1 Learning through Language

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Why This Book?

At knowledge institutions in modern societies, language is an inseparable part of learning. Schools are institutions for building certain types of knowledge, and acquiring this knowledge also involves becoming competent in the language and discourse of schooling. As school content becomes increasingly complex and abstract, novice learners need to continue to expand their vocabulary, their mastery of complex syntax, their knowledge of various discourse structures and their skills in conveying their perspectives and understanding the perspectives of others. Indeed, successful participation in school and academic learning requires not only expanding knowledge but also learning the language to communicate ideas in a precise, concise, logically organized, and reflective manner. Beyond school, being proficient in these ways of using language is important for navigating society as an informed citizen. New information (health, civic or political news) is disseminated publicly via oral or written texts that typically use academic language. Inspired by the advances of recent research that sheds light on the role of language in education, we edited this volume to present a coherent set of empirical approaches that examine language through two lenses: that of *learning language* and that of *learning through language*. Grounded in a social-interactionist, pragmatically oriented, theoretical framework, the chapters in this book span from early childhood to adolescence and address monolingual as well as multilingual development, providing insights of relevance for developmental theory and educational research and practice. Our hope is that the research insights in this collection will be informative for educators, inviting for researchers, and inspiring for practitioner–researcher partnerships that seek to further advance this work.

In this introductory chapter, we first briefly situate the research presented in this book as part of a larger effort towards an educationally informed theory of

language learning. Next, as a preview of the insights the reader will find throughout this book, we highlight some of the most salient cross-cutting themes, and we end by posing some new research directions that emerge from this collection.

Towards an Educationally Informed Theory of Language Learning

Though the book has contributors from many universities across several countries, the research agenda that was developed at the Harvard Graduate School of Education under the leadership of Catherine Snow over the past several decades has been particularly influential in shaping the research perspectives adopted in this book. This research agenda involves conducting theoretically and empirically grounded studies geared towards the articulation and refinement of an educationally informed theory of how children and adolescents learn language as well as towards how they use language to acquire knowledge in and out of school. In other words, the research programme seeks to understand language learning with the ultimate goal of informing how to best support learners' knowledge acquisition and socio-cognitive development. Theoretically, the work is anchored in dialogically oriented approaches to language learning and literacy and in the understanding that language develops in the context of achieving pragmatic goals and for the purpose of contact, interaction, understanding and knowledge acquisition (e.g. Ninio & Snow, 1996). Empirically, the work makes use of tools from language and literacy research, merges qualitative and quantitative analytic approaches and seeks to integrate insights from practitioners and researchers to produce practice-based research and to inform evidence-based practices.

Historically, the study of children's language development took an important shift in the 1970s, when researchers started to move beyond the narrow level of the utterance to try to better understand language learning by situating it as part of the larger unit of conversations (Brown, 1973; Halliday, 1975). This turn led to findings that illuminated the different ways in which caregivers' input facilitated children's language development. In studying the speech directed to children, semantic extensions, recasts, and clarification requests, among others, were identified as input features associated with children's language learning outcomes (Newport, Gleitman, & Gleitman, 1977; Snow, 1977a). Beyond conventional measures of vocabulary and grammar, conversational skills, such as regulating turn taking, maintaining a joint topic, and providing sufficient information, became an important object of study (for a discussion, see Pan & Snow, 1999). Gradually, however, cross-cultural and educational researchers called for an expansion of this somewhat constraining conversational lens (Ochs, 1988; Snow, 1991a).

One pedagogically relevant reconceptualization of the study of language learning was advanced by Catherine Snow. She suggested that language learning be studied in relation to 'the tasks that children face when using language, the ways in which performance can vary across tasks, and the manner in which those tasks change as children get older' (Snow, 1991a, p. 67). Moving away from traditional models focused on linguistic levels (phonology, lexicon, morphology, etc.), which served the goals of linguists better than those of developmentalists or educational researchers, Snow (1991a) proposed a 'task-based multidimensional model of language proficiency'. When actual tasks are taken into consideration, language development is studied in relation to the situational demands posed by the increasing variety of contexts that learners navigate throughout life. These demands can be organized along two main dimensions: (1) message and (2) audience (Snow & Uccelli, 2009). First, early in development, young children participate in minimal exchanges (often single utterances) about concrete here-and-now messages (e.g. *I want that!* while pointing to a toy). Gradually throughout development, learners take part in longer language exchanges (with multiple thematically linked utterances) about increasingly abstract and complex there-and-then messages (e.g. a debate about global warming). Second, as children grow older, they also move from interactions with a present, highly supportive, familiar audience with shared knowledge (e.g. a parent) to interactions with distant, unfamiliar and uncooperative audiences with no presumed shared knowledge (e.g. a TED talk). Children's developing socio-cognitive skills, including their growing abilities to consider multiple points of view, serve to strengthen their messages and arguments when they interact with more distant audiences.

In this theoretical framework, language tasks, and thus language learning, are understood as embedded in a particular socio-cultural context and shaped by the cultural norms and expectations of the communities in which children are enculturated. This lens informed studies that shifted the research focus to the speaking child and the complexity of conversations and discussions, typically of multi-party character, at home and in classrooms, across various cultures (e.g. Blum-Kulka & Snow, 2002). School, then, is also seen as a specific cultural context and the language for school learning as the result of the particular cultural and pragmatic expectations of school. The language of school learning also responds to the demands of message and audience, but under particularly challenging conditions. Firstly, messages tend to be abstract or theoretical, typically unfamiliar to students, and in need of extended elaboration. Secondly, the audience or interlocutor is somewhat indeterminate in nature. Learners need to imagine an intangible, non-interactive, academic interlocutor and learn to comprehend and produce language that responds to the cultural expectations of academic communities (Snow & Uccelli, 2009). These demands call for language that is very different from that used in brief

exchanges about the here and now (e.g. explaining photosynthesis at school vs. asking for salt at the dinner table).

Within this conceptualization, learning to read and learning to write are understood as extensions of language development (e.g. Hemphill & Snow; 1996; Snow, 1983). The longitudinal Home-School Study of Language and Literacy Development (HSLLD) measured discourse-level skills in children, their teachers, and their parents, highlighting that the oral language–school literacy relations involve more than just vocabulary knowledge. This was visionary, as the HSLLD revealed that, among the many ways of interacting through language, particular interactions, specifically those that involve extended discourse about there-and-then messages (e.g. narratives, explanations), at home and in school contributed to children's later vocabulary knowledge and reading comprehension (Snow, Porche, Harris, & Tabors, 2007; Snow, Tabors, & Dickinson, 2001). While most of the earlier work within this research area was descriptive, recent large-scale experimental studies add evidence supporting these close relations between language and literacy. Today, rigorously tested educational interventions designed through researcher–practitioner partnerships, such as the Word Generation Project (Snow & Lawrence, 2011; see also http://wordgen.serpmedia.org/), provide evidence that students' language proficiencies are malleable throughout adolescence and are influenced by improvable teachers' language practices. This research shows that classroom environments where students are actively engaged with producing extended discourse about complex topics lead to significant gains in students' advanced literacy skills (LaRusso et al., 2016).

Finally, this conceptualization also highlights further opportunities for *learning through language*, or in other words, how engaging orally in academic discussions can help promote literacy skills and knowledge acquisition. As emphasized by Snow, discussion is in itself a key contributor to learning and to reading comprehension. Words and other features of academic language are not easily acquired if not 'embedded in meaningful texts and if opportunities to use them in discussion, debate, and writing are not provided' (Snow, 2010, p. 452). Critical to students' engagement in classroom discussion and debate, in addition to their language skills, are their socio-cognitive skills of considering and evaluating others' perspectives. There is emerging evidence that children and adolescents, through well-designed instructional approaches based on classroom discussion and debate, such as in the Word Generation Project, acquire features of both academic language and perspective taking (Jones et al., in press). Language-minority students have, in particular, proved receptive to instruction that includes diverse perspectives (Hsin & Snow, 2017).

Inspired by this line of research, the present volume illustrates the ongoing efforts towards building an educationally informed theory of language learning

by bringing together a body of research that sheds light on the nature of school-relevant language and literacy development and the contextual factors that support learners' academic learning and communication.

School-Relevant Language Development: A Note on Terminology

Researchers who study language learning in relation to school literacy and school achievement use multiple terms, which may require clarification for the reader of this book. Here we provide our definitions of three main overarching concepts. However, it is important to keep in mind that the terms listed below are used somewhat interchangeably in the field and are not the only ones used to refer to these concepts.

Decontextualized discourse/talk/language refers to talk about the there and then (Hemphill & Snow, 1996). As discussed above, learners move gradually from talking about the here and now, i.e. concrete objects, events, or people present in the physical setting of the interaction, to talking about messages that are more remote or abstract (e.g. causal explanations, narratives, pretend play). In discussing non-present messages, language users cannot use non-verbal cues, such as pointing or gestures, to help convey their messages; instead they need to rely more on language itself. It is important to clarify that *decontextualized* refers to the characteristic of messages that are detached from the physical context but does not imply the absence of a larger communicative context. Being able to successfully communicate about the non-present in fact requires attention to the discourse context and involves mastering new language and perspective-taking skills that respond to the complex language and cognitive demands of a non-present message.

Extended discourse refers to 'the use of several [thematically linked] utterances or turns to build a linguistic structure' (Snow, Tabors, & Dickinson, 2001, p. 2). Extended discourse typically entails talk about there-and-then topics (e.g. explanations, narratives, pretend play) and thus is often used to refer to talk that is both decontextualized and extended. However, it is important to clarify that extended discourse could also be about the here and now, e.g. a mother who describes the ingredients and steps for making lemonade, as she and her child prepare it together.

Academic discourse/language, or the language of education, the language of schooling or the language of academic texts, are terms that refer to the language used for learning in schools and universities, in textbooks and scientific communication for argumentation, explanation and information synthesizing and dissemination (Halliday, 2004; Schleppegrell, 2001). Whereas the two terms above are defined as referring to message characteristics (i.e. decontextualized or extended message), academic language is instead typically defined by the context in which this language is found. Discipline-specific, academic language

(the language of history, the language of math) refers to the language forms and functions that highlight key concepts and reasoning moves of specific disciplines. Cross-disciplinary, academic language instead refers to the language forms and functions that are used to fulfil goals shared across disciplines, such as precise and concise communication or explicit marking of conceptual relations and of reflective perspectives (Bailey, 2007; Hyland, 2009; Schleppegrell, 2004; Snow, 2010; Snow & Uccelli, 2009). There is, however, no clear-cut way of defining academic language, and the term itself often raises controversy from authors who rightly point to the erroneous and educationally dangerous misconception of academic language as a superior language variety (e.g. Gee, 2014; Valdes, 2004). In response, it is important to emphasize that we view academic discourses as 'cultural manifestations valued by academic institutions embedded in larger socio-political and historical structures' (Uccelli, Phillips Galloway, & Qin, in press). In other words, we view academic language as a pragmatic solution to a particular situational context.

Three important considerations are worth highlighting. Firstly, rather than categorical notions, each of these three concepts falls within a continuum from less to more extended, from contextualized to decontextualized and from more colloquial to more academic discourse (Snow & Uccelli, 2009). The two ends of the continua differ in the demands of the message and audience and, consequently, in the language required to address those demands. At one end, not-extended, contextualized, colloquial language occurs in exchanges with a face-to-face audience about concrete entities or events (e.g. '*Could you pass the salt, please?'* during a dinner table conversation). At the other end, extended, decontextualized, academic language occurs in exchanges with intangible audiences typically about non-present events, entities, or ideas and requires drawing on more advanced lexical, morphosyntactic and discourse resources (Uccelli, Demir, Rowe, Goldin-Meadow, & Levine, 2018).

Secondly, these three concepts offer interrelated but distinct entry points into the study of language learning. To illustrate this, think about a presentation on photosynthesis by a sixth-grade teacher. This presentation is an example of academic language (language for learning at school); it is also decontextualized (photosynthesis represents a non-present abstract message) and requires extended discourse (i.e. multiple thematically linked utterances). Whereas this example illustrates the co-occurrence of these three characteristics, they do not always co-occur: not all decontextualized language is academic (e.g. personal narratives, pretence), and not all academic language is decontextualized (e.g. explaining an experiment while conducting it); whereas decontextualized talk is often extended, it can occur at the level of single utterances; and extended discourse can be highly contextualized and not academic in nature (the lemonade example).

Thirdly, as researchers apply each of these terms to the study of language, they may focus on three different levels of analysis: the level of actual practices, the level of individuals' skills or the level of abstract systems. For instance, academic language can be studied at the level of (1) home and school *practices* in which students participate (then research would focus, for example, on the frequency and quality of student participation in academic practices, e.g. debates, science reports); (2) learners' skills (then research would focus on measuring students' language skills, e.g. knowledge of academic vocabulary or complex syntax); or (3) abstract systems (then research would focus on the characteristic of abstract units of academic language, e.g. the linguistic features characteristic of scientific dissertations). Decontextualized and extended discourse can also be analysed as practices (learners' actual participation in these practices), skills (learners' skills required to successfully participate in these practices) and systems or abstract units (features of decontextualized extended units, such as the linguistic features of narratives). Because researchers are not always explicit in this regard, it is important to keep in mind that studies that use similar terms may be referring to different levels of analysis.

This Volume: Cross-Sectional Themes

This book examines qualities of academic language learning in the school years, as well as its precursors in early childhood, captured through concepts such as decontextualized talk and extended discourse. We asked the contributors to offer a review of the specific field they covered, to present some empirical evidence and to offer suggestions for how this research contributed to an educationally informed theory of language learning. We structured the book into three sections: section I covers precursors of academic language and literacy proficiencies during the preschool and early elementary school years; Section II, academic language and literacy development and instruction during the middle school and early adolescent years; and Section III, multilingual learners' school-relevant languages and literacies during early and later childhood. To encourage discussion, debate, and multiple perspectives, we invited one or two experts in the field to discuss each section's chapters.

In this introduction, instead of referring to each chapter one by one, we articulate some of the core ideas and findings reported throughout the book. These cross-cutting themes are organized below into those related to *language learning across contexts of use, across ages, across skills, across languages, and across instructional settings.*

This set of findings simultaneously informs and is informed by an understanding of language learning as context dependent and highlights that language learning is influenced by the social interactions and the language environments in which learners participate. Being a skilled language user in one context does not guarantee being skilled in another context. Also, children may be skilled users of different forms of social language (sophisticated personal narratives, complex jokes, rich similes) and yet struggle with the language expected for school literacy and learning. Talk about the non-present and literacy routines takes different forms across cultures.

Language learning relies on intentional communication. On the basis of an extensive review of early language acquisition research and guided by social-interactionist theories, Lieven (Chapter 2) puts forward the argument that children would have a hard time learning language if it were not embedded in communicative contexts. Children's understanding that they can communicate intentionally and that others try to communicate with them offers a foundation for language learning. Consistent evidence from cross-cultural studies documents that children start to communicate intentionally and produce words roughly at the same age across cultures.

Home language environments vary considerably, with some that more closely resemble the language of school. Leseman and colleagues (Chapter 15) report that parents of bilingual children in demographically diverse immigrant groups in the Netherlands (Moroccan Dutch, Turkish Dutch) created linguistic contexts at home that resembled contexts for language learning in preschools: asking questions, expanding on children's utterances, and engaging in extended discourse. However, the variability in the ways and the extent to which children were invited to engage in these practices at home was substantial and reflected parental education, family constellation, and parents' reading skills.

Interactions that support school-relevant language take different forms across cultures. Leyva and Skorb (Chapter 5) show that elaborate discussions that resemble the language of school do not only take place around books; culturally relevant practices, such as narratives around food routines in Latino families, can offer optimal language environments that foster decontextualized skills and prepare children for school literacy. Leyva and Skorb examine how parents incorporate talking, reading, and writing into family routines. These routines have a personal value and are regularly practised. They find that discussion about past events is one of the routines in which Latino parents from low-income communities regularly engage with their children. In doing so, they engage in decontextualized language in a culturally congruent manner.

Societal contexts influence the multilingual practices of educational systems and individuals. Uchikoshi and Marinova-Todd (Chapter 17) highlight the role of the broader societal and educational contexts (United States vs Canada) in the opportunities afforded to bilingual children to use their home languages for school learning, and therefore in the relations that research can detect between oral language and reading in bilingual children. Similarly, Proctor and Zhang-Wu (Chapter 16) suggest that cross-linguistic associations may vary depending on the societal contexts in which bilingual children are raised (such as gender and school type, urban, rural). Moreover, Leseman et al. (Chapter 15) conclude that understanding cross-linguistic relations requires attention to the specific socio-cultural context and power relations within which children live and use their languages.

Across Ages: The Developmental Perspective

Multiple chapters throughout the book examine the contribution of language environments, specific discourse practices, and early language skills to learners' later school-relevant language skills.

Early language skills predict later language and literacy proficiencies. Research has documented not only relations within the early years of language development (Lieven, Chapter 2; Rowe, Chapter 4) but also relations between young children's language skills and practices and adolescent language proficiencies (Uccelli, Chapter 8). Rolla et al. (Chapter 7) found that preschool (age four to five years) vocabulary, letter-word identification, and early math skills predicted second-grade academic achievement. Leseman et al. reported that a composite measure of second-language academic language skills at age six was a strong predictor of second-language reading comprehension at age eleven.

Parental input has an impact on child language development. Interestingly, the type of input that is most beneficial varies by age during early language development. As discussed in Rowe's and Lieven's chapters, around eighteen months, caregivers tuning in to children's current focus of attention and labelling the objects they attend to supports their expressive vocabulary; at age two, caregivers' diverse vocabulary becomes important; and at age three, exposing children to decontextualized talk seems most effective in building their vocabularies. It is not merely the amount of talk but the type of talk that matters. Young children's participation in interactions with their caregivers about the non-present (narratives, pretend play, explanations) predict their preschool and kindergarten discourse skills (Rowe, Chapter 4; Leyva and Skorb, Chapter 5) and also their adolescent academic language proficiency (Uccelli, Chapter 8).

Children are co-constructors of their own development. Harris (Chapter 3) argues that infants' pointing is not only a sign of paying attention to something but a request for information which, in turn, elicits lexical input from the caregiver. Uccelli's findings suggest that beyond language input, children's own talk about the non-present is predictive of their adolescent academic language proficiency.

Across Skills: The Language-to-School Learning Continuum

Talk about the non-present requires cognitive, socio-cognitive, and emotional skills in addition to language skills. Participation in talk about the non-present contributes to school-relevant language proficiency.

Perspective taking and other cognitive skills in school-relevant language. Rowe (Chapter 4) highlights that narrative language skills as well as cognitive and socio-cognitive skills such as theory of mind skills, prospection, and information-seeking strategies are essential for school learning. Grøver (Chapter 13) suggests that relations between extended discourse production and perspective taking tap into cognitive developments that prepare children for using language to learn about the world, and that bilingual children in particular may make use of their perspective-taking skills in their second-language narrative production. Kim and Yun (Chapter 6) point in a similar vein to the cognitive underpinning of discourse comprehension and production, such as perspective taking and other higher-order cognitive skills. Biancarosa (Chapter 12), moreover, underlines the importance of inferencing when children make sense of narratives. Hemphill, Kim and Troyer (Chapter 10) selected texts for their STARI project that challenged the middle school reader's skills in resolving diverse perspectives. Thus, it was reading activities that invited the students to respond to contrasting peer perspectives that enriched their reading comprehension.

Language interactions socialize children into ways of talking and ways of thinking. Rowe explains that posing *wh*-questions to two-year-olds elicited a verbal response from the child that fostered reasoning skills. Moreover, between the ages of eighteen and forty-two months, parents use more decontextualized language as children grow older and children were increasingly able to engage in such conversations with their parents. Use of decontextualized language in preschool fosters language and literacy skills but also theory of mind and prospective memory skills. Further, Uccelli (Chapter 8) highlights how the skills in the construct 'core academic language' correspond to expectations of shared scientific reasoning.