CHAPTER 3

Processing language through content

The preceding chapter considered a range of instructional options available to immersion and content-based teachers, narrowing down the most promising options to reactive and proactive form-focused instruction in conjunction with language across the curriculum and other literacy-based approaches. From the perspective of second language learners whose developing interlanguage system engages a range of comprehension and production mechanisms to process language through content, this chapter portrays proactive form-focused instruction as an array of opportunities for noticing, awareness, and practice. The chapter begins by exploring the opportunities that learners have to process language through input. Teachers need to counterbalance instructional strategies that are designed to make content-based input more comprehensible and those designed to make input features more salient. Students in immersion and content-based classrooms benefit from a broad spectrum of repeated opportunities to process language for comprehension as well as for developing their metalinguistic awareness. To complement input-driven instructional techniques, teachers need also to ensure that their students' opportunities to use the second language continue to expand both in quantity and quality. The second half of this chapter illustrates ways in which teachers can provide learners with opportunities to process language through production. An argument is made for counterbalancing these opportunities to ensure target language use in contexts ranging from content-based tasks to more form-focused practice activities.

1. Comprehension

From the beginning, in addition to ensuring the psychological development of their students, one of the primary responsibilities of immersion and content-based teachers is to use the second language in a way that students can easily understand. To ensure comprehension, experienced teachers rely extensively

on techniques that transform subject matter into comprehensible input for their students, as described by several researchers and summarized forthwith (see Cloud et al. 2000; Met 1994; Salomone 1992a; Snow 1987; Tardif 1991, 1994).

The goal of teachers throughout any type of content-based program is to enable students to comprehend content presented through the second language. Teachers are known to modify their speech by speaking more slowly in the beginning grades, emphasizing key words or phrases and using cognates, restricted vocabulary, and shorter phrases. They build redundancy into their speech by using discourse modifications such as self-repetition, modeling, and paraphrase (Tardif 1994), as well as multiple examples, definitions, and synonyms to give students many chances to understand the target language. Ideally, teachers provide natural pauses between phrases to give students time to process language and also to give students appropriate "wait time" to interpret questions and formulate responses (Cloud et al. 2000). In tandem with their verbal input, teachers use props, graphs, and other graphic organizers (see Early 2001; Mohan 1986), as well as visual aids such as film, video, and computer or overhead projections. To further facilitate comprehension, teachers rely on extensive body language, including gestures and facial expressions, and a range of paralinguistic elements. Content-based teachers ensure predictability and repetition in instructional routines by using clear boundary markers between activities to orchestrate daily routines in a way that maximizes classroom discipline and opportunities for learning (Mendez 1992; Salomone 1992a). Content-based teachers draw extensively on their students' background knowledge to aid comprehension, and they also draw on students to help one another understand content lessons. Salomone (1992a) observed child-to-child instruction in many immersion classrooms and also noted that teachers sometimes asked students to judge whether other students' responses were correct.

Emphasizing comprehension in this way and to this extent derives in part from Krashen's (1982, 1985, 1994) theory of comprehensible input, according to which the only way for acquisition to occur is when learners are exposed to input containing structures that are a bit beyond their current competence. Krashen claimed that, when input is understood in this way, information about second language syntax is automatically available to the learner, thereby satisfying the prerequisites for its acquisition. Learners are able to understand structures they have not yet acquired because of context and extralinguistic information. Since acquisition results only from comprehensible input and not from conscious learning, according to Krashen, the role of the classroom is to

provide plenty of comprehensible input. Because of the emphasis in immersion on comprehensible input conveying subject matter, Krashen (1984) considered it to represent ideal conditions for acquisition, claiming that it may be "the most successful program ever recorded in the professional language-teaching literature" (p. 64).

Instructional techniques that ensure the comprehension of subject matter taught through the medium of the students' second language are at the core of content-based approaches and are requisite for students' academic success. The notion that learners can and should be exposed to language just ahead of their current level of ability, rather than exposed only to language they already know, is essential to immersion and content-based instruction. However, the limits of an exclusively comprehension-based approach to language instruction are now well known, especially in the long-run and for learners aspiring to reach beyond beginner-levels of proficiency and to develop literacy skills in the target language (e.g., Lightbown, Halter, White, & Horst 2002). That is, the continued use of strategies that rely too much on gestures and other visual and non-linguistic support may, over time, have negative effects on the development of students' communicative ability in the second language. Such strategies are unlikely to make the kinds of increasing demands on the learners' language system that Genesee (1987) suggested are necessary for continuous second language learning. For example, Swain (1985) argued that exposure to extensive input via subject-matter instruction engages comprehension strategies that enable students to process language semantically but not necessarily syntactically, allowing them to bypass structural information and to rely instead on pragmatic and situational cues. A helpful example of this was provided by Cameron (2001:40):

> Children listening to a story told in the foreign language from a book with pictures will understand and construct the gist, or outline meaning, of the story in their minds. Although the story may be told in the foreign language, the mental processing does not need to use the foreign language, and may be carried out in the first language or in some language-independent way, using what psychologists call 'mentalese'.

Learners are able to bypass syntax in comprehension of a second language because they can draw instead on "vastly greater stores of schematic and contextual knowledge" (Skehan 1998:26).

Furthermore, although obviously crucial in content-based instruction, instructional techniques that ensure comprehension of subject matter delivered through a second language may be overused at the expense of techniques aimed

at developing students' production skills. Weber and Tardif (1991) found that teachers of immersion kindergarten classes used the target language to provide routine cues to encourage participation in classroom rituals but, as expected at this level, did not require children to produce the target language. Instead, teachers tended to expect students to respond by manipulating concrete objects or performing actions such as raising hands, becoming small, curling up, and so on (Tardif 1991). Teachers used the target language also to communicate directly with individual students, focusing on communication and comprehension of the message, but again not on student production. Only in instances of formulaic modeling and vocabulary teaching did teachers expect both comprehension and production. In higher grade levels, Salomone (1992a) found that teachers used several techniques to elicit verbal rather than non-verbal responses, but that students could respond in the language of their choice, "because the language was not a priority; comprehension was" (p. 32). Clearly, teachers need ideally to provide just the right amount of support to make the input comprehensible, while being demanding enough to ensure that learners are actively engaged and learning both language and content from the interaction (Cameron 2001; see also Chapter 4).

Strategies for converting subject matter into comprehensible input represent only the tip of the iceberg in content-based instruction. Hullen and Lentz (1991), for example, argued for instructional strategies designed to reach far beyond mere language comprehension, developing instead students' interpretive skills and their ability to engage in the critical analysis of a wide range of discourse types and genres (see also Cummins 1994; see Schleppegrell, Achugar, & Orteíza 2004, for strategies implemented in high school content-based lessons to develop students' critical analysis of history texts). Netten (1991) argued for a more language-oriented immersion classroom in which teachers would employ as many verbal depictions of meaning as possible in their interactions with children rather than rely on non-verbal connections to facilitate comprehension, even with young learners in Grades 1, 2, and 3. A powerful example of young learners inferring the wrong meaning from their teacher's gestures comes from Weber and Tardif's (1991) study of immersion kindergarten classes. During the daily weather ritual, the teacher usually looked toward the window when asking, "Quel temps fait-il?" (What's the weather like outside?). Many of the children told the researchers that "quel temps fait-il" means "look outside." This came as quite a surprise to the teacher, who had assumed that her students' ability to successfully participate in the daily weather ritual was indicative of more accurate comprehension. The upside of this anecdote is that, after studying the researchers' analysis of the children's difficulty in

understanding and producing this utterance, the teacher modified the routine to make it less ambiguous and more meaningful to the children.

There is now considerable theoretical support as well as empirical evidence – much of it from immersion settings – that exposure to comprehensible input alone is insufficient for continued language growth. On the one hand, the emphasis on lexically oriented language learning in content-based instruction bodes well with learners' natural tendency to process language input primarily for meaning and content words. On the other hand, beginning and even intermediate-level learners can skip over redundant grammatical information in order to process input for comprehension, or they can partially process grammatical forms then dump them from working memory in order to free up space for processing lexical items (VanPatten 2004). Harley (1993) argued that "lexically-oriented learning can be seen to be well tuned to the task demands of subject-matter learning where the most pressing need is for global comprehension and for the expression of meaning in context" (p. 62). At the same time, however, "less salient morphosyntactic features of the target system, incongruent with the first language and/or not crucial for comprehension or for getting meaning across may fail to become intake" (Harley 1993:62).

2. Awareness

The need for learners to notice target features in the input, in order to process them as intake, is a crucial first step in second language learning (Schmidt 1990). In order for input to become intake, some degree of noticing must occur, and what gets noticed in the input depends on mediating factors such as prior knowledge and skill, task demands, frequency, and perceptual salience (Gass 1988; Schmidt 1990, 1994). Skehan's (1998) information-processing model identifies conscious awareness of rule-based representations as a key factor in interlanguage development. In his model, noticing plays a central role in converting input to intake during input processing, and is triggered by input qualities such as frequency and salience and by input features that have been contrived for instructional purposes (e.g., typographical enhancement).

Swain (1988, 1996) argued accordingly that content teaching needs to be manipulated and complemented in ways that maximize second language learning, and suggested that, to do so, teachers need to draw students' attention to specific form/meaning mappings by creating contrived contexts that allow students to notice second language features in their full functional range (see also Harley & Swain 1984). However, a basic premise of the information-processing

approach to second language learning and use is that learners can devote only so much attention to the various components of complex tasks at one time (McLaughlin & Heredia 1996). Even adult second language learners do not focus on form and meaning simultaneously as they process ambient input (VanPatten 1990). Within meaning-focused contexts, such as content-based classrooms, then, is it reasonable to expect young learners to engage with subject matter and, at the same time, to attend to target forms that are redundant and unnecessary for comprehension?

In the case of young immersion students, it would seem to be the case that they are well equipped for such a challenge. Lambert and Tucker (1972) in their seminal research found that young immersion students developed a "children's version of contrastive linguistics that helps them immeasurably to build vocabulary and to comprehend complex linguistic functions" as well as a linguistic "detective" capacity: "an attentive, patient, inductive concern with words, meanings, and linguistic regularities" (p. 208). Similarly, even the immersion kindergarten children interviewed by Weber and Tardif (1991) enthusiastically volunteered word-for-word translation information, saying, for example, "*les ciseaux* means 'scissors' and *vert* means 'green'" or "*toilette* means 'bathroom' you know." Weber and Tardif interpreted these unsolicited statements as expressions of "genuine delight in a recent discovery that they wished to share," and noted "a sense of pride or joy in their voices as they explained what individual French words meant" (p. 929). With respect to instructional discourse, one of the few strategies used by all immersion teachers observed by Day and Shapson (1996) was "playfulness and experimentation about language" (p. 82), ranging from good-natured reminders about first language interference ("anglicisms") to playing with words and punning. "Because playing with language entails bringing forth language as the object of attention," Day and Shapson (1996) concluded, "perhaps the theme of 'playfulness' could be used by teachers to think about the kinds of things they do to promote language in the classroom, including, but going well beyond, the proverbial classroom language games" (p. 82; see Broner & Tarone 2002, for examples of language play by children in Spanish immersion classrooms).

Since the groundbreaking work of Peal and Lambert (1962), bilingualism has gained the good reputation it deserves as a source of intellectual advantages, even for young children, including greater mental flexibility and greater ability for abstract thinking. Cummins and Swain (1986) reported on various studies of bilingualism showing positive correlations between bilingualism and greater awareness of linguistic operations, arbitrariness in word-referent relationships, and feedback cues (see also Bialystok 2001). Important to mention,

however, is that these advantages apply to bilinguals who achieve relatively high threshold levels in both languages. According to Cummins' (2000) threshold hypothesis, aspects of bilingualism that might positively influence cognitive growth and metalinguistic development are unlikely to come into effect until children have attained a certain minimum or threshold level of proficiency in the target language. One can thus expect students' metalinguistic awareness to develop gradually and to become increasingly deployable as they advance through their content-based program.

The extent to which metalinguistic awareness actually contributes to a learner's underlying system of implicit knowledge over time, improving spontaneous language production, is still open to considerable debate. White and Ranta (2002) presented an excellent summary of the wide range of positions that researchers have posited to exist between metalinguistic performance and oral production. In their own empirical study of the use of possessive determiners by intensive ESL learners in Grade 6, they demonstrated a relationship between the students' performance on metalinguistic tasks and their performance in spontaneous oral production. White and Ranta cautioned, however, that similar results might not necessarily obtain with other target features nor in other instructional settings. While there might not always be a direct relationship between metalinguistic awareness and its influence during online production, it is argued here that, in the case of immersion and content-based classrooms, metalinguistic awareness has the potential to serve students as an indispensable tool for extracting linguistic information from meaning-oriented input and thus for learning language through subject-matter instruction. That is, young learners in content-based classrooms will benefit from the inclusion of age-appropriate noticing and awareness activities that enable them to draw on their linguistic sensitivity in a way that primes them for the kind of implicit analysis of naturalistic input they need to engage in to drive their interlanguage development forward (see Ranta 2002; Skehan 1998). Moreover, because young learners in immersion classrooms rely heavily on the use of formulaic chunks in their early production (e.g., Weber & Tardif 1991), teachers can exploit their students' emerging metalinguistic awareness to engage increasingly over time in analyses of formulaic items as a means of developing a more generative rule-based system. The intent, of course, is not to overload young learners with metalinguistic information, because this would be at odds with the overall content-based approach.

Teachers in immersion and content-based classrooms can draw on the incipient metalinguistic awareness that accompanies their students' burgeoning bilingualism as a means of priming them to notice target features in the mainly

content-based input. At least two phases are required for learners to notice target features in a manner robust enough to make the forms available as intake: a noticing phase and an awareness phase. Rather than distinguishing noticing from awareness, Ellis (2002) referred to two different types of awareness: (a) awareness of formal properties of the target language that are consciously noticed, and (b) awareness in the sense of developing an explicit representation of the target form (see also Schmidt 1990). In order to depict a range of tasks that can be designed to make forms appear more salient, a distinction is made in this book between *noticing* activities and *awareness* activities, parallel with Ellis's characterization of two types of awareness, but with a disclaimer to acknowledge that, in practice, the distinction is not entirely categorical. Generally speaking, learners engage primarily in receptive processing during noticing activities, which serve to move the learner towards more target-like representations of the second language. Learners engage either receptively or productively, or both, in awareness activities, which serve to consolidate the cognitive restructuring of rule-based declarative representations. Noticing and awareness activities together comprise what Leow (2007) referred to as receptive practice, which aims "to promote robust input processing leading to subsequent internalization of the linguistic data in the input" (p. 21). They entail what VanPatten (1996) called structured input: "activities in which learners are given the opportunity to process form in the input in a 'controlled' situation so that better form-meaning connections might happen compared with what might happen in less controlled situations" (p. 60). Such activities serve to initiate the transition from implicit to explicit knowledge of the target language (Bialystok 1994) and to anchor it solidly in students' consciousness to ensure easy access during language use (DeKeyser 1998).

Noticing activities serve as catalysts for drawing learners' attention to problematic target features that have been contrived to appear more salient and/or frequent in oral and written input. Various ways of making target forms more salient in the input and, therefore, more readily noticed by learners were proposed by Sharwood Smith (1993) under the rubric of "input enhancement." In the case of written input, input enhancement includes typographical enhancement such as colour coding or boldfacing, and, in the case of oral input, intonational stress and gestures. Awareness activities require learners to do more than merely notice enhanced forms in the input and instead to engage in some degree of elaboration (Sharwood Smith 1981, 1993). Such elaboration may include inductive rule-discovery tasks and opportunities to compare and contrast language patterns, followed by different types of metalinguistic information. In some cases, the contrasted patterns may entail differences between

the first and second language. For example, a technique used by the immersion teachers observed by Day and Shapson (1996) was the exploitation of their students' first language knowledge as a resource for using the target language. In classroom settings where learners share the same first language, several studies confirm that they use their first language to complete collaborative tasks, inciting some researchers to explore the benefits of using and/or referring to the first language in second language learning and teaching (e.g., Cook 2001; DiCamilla & Anton 1997; Swain & Lapkin 2000; Turnbull 2001; Turnbull & Arnett 2002). Although focusing on differences between the first and second language has not been standard practice in immersion classrooms, Harley (1993:250) argued that "teacher-guided cross-lingual comparisons could help clarify some second language distinctions for immersion students, especially where partial similarities have encouraged an assumption of complete identity between first and second language items" (see also Spada & Lightbown 1999; Spada et al. 2005).

Noticing activities involving input enhancement alone are insufficient without follow-up awareness activities that include rule-discovery tasks or the provision of metalinguistic information. In her study of the effects of typographical input enhancement on the acquisition of possessive determiners by francophone learners of English in Grade 6, White (1998) concluded that students would have benefited from more explicit information than that made available through enhanced input alone. In a subsequent study by Spada et al. (2005), students provided with metalinguistic information in the form of a "rule of thumb" about possessive determiners indeed performed better. Similarly, in her study of the effects of instruction on the acquisition of past tenses, Harley (1989) concluded that students would have made more significant progress had they been provided with metalinguistic information about the formal properties of the two tenses.

The instructional treatments in the intervention studies designed by Day and Shapson (1991), Harley (1989, 1998), Lyster (1994a, 2004a), and Wright (1996) used a range of noticing and awareness activities to promote the perception of problematic target features in a variety of genres including curriculum materials, legends, letters, invitations, novels, songs, rhyming verses, games, crossword puzzles, and word searches. For example, in Harley's (1989) study of the effects of instruction on the acquisition by Grade 6 immersion students of perfective and imperfective past tenses in French, students began by reading a traditional legend about were-wolves. The legend had been enhanced in the sense that past tense forms occurred frequently and the functional distinctions between the two tenses were made salient by the narrative. Then students were asked to identify the two different past tenses in the text and,

based on the narrative, to infer the different functions of each tense. In yet another activity, students were asked to compare several pairs of pictures, the first depicting a completed action and the second depicting an incomplete action, labelled appropriately (e.g., *The pilot was opening his parachute* vs. *The pilot had opened his parachute*). Students were then asked to create and illustrate their own sentences to contrast completed and incomplete actions, labelling them appropriately. In Wright's (1996) instructional treatment targeting verbs of motion with student in Grade 4/5, the teacher read aloud to students a series of short books each replete with target verbs. After each book, the teacher explicitly drew students' attention to the target verbs by means of a chart and initiated discussion of their precise meanings and possible occurrence with prepositions. The teacher also pointed out to students their tendency to use a high-coverage verb plus a prepositional phrase rather than one of the target verbs. After writing on the blackboard what students typically say (e.g., *Il va en bas de la colline*), the teacher elicited from students the more target-like use of '*Il descend la colline*'. In addition to various follow-up exercises and in order to create a more meaningful context for students to notice the target verbs, a game was played during several physical education lessons in which students adopted the roles of predators and prey. Explanations of the role of the animals and the rules of the game were replete with target verbs.

In Lyster (1994a), the instructional materials designed to improve students' sociolinguistic competence consisted of noticing activities that required students to classify utterances as either formal or informal. The awareness tasks then required them to contrast the language items that actually make utterances either formal or informal. Students were first asked to notice these contrasts in their first language, using examples adapted from Astley and Hawkins (1985). Various ways of greeting and leave-taking, as well as introducing people, were then presented in their second language, and students were asked to identify, with justification, the level of formality of each utterance. In addition, students compared formal and informal versions of letters and invitations to identify stylistically appropriate target language features. Activities were also designed around dialogues extracted from a novel that required students to notice and then explain differences in second-person pronominal reference. This awareness task was ranked the highest by students for its relevance and applicability (Lyster 1998e), pointing to the potential for using literature (i.e., dialogues from plays and novels) as an effective means for increasing students' awareness of sociolinguistic variation. Students were also asked to reflect on the way they themselves use second-person pronouns with their current and

past immersion teachers, and to imagine, if they were francophone, how they would address their friends' parents and other teachers in the school.

In Harley's (1998) study with Grade 2 immersion students learning about grammatical gender, noticing activities required students to attend to the co-occurrence of nouns with gender-specific articles on identification labels displayed around the classroom. Several listening activities were designed to provide students with opportunities to listen for articles and noun endings. For example, in games such as 'Simon Says' students stood up or touched their toes when they heard nouns with masculine endings and squatted or touched their head when they heard feminine endings. Students were read a Halloween story and, on the second reading, were asked to listen for and identify masculine and feminine words. Similarly, while listening to a recorded song, they were asked to listen for words with a particular ending. Crossword puzzles and word searches provided further opportunities for students to notice target nouns with characteristic masculine or feminine endings. Awareness activities required students each to create their own gender-specific dictionary, to which they added new target vocabulary from each week's activities. They also completed various exercises requiring them to match rhyming words to which they then assigned gender-specific determiners. A game of 'Concentration' was created so that students had to match pictures of nouns that had same-sounding endings. The game evolved each week to include new vocabulary and new sets of target endings. For further practice in associating nouns with grammatical gender, the game 'I Spy' was played so that the student giving the clues had to say whether the word was masculine or feminine.

Harley found that the most successful activities were those most closely associated with themes that teachers were emphasizing in their regular curriculum. More difficult was exposing young learners to lots of new vocabulary unrelated to the curriculum. In particular, the words used in the various games that focused on noun endings were formally but not semantically linked, and this was found to be problematic in the theme-based Grade 2 curriculum. To overcome this problem in grammatical gender activities for Grade 5 students in Lyster's (2004a) study, the form-focused instructional activities were embedded in the children's regular curriculum materials, which integrated language arts, history, and science into monthly dossiers. To accompany the dossier for the month of February, the research team created a student workbook that contained simplified versions of texts found in the regular curriculum materials, in which noticing activities were embedded for the purpose of drawing students' attention to noun endings as predictors of grammatical gender. The endings of target nouns had been highlighted in bold and students were asked to fill

in the missing definite or indefinite article before each noun. The first set of activities revolved around the founding of Quebec City, as illustrated by the following extract:

> *Québec ressemblait de plus en plus à _____ vrai village, doté notamment de _____ deuxième habitation de Champlain, d' _____ chapelle, d' _____ magasin et d'autres bâtiments. Sur _____ plateau au-dessus du cap Diamant, il y avait un fort, quelques maisons et _____ petite église avec son presbytère.*

Students had to classify target nouns according to their endings and to indicate whether nouns with these endings were masculine or feminine. This format was repeated with texts about the founding of Montreal and Trois-Rivières, and yet again in a True/False exercise about the founding of all three colonies. Students were then given a list of new nouns, which had not appeared in any previous exercises, and were asked to indicate the grammatical gender of each, by adding the right article, based on what they had noticed in previous activities, and then to suggest rules for determining the gender of these nouns. Similar exercises ensued, so there was considerable repetitiveness inherent in these activities although they were always related to the students' subject-matter instruction.

Students were also exposed to songs and rhyming verses to draw their attention to noun endings and the role they play in gender attribution. The following verse is extracted from a fanciful poem that was used as a springboard for students, first, to infer that nouns ending in *-ine* are feminine and, second, to create their own rhyming verses:

> *Dans ma maison, au fond de la cuisine,*
> *Il se trouve une chose, une drôle de machine.*
> *Un peu comme un bol mais moins grosse qu'une piscine,*
> *On y mélange plein de choses, toujours avec de la farine.*

To help students create their own rhyming verses, a set of laminated posters, one for each targeted noun ending and each listing many high-frequency nouns with that particular ending, had been placed around each classroom to serve as a quick reference for students throughout the instructional unit. In addition, the teachers provided feedback to further increase their students' awareness of gender attribution in their oral production; the effects of the different feedback treatments will be revisited in Chapter 4.

3. Production

Student production in the target language becomes increasingly important in content-based instruction as students interact with teachers, with peers, and with the content itself. Allen et al. (1990) found that opportunities for sustained talk by students, however, were infrequent in immersion classrooms (see also Genesee 1991). Fewer than 15% of student turns in the second language were more than a clause in length and this represented a considerably smaller proportion of the sustained speech observed during the portion of the day devoted to instruction in the students' first language. Swain (1988) concluded accordingly that typical content teaching does not provide extensive opportunities for student production. In light of (a) the input-based instructional approach associated with content teaching, (b) observations of minimal production by students, and (c) their low levels of grammatical competence, Swain (1993) proposed the output hypothesis: "Through producing language, either spoken or written, language acquisition/learning may occur" (p. 159). Although Krashen (1994, 1998) has maintained his position that language production plays no role in language acquisition, extensive use of the second language as a means of developing second language proficiency resonates well with many language teachers. In fact, Salomone (1992a) and Day and Shapson (1996) both reported having observed considerably more opportunities for immersion students to engage in extended language production than the minimal amount reported by Allen et al. (1990).

The output hypothesis is compatible with skill acquisition theory, which attributes an important role to practice. Opportunity for practice as a means of developing fluency, however, is only one of the roles attributed to output by Swain (1993, 1995), who identified three others. First, output pushes learners to move from semantic processing to syntactic processing and, as a result, to notice what they do not know or know only partially. When learners notice a gap between what they need to say and what they know how to say, they can respond in one of three ways: (a) ignore the gap; (b) identify the gap and pay attention to relevant input; or (c) search their own linguistic knowledge for information that might help close the gap by generating new knowledge or consolidating existing knowledge. Second, output has a metalinguistic function that enables learners to use language in order to reflect on language. Third, as learners stretch their interlanguage to meet communicative needs, they use output as a way of testing hypotheses about new language forms and structures (see also Pica, Holliday, Lewis, & Morgenthaler 1989). During interaction with others, learners modify their output, and more specifically through ex-

ternal feedback provided by teachers or peers (or through internal feedback), learners are able to "reprocess" their output in ways that reveal the "leading edge" of their interlanguage (Swain 1995: 131; see Swain 2005, for a summary of research related to the output hypothesis).

3.1 Content-based tasks

Content-based instruction is thought to provide ideal contexts for second language learning to occur naturally, because of the countless opportunities for authentic and purposeful use of the target language generated by the study of subject matter (Snow et al. 1989). Genesee (1987) argued that the academic curriculum stimulates language development by placing increasingly high levels of cognitive and linguistic demands on students. He proposed academic (i.e., content-based) tasks themselves, rather than a language-based syllabus, as a basis for stimulating second language development, but added that "maximum language learning in immersion will probably result only to the extent that the curriculum exploits opportunities for discourse in the service of academic achievement." He proposed a process approach to second language pedagogy whereby "certain interactional processes of a discoursal nature," hypothesized to contribute to language development, are instantiated in academic tasks, which in turn govern the actual units of language to be learned: "It follows that second language learning will then proceed in response to the communication demands of academic work, given certain motivational conditions" (p. 176).

The argument that second language development will be driven primarily by the discourse in which students need to engage to complete academic tasks is premised on the theoretical assumption that communicative language ability is acquired through purposeful communication. Not accounted for, however, are research findings that have documented the ineffectiveness of immersion for promoting levels of accuracy that match its success in developing fluency (Wesche & Skehan 2002). One solution is to incorporate Cummins' (1981, 1986, 2000) well-known developmental framework as a guideline for sequencing academic tasks in a way that increasingly makes them more cognitively demanding and, at the same time, more context-reduced in order to push students to extend their linguistic resources.

As seen in Figure 1, Cummins' framework accounts for a range of contextual support and different degrees of cognitive involvement as students engage in academic tasks. At the context-embedded end of the communication continuum, a wide range of meaningful interpersonal and paralinguistic cues provide

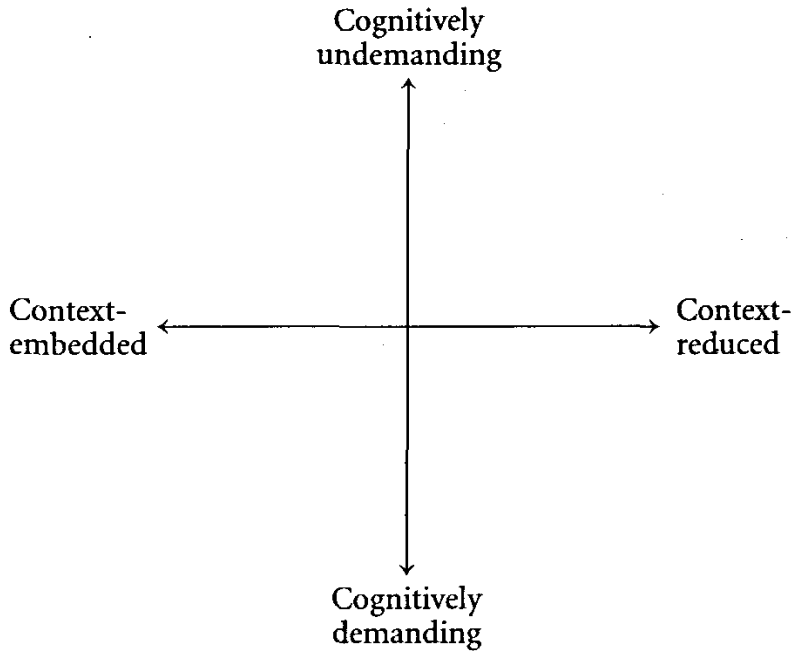

Figure 1. Range of contextual support and degree of cognitive involvement in academic tasks (Cummins 2000:68)

students with the support necessary for them to successfully complete a task. At the other end of the continuum, to participate in context-reduced communication, students need to rely primarily on linguistic cues to meaning, and thus successful completion of the task is contingent on students' engagement with language itself. The vertical axis in Cummins' model refers to the cognitive load required for task completion. At one end of the spectrum, cognitively undemanding tasks are those in which the linguistic tools have become largely automatized and, thus, require little active cognitive involvement for task completion. At the other end, cognitively demanding tasks are those in which the linguistic tools have not become automatized and, thus, require active cognitive involvement for successful task completion. Cummins (2000:69) argued that, as students progress through the grades, "they are increasingly required to manipulate language in cognitively demanding and context-reduced situations that differ significantly from everyday conversational interactions." See Cloud et al. (2000:127) for excellent ideas on how to vary strategies for teaching content in accordance with increasing levels of second language proficiency across grade levels.

In much current SLA research, task-based instruction has increasingly gained popularity as a theoretically sound way of organizing communicative language teaching (Bygate, Skehan, & Swain 2001; Ellis 2003; Skehan 1998; Willis 1996). A commonly accepted definition of a task is that (a) meaning

is primary, (b) there is a goal to work towards or a communication problem to solve, (c) there is relationship with real-world activities, and (d) assessment is in terms of outcomes (e.g., Ellis 2000; Skehan 1998; Nunan 1989). Typical tasks observed and documented by research include the following: diagramming and giving instructions about how to lay out a pegboard; picture description tasks in which one learner describes a picture to another learner who must draw the picture; jigsaw tasks in which learners construct a story by exchanging information about their own individually held pictures of the story; and various other information-gap exercises and "spot-the-difference" tasks (e.g., Pica 2000; Pica, Kanagy, & Falodun 1993; Skehan 1998). One may well wonder to what extent students actually view such tasks as related to the real world. Williams and Burden (1997) characterized tasks used in communicative language classrooms to exchange information in this way as "meaningful" but not "purposeful," because they lack educational purpose and thus fall short of empowering students. Defining task broadly as "any activity that learners engage in to further the process of learning a language" (p. 168), Williams and Burden (1997) suggested that tasks for school-age learners can be made purposeful by investing them with an educational rationale, such as the development of thinking skills, problem-solving skills, and learning how to learn. Because academic tasks undertaken in immersion and content-based classrooms typically aim to engage students with subject matter, they are invested ipso facto with educational purpose. Consider the following science and geography tasks observed by the author in Grade 8 immersion classrooms:

- To demonstrate their understanding of how geographical phenomena determine meteorological events, students were asked to create a continent, identifying its name and illustrating its geographical features on a map, which they then presented to their teacher and classmates with a detailed explanation of how the various geographical features influence the continent's overall climatic conditions.
- To apply their knowledge of the relationship between weight distribution and equilibrium, students each created a hanging mobile made of string and dowel adorned with various objects brought from home. Students weighed objects, measured distance, and used algebraic formulae to determine the exact fulcrum points in order to ensure equal weight distribution and a perfectly balanced hanging mobile.

Content-based tasks such as these are designed to create opportunities for in-depth understanding and for learning by doing. Effective content teaching is generally considered to include hands-on tasks that engage learners in expe-

riences such as these. At the same time, the creation of a mobile in science or a map of a student-designed continent in geography, with the support of concrete materials and graphic aids, are strategically designed to be cognitively demanding but context-embedded and, therefore, are unlikely to push learners to extend their productive repertoire in oral expression. These tasks fit well with what are considered best practices in content instruction as it unfolds in immersion and other content-based classrooms, but are limited if associated only with oral expression. Therefore, content-based tasks need also to include a written component designed to be context-reduced so that learners are required to use the target language for academic purposes without the contextual support that normally scaffolds oral interaction.

Tasks that emphasize oral fluency and creativity, and that vary in scope and structure to accommodate different traditions across various content areas, may provide a poor context for developing language skills (Bygate 1999; Ellis 2000). In achieving fluency by ignoring accuracy or by concentrating on a narrow repertoire of language, learners do not necessarily extend and refine their interlanguage system. Even in the tasks used in Harley's (1989) and Day and Shapson's (1991) interventions, which were specifically designed to encourage the productive use of specific target forms during oral interaction (i.e., the creation of childhood albums and the design of futuristic space colonies), target forms were avoided and superseded by spontaneous expression and the concomitant use of simplified forms. Day and Shapson (1991) observed a tendency during oral tasks for students to use the present tense as they interacted together in groups, avoiding the conditional and thereby decreasing their use of conditionals in a meaningful context. As Ellis (2000) argued, "It cannot be assumed that achieving communicative effectiveness in the performance of a task will set up the interactive conditions that promote second language acquisition" (p. 213).

3.2 Form-focused tasks

Given the difficulty inherent in implementing tasks that simultaneously focus learners' attention on both communication and form, some researchers have turned their attention to collaborative tasks designed specifically to draw learners' attention to form. A growing number of studies of learner-learner dyads in second language classrooms have shown that when learners work collaboratively to complete tasks with a linguistic focus they engage in "meta-talk" in which they "use language to reflect on language use" (Swain 1998:68). For example, Kowal and Swain (1994) presented a study of Grade 8 French immer-

sion students working in pairs to complete a "dictogloss" (Wajnryb 1990), a text reconstruction task designed to encourage students to reflect on their own output, and described by Kowal and Swain (1994: 10) as follows:

> a short, dense text is read to the learners at normal speed; while it is being read, students jot down familiar words and phrases; the learners work together in small groups to reconstruct the text from their shared resources; and the various versions are then analyzed and compared in a whole class setting.

Based on the interactions recorded while students worked in pairs to reconstruct their texts, Kowal and Swain proposed that the task allowed students to "notice the gap" between what they wanted to say and what they were able to say, which in turn led them to make language form the topic of their discussions as they worked collaboratively to fill the gap. Students formed hypotheses, which they tested out against the dictionary, the teacher, and each other. Kowal and Swain concluded that this type of collaborative task (a) allowed for reflection and better understanding, which led to the creation of new knowledge and the consolidation of existing knowledge, and (b) encouraged learners to move from the semantic processing dominant in comprehension to the syntactic processing needed for production. Swain and Lapkin (1998, 2001, 2002) as well investigated the use of collaborative writing tasks and their potential for encouraging immersion students to use language as a means for reflecting metalinguistically on their use of the target language. They demonstrated that students use language in this way as they complete dictogloss and jigsaw tasks. Swain and Lapkin concluded that the writing component common to both tasks was an important factor in encouraging students to focus on form. In addition, through analysis of think-aloud protocols with immersion students about their writing, Swain and Lapkin (1995) found that the students' oral output, as they thought aloud, triggered noticing and led them to attend to grammatical form, which in turn, they suggested, provided propitious opportunities for language learning to take place.

Lyster (1993, 1994b) explored collaborative jigsaw tasks as a means of integrating a focus on language in the experiential context of immersion classrooms. Jigsaw used as a collaborative learning task differs substantially from Jigsaw communication tasks, which are employed in studies of negotiation for meaning to provide a context for learners to use various conversational moves to exchange information. Jigsaw learning tasks entail *home groups* consisting of four members, each of whom also belongs to a different *expert group*. Members of each expert group specialize in a particular area of expertise, and then return to their home groups to share what they have learned (see Heller, Barker,

& Lévy 1989). In Lyster's study, a weeklong project consisting of daily tasks was designed to consolidate students' awareness of differences between formal and informal uses of French as well as between spoken and written French. The tasks were designed to enable students to discover and apply stylistic differences through a project undertaken in groups of four following the jigsaw approach to cooperative learning

The project began on Day 1 with a whole-class presentation of four texts, all conveying the same message – how to operate an audiocassette recorder – in four distinct ways: formal speech, informal speech, formal writing, and informal writing. Students were asked to guess possible contexts for each text (who is speaking to whom, where, and why?) and to describe differences in language use. Then in groups of four, which were to become the home groups in the Jigsaw, students completed exercises about different vocabulary and expressions used in the four texts. In order to form expert groups for the next activity, each member of the home group chose one of four areas of expertise: formal speech, informal speech, formal writing, or informal writing. On Day 2, students were presented a second series of four different texts expressing the same message (i.e., how to prepare chocolate mousse). After comparing the texts in their expert groups, focusing on the texts reflecting their group's expertise, students returned to their home groups to evaluate their work by referring to answers found by other experts in the home group. (The task was designed so that the evaluation of its outcomes required mutual interdependence among home-group members.) On Days 3 and 4, each home group met to work on a theme of their choice which they had to convey through formal and informal written texts and formal and informal spoken texts to be audio-recorded. On Day 5, each group made a class presentation, which, along with explanations of how each text represented a particular register, addressed the following topics: giving directions in Quebec City, presenting classroom rules, selling a car, ordering items from a department store, preparing a banana split, making microwave popcorn, and baking chocolate chip cookies. The final products aptly illustrated what Swain (1985, 1995) meant by comprehensible output: precise and appropriate uses of the second language that stretched learners to the leading edge of their interlanguage resources – without recourse to paralinguistic cues and over-reliance on all-purpose lexical items of general meaning that otherwise recur frequently in immersion students' production as they negotiate for meaning in context (Harley 1992, 1993).

Still other research has shown that during dyadic communication tasks that have not necessarily been designed to call attention to form, adult learners themselves may draw attention to language (e.g., McDonough & Mackey

2000; Williams 1999), although many studies still claim a pivotal role for teachers to intervene in timely ways that draw attention to wrong hypotheses and non-target output (Swain 1998; Williams 1999; Samuda 2001). Storch (2002) found that some types of dyads are more successful than others (see also Foster 1998; Iwashita 2001), concluding that "learners, when working in pairs, can scaffold each other's performance, yet such scaffolding is more likely to occur when pairs interact in a certain pattern: either collaborative or expert/novice" (Storch 2002: 147). Similarly, Kowal and Swain (1997) found that students in homogeneous dyads collaborated better than those in heterogeneous dyads. In addition, Naughton (2006) argued that "small group oral interaction does not necessarily yield language-learning opportunities or encourage their exploitation" (p. 171), because, depending on degrees of motivation and homogeneity across first language backgrounds, learners in small groups can engage in "interaction that is comprehensible to all, yet severely limited in terms of interlanguage development" (p. 179). Naughton found, though, that teachers are in a position to intervene to "shape patterns of interaction in an attempt to maximize the creation and exploitation of learning opportunities" and can do so through strategy training designed to encourage students to engage in meta-talk and to "reflect on their discourse in a metacognitive way" (p. 179). Ranta and Lyster (2007) argued, however, that collaborative tasks engaging learners in meta-talk characterized by some degree of metalinguistic analysis, such as those employed by Swain, Kowal, Lapkin, and Lyster, are unlikely to result in higher levels of grammatical accuracy in learners' spontaneous oral production. This is because, as posited by the theory of transfer-appropriate learning, "the expression of previous learning will be successful to the extent that the learners' psychological state existing at the time of learning matches that required at the time of expression" (Segalowitz 1997: 105). In other words, optimal conditions favouring the assimilation of second language knowledge into a learner's implicit system, and thus available in spontaneous production and not only for monitoring purposes, should ideally include processing that resembles the processing that will occur when learning is to be put to use. This brings us now to the role of production practice.

3.3 Skill acquisition through practice

> Practice gets a raw deal in the field of applied linguistics. Most laypeople simply assume that practice is a necessary condition for language learning, without giving the concept much further thought, but many applied linguists eschew the term 'practice'. For some, the word conjures up images of mind-

> numbing drills in the sweatshops of foreign language learning, while for others it means fun and games to appease students on Friday afternoon. Practice is by no means a dirty word in other domains of human endeavor, however. Parents dutifully take their kids to soccer practice, and professional athletes dutifully show up for team practice, sometimes even with recent injuries. Parents make their kids practice their piano skills at home, and the world's most famous performers of classical music often practice for many hours a day, even if it makes their fingers hurt. If even idolized, spoiled, and highly paid celebrities are willing to put up with practice, why not language learners, teachers, or researchers? (DeKeyser 2007: 1)

Notwithstanding the alleged reluctance of applied linguists to embrace practice activities as an essential component of second language instruction, researchers in immersion settings have been advocating the importance of both receptive and production practice activities for years (e.g., Harley & Swain 1984). In their observation study of immersion classrooms, Allen et al. (1990) reported that the "speech acts which occur naturally in the classroom context may provide little opportunity for students to produce the full range of target language forms" (p. 74) and recommended that teachers implement "carefully planned and guided communicative practice that will push students towards the production of comprehensible output" (p. 76). They continued:

> One form of guidance is to engage students in activities, contrived by the teacher to focus attention on potential problems, that will naturally elicit particular uses of language. Another form of guidance is to develop activities that make use of functions which would otherwise rarely be encountered in the classroom. (p. 76)

DeKeyser's (1998, 2001, 2007) work in this area, including his recent volume titled *Practicing for second language use: Perspectives from applied linguistics and cognitive psychology*, goes a long way in increasing our understanding of the role of practice in second language learning. He acknowledged much confusion about what is meant by practice, owing to its wide range of definitions: "the narrow sense of repeated narrowly-focused exercises to optimize retrieval of what one has learned, or the slightly wider sense of any kind of second language use that will encourage expansion and fine-tuning of existing knowledge, to the widest sense of any kind of contact with the second language that will improve knowledge of it at some level" (DeKeyser 2007: 289). DeKeyser (1998) broadly defined practice as "engaging in an activity with the goal of becoming better at it" (p. 50) and more specifically in reference to second language learning as "specific activities in the second language, engaged in systemati-

cally, deliberately, with the goal of developing knowledge of and skills in the second language" (DeKeyser 2007: 1). Whereas Lightbown (1985, 2000) presented convincing arguments that practice "does not make perfect," Muñoz (2007) suggested that "it does make better" (p. 229).

While the concern earlier in this chapter was with receptive practice through noticing and awareness activities, the focus here is on production practice. Cognitive theory, as outlined in Chapter 1, posits that practice is essential to skill acquisition because it provides learners with opportunities to proceduralise their declarative knowledge. In this sense, language production is part of learning rather than only an outcome (cf. Krashen 1994). An alternative view of skill acquisition is Logan's (1988) instance theory, whereby automatization involves, not the proceduralization of rule-based representations with increasingly less attention, but rather a transition from rule-based performance to memory-based performance (see DeKeyser 2001; Robinson & Ha 1993; Schmidt 1992, 2001). In this view, procedures initially deriving from rule-based representations become available as memory-based chunks, which then operate autonomously. With minimal computational demands, retrieval from the memory-based system involves more efficient processing, enables fluent performance, and is thus considered synonymous with automaticity.

To account more specifically for second language learning and variability in second language performance, still from an information-processing perspective, Skehan (1998) described a dual-coding system, which reconciles both rule-based and memory-based systems as equally important representational systems for language learners. Output processing engages the learner's memory capacity differentially through retrieval from the dual-mode system, composed of two interrelated representational systems: an analytic rule-based system and a memory-driven exemplar-based system (see also Murphy 2000). Retrieval for the purpose of production thus leads either to computed rule-based performance or memory-driven exemplar-based performance. Skehan argued that, during online communication, communicative pressure and the need for fast access will make the exemplar-based system the system of choice, thus reducing the likelihood that the compact storage and powerful generative rules of the rule-based system will be accessed to compute well-formed utterances. Skehan argued that interlanguage change is more effectively activated through the rule-based system and that conscious awareness predisposes learners towards such a rule-based perspective (see also Schmidt 1990).

These two representational systems, however, are not entirely separate; Skehan (1998) considered them to be "in constant dialectic" (p. 92), enabling

learners to engage in complementary processes of analysis and synthesis (see also Klein 1986):

> On the one hand, the learner needs to be prepared to focus on structure, and to identify pattern. On the other, the identification of pattern is, in itself, insufficient, because the fruits of such analysis need to be reintegrated and synthesized into fluent performance with the patterns concerned. . . . The analysis is necessary to enable the learner to gain generativity and flexibility, and the synthesis is necessary to enable fluency and control to be achieved. But each must be ready to be used continually during an individual's course of language development. (Skehan 1998:92)

Similarly, Ellis (2003) suggested that production might be the mechanism that connects the learner's dual systems, "enabling movement to occur from the memory-based to the rule-based system and vice-versa. If this interpretation is correct, learners may not be so reliant on input as has been generally assumed in SLA. They may be able to utilize their own internal resources, via using them in production, to both construct and complexify their interlanguages" (Ellis 2003:115).

In pedagogical terms, the dual-coding system implies two different types of production practice, both of which are beneficial, but for different purposes: controlled practice and communicative practice. The distinction between controlled and communicative practice activities parallels Ellis's (2003) distinction between *focused* production tasks (i.e., tasks that elicit specific language features) and *unfocused* production tasks (i.e., tasks designed to elicit general samples of learner language). The distinction also parallels Loschky and Bley-Vroman's (1993) distinction between *task-essentialness*, which prevents the successful completion of a task unless the elicited structure is used, and *task-naturalness*, whereby the elicited structure may arise naturally but the task can easily be completed without it. In terms of Cummins' model (see Figure 1), production practice needs to be cognitively undemanding, roughly speaking, to enable learners to focus more readily on language. Controlled practice tends to be context-reduced, while communicative practice tends to be context-embedded. At one end of the practice spectrum, controlled practice activities engage learners' awareness of rule-based representations and are thus useful for circumventing their over-reliance on communication strategies and effecting change in the interlanguage (Ranta & Lyster 2007). At the other end of the practice spectrum, communicative practice activities engage learners in more open-ended and meaning-focused tasks with fewer constraints to ensure accuracy, thus proving effective for promoting confidence and motivation to use

the second language, and for providing a safe playing field for students to try out communication strategies. Because they encourage quick access to lexicalized exemplar-based representations that facilitate spontaneous production, communicative practice activities, however, do not engage learners' language awareness to the same extent, thereby reducing the potential for changes to the interlanguage system (Skehan 1998).

Lyster (2004b) found that, in cases where the areas of linguistic difficulty were sources of persistent errors for immersion students, controlled practice was more effective than communicative practice. However, Segalowitz (2000) argued that second language fluency develops as a result of practice that has not only been extensive and repetitive, thus building automaticity, but that has also been genuinely communicative in nature and therefore transfer-appropriate. A revealing example of how difficult it is for children to transfer skills that have been automatized in a controlled production activity to a more communicative context comes to us from immersion kindergarten classrooms where Weber and Tardif (1991) reported that some children in their study had difficulty in a context of interaction to retrieve certain phrases they had learned through songs. Some children literally had to go through the song, as they enacted the accompanying gestures, in search of the appropriate second language phrase. "Each time they wanted to use the phrase, they had to start the song from the beginning even if the target phrase was at the end. One girl, moreover, could only sing, not state the phrase." The researchers concluded that songs were "helpful sources of modeling but the children seemed to require additional spoken practice in other contexts to free themselves of a dependency on gestures and rote memory" (p. 928).

To promote second language learning, therefore, practice activities, whether considered controlled or communicative, need to involve the processing of words and formulae for communicative purposes. Designing practice activities that are both controlled (in the sense of requiring use of specific target forms) and communicative in purpose, however, is no small undertaking. An excellent example of both is evident in the content-driven activities used in Doughty and Varela's (1998) classroom study, which took place in a content-based ESL science class, targeting the simple past and the conditional past in the context of science experiments. A group of 11–14-year-old students conducted a set of experiments in accordance with their regular science curriculum. To report their results accurately, they needed to use the simple past and the conditional past. For example, in one of the experiments, students were asked first to make the following prediction: "Which will go farthest across a desk when blown: a plastic cup with three pennies, one with six pennies, one with nine

pennies, or one with twelve pennies?" After completing the experiment, students produced a written lab report and were also questioned orally about their experiments. They were asked to recount the procedure they followed to complete the experiment and also to report the results, thus creating an obligatory context for use of the past tense. In addition, they were asked to recall their initial prediction (e.g., "I thought the cup with three pennies would go the farthest") as well as what the teacher had predicted, thus creating obligatory and purposeful contexts for using and re-using both the simple past and the conditional past during subject-matter lessons. What follows now is a selective summary of practice activities implemented in the aforementioned immersion classroom intervention studies, to illustrate other attempts at designing practice conditions that range from controlled to communicative.

The creation of childhood albums was a pivotal activity in the treatment materials used in Harley's (1989) study targeting perfective and imperfective past tenses. Designed with a personalized theme to motivate students to use the second language, this activity required students to describe various childhood memories, both orally and in writing along with authentic photographs, depicting either specific and completed actions or ongoing and incomplete actions in the past. Each student's album concluded with five questions about his or her past that the student was then asked by a classmate during an oral interview that was audio recorded so that other students could listen to it later. Games occurred as well in Harley's study, creating opportunities for students to practice using the imperfective past tense in appropriate contexts. For example, one student mimed an action to the whole class while another was out of the classroom. The student returning to the classroom was then asked by classmates to guess what the other student was miming (i.e., *Qu'est-ce qu'il faisait quand tu as frappé à la porte?*), thus creating an obligatory context for use of the *imparfait* (e.g., *were you brushing your teeth?* etc.).

The thematic context of the treatment materials highlighting the hypothetical meaning of the conditional in Day and Shapson's (1991) classroom study involved the planning of an imaginary space colony. The context was presented to students first via a headline appearing in a newspaper from the future: "The problem of over-population is getting worse! Some courageous pioneers are going to have to leave to establish a colony in space." Students were asked to play the role of ecologists invited by CANADESPACE to design a space station that would recreate a natural environment where 1000 space pioneers would be able to settle. This provided students with contexts for using the conditional to express possible yet uncertain outcomes in the future. In groups of four, students had to make a model of their plan and then present an oral report to the class

to describe and justify their plan. They then had to prepare a written report describing each part of the colony and its importance, as well as a newspaper article describing what life would be like for the space pioneers. Another important feature of the unit was that every lesson began with a language game or exercise that served to reinforce the functions of the conditional. In one game, to practice using (and not using) conditionals as politeness markers, students created then role-played situations in which requests were made first by an "authoritarian" person then by a courteous person. In another game, the teacher gave competing teams 10 minutes to generate as many hypothetical outcomes as possible to complete a set of clauses expressing a condition of the type "If I had a million dollars. . .." The teacher then chose one of the clauses at random and asked teams to complete it in as many ways as possible in 30 seconds. In yet another game, students had to choose the correct hypothetical outcome in a series of experiments, which they could feasibly try out at home, and then discuss reasons for their choice. A game also provided important production practice in Wright's (1996) instructional unit on verbs of motion. After students played the roles of predators and prey during physical education activities, discussion of their strategies for survival elicited the productive use of target verbs.

In Lyster's (1994a) study of the effects of instruction on immersion students' use of second-person pronouns, practice activities were implemented that required students to give directions using appropriate pronouns in various role plays. In a whole-class activity, the teacher assigned formal roles to various students who in turn had to ask individual students for directions in or around the school. The teacher began the lesson by assigning the role of President of the Parent-Teacher Association to a student who then asked a classmate, "Pouvez-vous m'indiquer où est le gymnase?" In his reply, the respondent consistently confounded *tu* and *vous* forms, but prompted by students' comments and supportive laughter, he self-corrected. He concluded his lengthy explanation (the gymnasium happened to be quite far from the classroom) hesitatingly with "*. . . et tu es là . . . vous es là . . . vous êtes là!*" which earned him a round of applause from fellow students. The next student asked by the alleged PTA president to give directions succeeded in maintaining the use of *vous* throughout, a feat that also culminated in applause from classmates. The activity proceeded as such with a considerable amount of teacher correction as well as peer correction. Students then played a game in pairs using a map of Quebec City in which they exchanged status roles in a range of formal and informal settings (e.g., "You're coming out of the Couvent des Ursulines, rue du Parloir, and an elderly lady whom you don't know asks you how to get to the Manège Militaire;" "You're walking along the Dufferin Terrace and a boy your age asks you

how to get to Dufferin Avenue"). Each student began with five tokens, and had to give to his or her partner directions appropriate to the context. If a student used *tu* in a formal context or *vous* in an informal context, and his or her partner caught the error, the student had to concede a token.

In Harley's (1998) gender study with Grade 2 children, many of the opportunities for production practice occurred during songs, riddles, and games. To play 'My Aunt's Suitcase' each student in turn added an item to a memorized list of things packed in the aunt's suitcase; items could be all masculine, all feminine, or all with a certain ending. To win at 'Bingo' students had to name the objects, using correct gender, in the winning row or column they had filled. In a board game called 'The Race', a student landing on a square had to choose a picture card and name the object along with the correct gender-specific article. For production practice in Lyster's (2004a) gender study with Grade 5 students, teachers were provided with scores of riddles on flash cards, eliciting target words either from the students' curriculum or other high-frequency lexical items, to use at any time throughout the treatment as a whole-class or small-group activity. For example, the riddle "*I divide the property of two neighbours. What am I?*" elicited the response *"une clôture"* (a fence), which needed to include the correct determiner in order to be accepted. In addition, after exposure to various rhymes and songs, students were asked to create their own rhyming verses. The most consistent opportunities for production practice in Lyster's study were created by specific types of feedback, a strategy further elaborated in Chapter 4. Given the generally rich context for language use in content-based classrooms, strategic feedback may prove to be the most efficient way of pushing learners in their output during meaning-focused interaction. As Lightbown (1998) argued, "Work on improving output is better done in the context of more interactive activities, in which the main focus is on communication, but in which the accuracy or sophistication can be improved via focus on form via feedback and learners' self-corrections" (p. 194).

4. Summary

This chapter considered a range of instructional activities that enable students to process language through content in ways that have variable effects on target language learning. Instructional techniques used by teachers to make subject matter comprehensible for students are at the core of content-based approaches, but the kinds of paralinguistic and also verbal support that teachers provide to facilitate comprehension need to be counterbalanced with efforts

to increasingly ensure that the demands placed on learners are cognitively engaging. A content-based approach with extensive exposure to comprehensible input ensures a great deal of target language learning, especially high-frequency and phonologically salient items, but needs to be complemented by proactive form-focused instruction targeting less salient target features. Moreover, typical content-based tasks requiring oral interaction tend to be cognitively demanding and context-embedded, and so need to be complemented by written tasks that are context-reduced in a way that pushes learners away from their reliance on paralinguistic support for task completion. To ensure that students are pushed to use specific target forms that are otherwise avoided or misused in oral production, typical content-based tasks need to be counterbalanced with proactive form-focused instruction. In this chapter, a proactive approach to form-focused instruction was operationalized as a balanced distribution of activities interweaving opportunities for noticing, awareness, and practice.

Noticing activities serve as effective catalysts for drawing learners' attention to problematic target features that have been contrived to appear more salient and/or frequent in oral and written input (for example, by means of typographical enhancement). Their aim is to initiate the process of analysis and to effect change towards more target-like representations of the target language. Awareness activities, which include inductive rule-discovery tasks and opportunities to compare and contrast language patterns, followed by different types of metalinguistic information, generally serve to consolidate the restructuring of rule-based declarative representations. As learners engage in production practice ranging from communicative practice to controlled practice, they are given important opportunities to proceduralise their newly analyzed knowledge of emerging forms. Production practice entails cognitively undemanding tasks that range from communicative practice at the context-embedded end of the continuum of contextual support (e.g., designing futuristic space colonies or creating childhood albums) to controlled practice at the context-reduced end of the continuum (e.g., language games, role plays, riddles). The next chapter moves away from pre-planned proactive interventions and considers reactive form-focused instruction, designed to engage learners with language in the context of teacher-student interaction.

Learning and Teaching Languages Through Content

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