage in childhood SLA. Theory and research on stages of SLA and the role of silence within them has not adequately defined the stage constructs or specified the evidence that would support or challenge their presence. Tracking progression from one stage to the next across time within individual children is minimally required with confirmatory evidence revealed by largely discrete progression from one stage to the next across children. These analytic methods were not followed in any of the reviewed studies. Secondary sources have reported the duration of silence to be notably longer than what was found in the research studies.

4.3. What is the psychological and linguistic significance of silence? Constructing meaning, learning language, failure to understand, or social/emotional distress?

Books by Tannen and Saville-Troike (1985) and Granger (2004) explore the social, psychological, linguistic, and intrapsychic nuances and complexities that influence language use and in so doing reveal many potential psychological meanings and varied consequences of linguistic silence. Tannen and Saville-Troike's volume explores the varied cultural, psychological, emotional, and linguistic influences on language silence. Granger (2004), calling on complex intra-psychic dynamics based in psychoanalytic theory, hypothesized that language silence is centrally a "manifestation of identity-formation processes" (p. 6) marking a transition from one self to another. A read of these volumes establishes that there are many possibilities for the psychological meaning of language silence, including both positive and worrisome potential meanings. For example, recent studies on middle school and fifth grade DLLs report that these children may use silence to shelter themselves from anxiety or to create the appearance of being proficient in English, particularly in mixed language and academic settings (Monzó & Rueda, 2009; Pappamahiel, 2001). These studies suggest interconnections among language, ethnicity, class, and identity in second language acquisition and use, and draw attention to the differences between most participants in the reviewed studies and the profiles of many preschool DLLs with respect to these variables.

Within the nine reviewed studies where claims for the presence of linguistic silence in any children were made, four explicitly interpreted this silence as evidence of active language learning (Clarke, 1989; Karniol, 1990; Saville-Troike, 1988; Tabors, 1997), although two researchers questioned the language-learning interpretation and suggested silence might reflect incomprehension or psychological difficulty associated with the new language (Gibbons, 1985; Itoh & Hatch, 1978). Tabors (1997) based her claim that silence reflected active language learning on 45 instances (out of 210 non-communicative events) of children watching and listening to other children in a way that she concluded they were actively involved in language learning while they were silent. In other studies, it was simply asserted that silence indicated active language learning.

Only one of the reviewed studies employed methods such as interviews, analysis of private speech, or careful linking of behaviors during silence to later language use or skill to probe the psychological meaning or potential consequences of silence. Saville-Troike (1988) recorded and analyzed children's private speech and conducted interviews with children to probe their thinking about L2. At least one child indicated that processes other than active language learning were associated with silence as the child stated "that there was this English that people were using and it was too hard, so she had stopped talking to them" (p. 575).

The language learning, positive view of silence has dominated publications popularizing the existence of a silent stage. None of the reviewed studies documented the relationships of silence or less talking to positive second language attainment, although authors claimed this linkage. Evidence of this linkage is crucial for permitting a warrant that L2 silence contributes to second language learning. Research examining silence requires careful conceptual analysis and empirical demonstration derived with sound methodology of the meaning/s and consequences of any language silence reliably observed in DLL children. Inaccurate characterization of the meaning of silence and its relationship to measured language acquisition may carry significant consequences for language development via its effect on educational practice.

4.4. *How does context influence silence in childhood second language acquisition?*

The reviewed studies favored observation in naturalistic, informal activities. Researchers commented that such contexts would more accurately reflect the natural process of second language acquisition (Table 2, row 6). Children were observed in outside play, during choice activities, and while interacting with friends, playmates, classmates, and relatives. Interest in language acquisition in natural contexts signaled an important move from laboratory research to research in authentic settings of language use at the time. Nevertheless, formal consideration of the range and complexity of context influences on SLA was not addressed in the silent stage studies. With respect to preschool, important variations in context include activity settings (centers, play, large and small groups), classroom language constellation (distribution of L1, L2 and other languages) (Snow, 2008), and affordances for language use. Data were collected in only one setting in nine of the twelve studies reviewed (Table 1, column 10) and was at best minimally considered in the other three.

Warrants that silence, however defined, is characteristic of SLA in preschool children would be strengthened to the degree that evidence for it is found across different classroom activities, language constellations, and opportunities for use. The under-examination of contextual variation is likely to have contributed to the characterization of language silence as a common feature of young children's L2 language use unconstrained by consideration of how context may modulate silence. Understanding how contextual variation influences second language acquisition seems critical for optimizing its acquisition in preschool settings.

4.5. *How might silence be influenced by adult modeling, elicitation, and support techniques?*

Children's spontaneous language use in informal settings while interacting with other children may be different from their usage while interacting with a teacher and in group instructional settings designed to promote language development, literacy, or other learning. Intentional and teacher-directed activities in which the teacher is modeling and scaffolding language, and pressing for children's active engagement through language production is likely to promote L2 oral language advancement (Bybee, 2001; Ellis & Heimbach, 1997; Ellis & Larsen-Freeman, 2006; Kanagy, 1999; Phillips, Clancy-Menchetti, & Lonigan, 2008). A relationship between increased use of L2 and overall L2 oral language competence has been found in preschool (Chesterfield, Chesterfield, Hayes-Latimer, & Chavez 1983; Strong, 1983) and older DLL children (Izumi, 2003; Swain, 1985, 1995).

Variation in language input, or modeling, substantially influences language acquisition and its use (Elman, 2001; MacWhinney, 2004). Language input or language modeling, which is arguably language "teaching", is necessary for language acquisition within

almost all theoretical accounts of first language acquisition, including acquisition theories that could broadly be described as environmentalist/behaviorist (Skinner, 1957), innatist (Chomsky, 1965; Pinker, 1994), interactionist (Bloom, 2000; Halliday, 1973; Levelt, Roelofs, & Mayer, 1999; MacWhinney, 2004), or connectionist (Elman, 2001), although the strength and nature of input's influence is believed to vary within different theoretical accounts. Assuming that informal, naturalistic language observations yield the best evidence on "pure" language acquisition independent of analysis of input, modeling, or teaching does not adequately account for their undeniable influence.

A number of studies provide a titillating glimpse of the insights that may be garnered by examining adult influences on language development through their modeling function and through their ability to modulate classroom social conditions (Hoff, 2006). The quality of teacher input predicted preschool DLL's first grade language scores (Aukrust, 2007). The use of more words and shorter utterances were features of teacher input related to preschool DLLs vocabulary growth (Bowers & Vasilyeva, 2011) and direct teaching of word meanings has led to increases in preschool DLL children's vocabulary (Collins, 2009; Roberts & Neal, 2004). Adult-child interactions where adults were taught to respond to and to follow children's lead have resulted in increased child language use and language learning (Girolametto, Weitzman, & Greenberg, 2003; Landry, Smith, & Swank, 2006). In classrooms with bilingual teachers, children followed the ratio of L1 and L2 language use modeled by their teacher (Chesterfield et al., 1983; Paradis & Nicoladis, 2007). Preschool children who spent more time in small groups and teacher-directed activities had higher language scores than children spending most of their time in free choice and used more English in these same activities (Fuligni, Howes, Huang, Hong, & Lara-Cinisomo, 2012; Roberts, 2011a). Itoh and Hatch (1978), Klenk (2004), and Hakuta (1974, 1978) reported that repeat-after-me and questioning games increased English (L2) use of their three preschool subjects.

These findings suggest that variation in adult language use is associated with young children's second language use and acquisition, although most of these studies are correlational and not all reported results for DLLs separately. Experimental research permitting causal inferences regarding these practices is extremely limited. Experimental studies designed to understand and manipulate the relationships among variations in language modeling, scaffolding, and elicitation practices in classrooms and second language growth are needed. This need is amplified by the growing evidence showing the significance of teacher's practices for preschool children's learning of critical developmental and academic foundations and the evidence of both promise and challenge for teacher's implementation and mastery of these methodologies (Cabell et al., 2011; Hawken, Johnston, & McDonnell, 2005; Justice, Mashburn, Hamre, & Pianta, 2008; Pence, Justice, & Wiggins, 2008; Preschool Curriculum Evaluation Research Consortium, 2008).

4.6. *Recommendations for the future study of early childhood second language acquisition*

Contemporary research points to two overarching conditions necessary for language acquisition: language input (a language model) to be analyzed and communicative use of the language (Kemmer & Barlow, 2000; Swain, 2005; Tomasello, 2003). Research to identify how to provide language-building input and to promote communicative language use, especially in classroom settings, is recommended as a promising direction for future research to support young language minority children's L2 acquisition within preschool programs (Goldin-Meadow, 2003).

Children learn the sounds, structures, and semantics of the language input they receive (Elman, 2001; reviewed in Gathercole

& Hoff, 2007) by applying cognitive endowments for pattern extraction and probabilistic determination of enduring associations among linguistic constituents. Future research leading to full understanding of the features of the input that maximally engage these endowments (Huttenlocher, Vasilyeva, Cymerman, & Levine, 2002) and the development of effective practices that expose children to these acquisition-supporting features would be invaluable. The acquirer must also attend to and take in the linguistic input (Hoff, 2006; Shatz, 1994). It is crucial to determine how teachers can effectively direct children's attention to and promote children's internalization of the input that in turn leads to extraction of probabilistic associations among linguistic elements that are the building blocks of language acquisition.

Communicative exchange is necessary for language acquisition and relies heavily upon language production (Akhtar, 2004; Baldwin & Meyer, 2007; Hoff, 2006; Shatz, 1994). The necessity of communicative exchange for language acquisition is at odds with the idea of a silent period being beneficial for learning language. Further understanding of the nature of social factors leading to communicative engagement would be of immense value. Studies revealing how teachers can create classroom social and activity contexts and implement instructional practices to robustly engage young dual language learners in communicative language are vital. Research determining how to best draw upon DLL children's unique linguistic, cultural, familial, and experiential funds of knowledge to motivate communicative use of English and to support learning of linguistic features of English can be expected to enrich L2 language development. These powerful social factors have historically been minimally integrated into classroom practice in the United States (August & Shanahan, 2008; Hakuta, 1986). Specific attention to understanding input and social factors in different classroom contexts is also important. In summary, investigation of language practices that detail how to (1) structure input, ensure intake, inspire production, and (2) craft social conditions to promote communicative and productive language are needed in order to maximize language development of dual language learners.

4.7. Historical and theoretical evolution and popularization of the silent stage construct

The most intriguing aspect of writing this paper was trying to account for how an idea with little empirical support came to be broadly disseminated and embraced by scholars, early childhood practitioners, policy-makers, and organizations with continuing influence on preschool second language development practices. I suggest that the paradigm shift from behaviorism to cognitivism; theory and emerging evidence from research on first and second language acquisition and foreign language pedagogy; and Piagetian stage theory converged and set the stage for the popularization and embracing of the idea of silence as a ubiquitous and beneficial stage of childhood second language acquisition. These scientific developments occurred in parallel with a longstanding and continuing sociopolitical reluctance in the US to accept that DLLs need English language support, and particularly that use of their first language is an important part of this support (Hakuta, 1986, 2011). The concept of a silent stage is resonant with this sociopolitical milieu to the extent that it permits a *laissez-faire* approach to the language development needs of DLLs.

4.8. Shift from a behaviorist to cognitive paradigm in the field of psychology

Behaviorism was the dominant paradigm in psychology up until about 1960. As is well known, behaviorist theory holds that learning is a function of the shaping and control of behavior by

reinforcement contingencies provided by the human and non-human environment. Within this theory, consideration of the behavioral influence of states of mind – such as thoughts, language rules, executive planning, and the like – are seen as unnecessary and are systematically avoided. The cognitive paradigm shift was associated with an emphasis on how internal thoughts, processes, and higher-level cognitive functions must be taken into account in learning and development. The study of learning and development within a cognitivist paradigm is imbued with a reified focus on the very “black box” that behaviorism so strongly eschewed and on the pre-eminence of individual cognition, rather than environmental control, in learning and development. The metaphors of “little scientist”, “meaning-maker”, and “active learner” were often voiced in related research and recommendations for educational practice.

In the field of linguistics, the behaviorist to cognitive paradigm shift was heralded by Noam Chomsky's (1959) devastating critique of B.F. Skinner's *Verbal Learning* treatise that sought to explain language acquisition with behaviorist principles. This was followed in 1965 by publication of Chomsky's seminal book titled, *Aspects of a Theory of Syntax*. This book introduced the idea of an innate language acquisition device (LAD) and the distinction that overt language performance was not equivalent to underlying language competence. In the case of SLA and reviewed studies on the silent stage, the emerging cognitivist paradigm encouraged a focus on how children internalize the target language and analysis of the features of the internalized language with little accounting for how linguistic and social context influences the uses, processes, and ultimate forms of the language being acquired. For example, acquisition of grammatical structures was studied by Ervin-Tripp (1974) and language learning-strategies of learner were emphasized by Saville-Troike (1988). The emerging dominance of the cognitivist paradigm set the stage for interpreting language silence as an indicator of active, albeit internal, language learning.

4.9. Evidence of universal sequences in acquisition within and between languages

A major finding on language acquisition established in the 1970s was that the sequence of acquisition of English grammatical forms, articles, and prepositions was very similar across children (Brown, 1973). Research in SLA yielded similar findings (Chesterfield & Chesterfield, 1985; Dulay & Burt, 1974a; Ervin-Tripp, 1974). A series of studies by Dulay and Burt (1973, 1974a, 1974b) were seminal in establishing that the sequence of L2 acquisition of English grammatical structures was similar for children with several different L1s. Furthermore, the acquisition sequence of English (L2) children was similar to that of English only children. These findings were interpreted as indicating a universal, cross-language, sequence of grammatical acquisition.

Some scholars suggested that since infants spend many hours hearing L1 before they productively use it, such was also likely to be the case for second language learners. This idea was taken seriously enough to be formally refuted (Ellis, 1996). The enthusiasm for linguistic universals inspired expansion of evidence of a universal and fairly invariant sequence of grammatical acquisition in L1 and L2 to include an assumption of a similarity between *all* L1 and L2 acquisition processes and the expectation for a fairly invariant sequence in *all* areas of L2 acquisition, paving the way for the attraction of the stage model of SLA and the positioning of silence as a marker along the route. Findings from recent studies examining language development from many perspectives other than that of grammar acquisition constrain these assumptions because complexity and variability in SLA across individuals, settings, and aspects of language are found (for review see Dixon et al., 2012).

4.10. Shift in foreign language pedagogy

A shift in the second language teaching literature from a focus on repetition and early production to a focus on comprehension was impelled by both the behaviorist to cognitivist paradigm shift gaining momentum in psychology and evidence from within the fields of SLA and English as a second language (where there was substantial interest in pedagogy to promote foreign language learning of older students in formal language-learning settings—settings that are very different from the predominantly English immersion environments that lead to subtractive bilingualism in which most preschool DLLs are served). Prior to the 1970s, the dominance of behaviorist theory in these two fields had led to the conjecture that language competence = language speaking and to a concomitant emphasis in foreign language instruction on early speaking. Evidence on the effectiveness of this behaviorist-based pedagogy, known variously as “the oral approach”, “the linguistic method”, or the “audiolingual method”, was less than stellar with poor learning and high drop-out rates (for review see Nord, 1980). New instructional approaches based on listening and/or writing (with no speaking) at the beginning of foreign language instruction produced results that were often equal to or better than approaches embodying the traditional production-driven pedagogies (Asher, 1969; Davies, 1976; Posotovsky, 1974).

Krashen (1982, 1985), in the context of English as a foreign language teaching to older learners, elaborated upon these budding ideas in his theoretical formulation of the *input hypothesis*. The input hypothesis stipulates that a second language is acquired by receiving massive amounts of comprehensible language. For comprehensible input to drive acquisition maximally, it should contain structures just beyond a learner’s current levels of linguistic competence. A corollary of the input hypothesis is that speaking should not be taught or practiced directly; speaking emerges as the acquirer gains competence. On this view, speaking is not a means of language learning; rather it is an expression of language learned.

The input hypothesis was rapidly championed within the field of second language acquisition and embraced by English-as-a-second-language, foreign language, and general education teachers, although serious criticism of it has been expressed (Cook, 1993; McLaughlin, 1987). The input hypothesis fit neatly into the new cognitive paradigm with its emphasis on the potential of learners’ active, constructed, and self-generated learning and development; provided a concrete means for activating the language acquisition device at the center of Chomskyan linguistics; and provided a theoretical explanation and method for a radically new pedagogy in foreign language instruction that teachers could readily understand. The influence of the concept of comprehensible input spread from its inception in the context of designing classroom instruction to teach foreign languages or English as a second language to older students to the language instruction of young DLLs learning English as a second and academic language in mixed language classrooms or English language development programs adjunctive to general education (for review see Dixon et al., 2012). Important developmental, social, political, and educational factors differentiate learners and learning in these two settings.

The comprehensible input hypothesis has been incredibly influential. A 2013 Google Scholar search for Krashen (1982) returned 7819 citations. The popularization of the input hypothesis moved the idea of language silence as a feature of early second language acquisition into sharper focus and laid a foundation for an assumption of its beneficial nature. These conceptual developments fueled research and debate on the relative merits of input and output that remain interesting to contemporary researchers and practitioners (Anthony, 2008; Izumi, 2003).

4.11. Early childhood alignment with a Piagetian developmental perspective

Piagetian theory was an emerging theoretical powerhouse in developmental psychology at the same time as these developments in the overarching paradigm for psychological research, linguistics, and second language teaching were taking hold. Piaget’s stages of cognitive development and the emphasis on the child’s active construction of meaning became simplified metaphors for characterizing the nature of human development that converged easily, if not automatically, with these other developments. The stage metaphor was part of the developmental psychology zeitgeist of the time and coincided with initial research and theoretical work on stages of language acquisition in the nascent field of second language acquisition. Thus, a skeletal stage framework for assimilating a four-stage characterization of SLA was shaped by extracting simplified stage notions from far more complex stage concepts within Piaget’s genetic epistemology (1972, 1977).

Early childhood philosophy drawing on Piaget’s theory promoted the child’s capacity for self-teaching, hypothesis testing, and concept development (Peterson & Collins, 1986). It also incorporated the idea that development was constrained by the child’s cognitive readiness to assimilate or accommodate new learning and faith in the child’s propensity for self-development (Furth & Wachs, 1974; Miller, 2011). Related instructional practices included preparing an enriched environment for engaging the distinct cognitive structures characteristic of each developmental stage and allowing for extensive child-initiated and exploratory learning. The instructional suggestions for second language development based on the stage model that included silence were compatible with classroom applications of Piagetian theory because they emphasized the child’s capacity to self-determine their readiness for and initiation of second language production and to largely acquire L2 on their own if given sufficient exposure to comprehensible input. Thus, there was a cozy fit between the stage framework of Piagetian theory, instructional application of it to early childhood settings, and the stage model of SLA and related instructional recommendations. However, current research has led to growing consensus that early childhood language development is supported by and dependent upon the quality of adult guidance and instruction, appropriately balanced with child-directed activity depending on what is to be learned.

5. Conclusion

The theoretical paradigm shift from behaviorism to cognitivism in full swing during the years when the silent stage was most vigorously studied (1970s–1980s) aligned with disciplinary developments in linguistics, foreign language teaching, and second language acquisition; and with Piaget’s stage theory in developmental psychology to invigorate interest in and to shape the conceptual orientation of childhood second language acquisition toward a stage model. It was within this context that the idea of a silent stage in second language acquisition found fertile ground. The result of cross-disciplinary historical, theoretical, and empirical dynamics was a view of childhood second language acquisition that was philosophically appealing and ultimately very influential. Theoretical over-generalization and simplification encouraged the view that silence was likely to be a discernible, typical, and consistent feature of second language development. Results of a limited number of studies on the silent stage indicate that these expectations are largely unsubstantiated based on widely held standards for what constitutes convincing research evidence. The findings are a reminder of the importance of seeking out and reviewing primary sources rather than relying on secondary sources that may

not accurately portray the original results of investigations. This review draws attention to the vulnerability of scientific inquiry to theoretical difficulties and to methodologically weak investigation when research is framed by appealing metaphors standing on fragile conceptual and empirical structures.

The view that there is a silent stage early in second language acquisition has been promoted for the last thirty years. Early childhood philosophy and practices based on this claim have been and continue to be articulated, embraced, and implemented. The belief in a silent period remains consequential for preschool children learning English as a second language through its normalization of instructional practice and teacher expectations that treat children's lack of L2 oral usage as expected, accepted, and benefitting language learning. The need for accurate understanding of preschool children's second language acquisition is pressing, particularly when viewed in the context of schools' persistent lack of success in ensuring DLL children acquire English proficiency, the challenges of learning in subtractive bilingual and mandated English-only classrooms, and the continuing socioeconomic inequalities experienced by many dual language learner children and their families in the United States. The argument has been made that the second language development of young, dual language learner children will best be served by research pursuing new directions identifiable in current language acquisition research and by expanding this research in educationally relevant ways that take into account the diverse language, SES, cultural, familial, contextual, and individual influences on English acquisition.

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