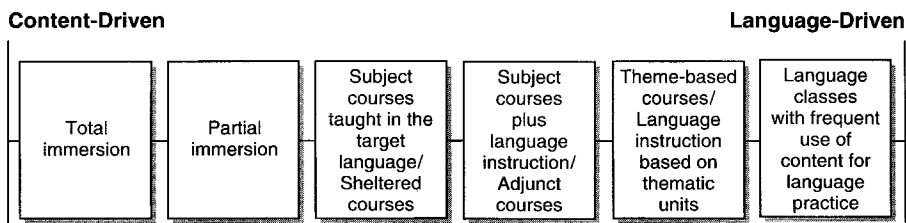The range of programs that integrate language and content learning may be described by a continuum as shown in Figure 1 (see Met 1998 for a more detailed discussion).

At one end of the continuum are *content-driven language programs*. In these programs, language is a vehicle for teaching content, with primary importance given to student mastery of content. Immersion programs, in which the school curriculum is taught through the medium of another language, are an example of content-driven programs At the other end of the continuum are *language-driven programs*. In language-driven programs, language outcomes are the primary goal of instruction, content serves as a vehicle for communicative language use, and student mastery of language, not content, is the driving force. In fact, in language-driven programs teachers are not accountable for ensuring that students master content objectives, nor are students usually evaluated in terms of content learning. Along the continuum between the extremes lie a variety of models for integrating content and language. For example, courses in which a content course is taught in conjunction with a language course may place equal value on content learning and language outcomes. In contrast, mastery of content may be of little importance to those teachers who draw on activities from various subjects primarily to help students acquire language.

The continuum can be useful in interpreting many terms that describe models of content and language integration. Sheltered courses in postsecondary Foreign Language Across the Curriculum (FLAC) programs, as described by Brinton, Snow, and Wesche (1989), lie close to the content-driven end of the continuum in that the main course objective is content—content taught using language and instructional strategies that make content accessible to learners. In the adjunct model of FLAC, a content teacher and a language teacher collaborate in the integration of language and content. Students are held accountable for developing language proficiency and for

Content-Driven   **Language-Driven**

Total immersion	Partial immersion	Subject courses taught in the target language/ Sheltered courses	Subject courses plus language instruction/ Adjunct courses	Theme-based courses/ Language instruction based on thematic units	Language classes with frequent use of content for language practice

Figure 1

Content-Based Language Teaching: A Continuum of Content and Language Integration

course content (Brinton, Snow, and Wesche 1989). The adjunct model lies at the center of the continuum, placing equal value on language and content learning, and with decisions about what is taught driven by both content and language objectives. The terms "content-enriched" and "content-related" instruction are used by Curtain and Pesola (1994) to refer to two distinct points on the continuum, one at the midpoint and the other at the language-driven end, as exemplified by the following definitions:

> Some FLES programs are "content-enriched," which means that some subject content is taught in the foreign language . . . Content-enriched FLES differs from other forms of FLES in that there is a focus on subject content instruction rather than on language instruction alone. (35)
>
> Content-related programs reinforce the curriculum and may or may not use content directly associated with the grade level of students. (149)

The first definition applies to programs in which some content is taught in the foreign language instead of in English and students are expected to learn both language and content. The second definition applies to programs that use content as a means of improving students' language proficiency, but content learning may not be a primary focus of instruction. Content-related programs use content to enhance language learning, but mastery of content is probably not the goal of instruction nor the responsibility of the language teacher.

Theme-based courses or courses built around a series of thematic units are closer to the language-driven end of the continuum, in that content serves as an organizing principle to give coherence to language to be learned and around which instructional materials are selected. At the extreme end of the continuum are language courses in which a variety of contents or themes are used to provide language practice for predetermined language units/ objectives.

Knowing where a program lies on the continuum can be useful in making curriculum decisions. If a program is content-driven, or lies on that end of the continuum, instruction must be designed to ensure opportunities for content learning. And language outcomes may be shaped by the content taught. For example, if students learn science through the target language, then the vocabulary students learn may be scientific terminology; the language functions they acquire may be tied to the discourse style of science, and the kinds of texts they encounter may be limited to expository (vs. narrative) types. In content-driven programs where language outcomes are also important, adjunct language instruction (whether a separate class or as part of content

instruction) may need to be provided in order to ensure student access to a broad range of language not likely to be encountered in content learning, such as social language or writing personal correspondence.

In language-driven programs, curriculum decisions are shaped by the outcomes for language learning, and content serves as a handmaiden to language learning. That is, decisions about which content to use, and which learning experiences to select from the range of possible content teaching activities used in that discipline, will be based on what students should be able to do with language. One may choose not to teach about the parts of a flower simply because knowing how to talk about stamens and pistils does not further the communicative goals of the language program. On the other hand, using a science lesson focused on the concept that some objects will float in water and others will not may be an excellent vehicle for practicing vocabulary related to fruits and communicating about future events.

Clearly, there are many extant models of content and language integration to draw upon in aligning current language programs so that students may use language to make connections to other disciplines and to acquire new information. In all likelihood the vast majority of foreign language teachers will be operating from the perspective of a language-driven program. That is, foreign language teachers will be seeking ways in which content can promote language learning and facilitate student acquisition of course outcomes, as well as meeting local, state, and national standards. Current language teachers will find that the current program models in which they work need not be abandoned or restructured. Rather, a new perspective on the role of content can help to reconceptualize the relationship between language learning and other disciplines.

Standard 3.1: Connect with Other Disciplines

Aligning curriculum and instruction to the National Standards will mean that students in foreign language classes will make connections with what they are learning in other classes. Readers who review the benchmarks under Standard 3.1 will observe that at every grade level there is reference to the material students are learning in other subjects and in other classes. The notion of making authentic connections with subject matter in other classes has important implications for language teachers.

Content and the School Curriculum

Many teachers have long considered the content of language courses to be language (e.g., vocabulary, grammar) and culture. Traditionally, there has

been a corpus of vocabulary common to most beginning level courses (colors, numbers, days of the week, house/home, clothing, etc.) and a common, sequenced syllabus of grammar. If the standards and schools suggest that connections be made to other disciplines, then "content" needs to go beyond the traditional course content of language instruction. That is, while one might argue that using language to teach "content" might be teaching the structure of the language or culture, content generally goes beyond these to include subject matter from other areas of the curriculum.

For students in K–12 settings, the definition of "content" may be determined by the school curriculum. Two arguments are made here for direct, synchronous links to other classes (that is, the content drawn from other subjects will be grade-level appropriate). One argument has already been offered: constructivist theory suggests that learning is strengthened when students see the connections among what they learn in the various disciplines of the curriculum. Students who study the scientific criteria for distinguishing fruits from vegetables are more likely to learn both science and language well as they make those classifications in a language class.

The other argument is that, from the viewpoint of current trends in K–12 schools, interdisciplinary connections mean making links between what is being learned currently in one class or subject and what is learned in another. Teachers and administrators who teach subjects other than foreign languages hold defined expectations of integrated curriculum. They expect language instruction—like mathematics, science, or reading—to be related to the themes or problems students are working on across disciplines. That means that language educators may be expected to relate the "content" of the content-based language program to what students are expected to study at that grade level. Further, in grades K–5 (where there never seems to be enough time to cover all the mandated curriculum), content-based FLES programs have been introduced as a way of enriching the curriculum without taking time away from the school curriculum. That is, content-based programs can teach or provide practice in aspects of the mandated curriculum. (For example, if students make bar graphs in language class to represent the number of different types of pets owned by the class, they have reinforced concepts from the mathematics curriculum.) Teachers and administrators reasonably expect that the language teacher will draw content from the school's curriculum for that grade level. In these settings, then, content is defined as the content of the mandated curriculum for disciplines other than foreign language.
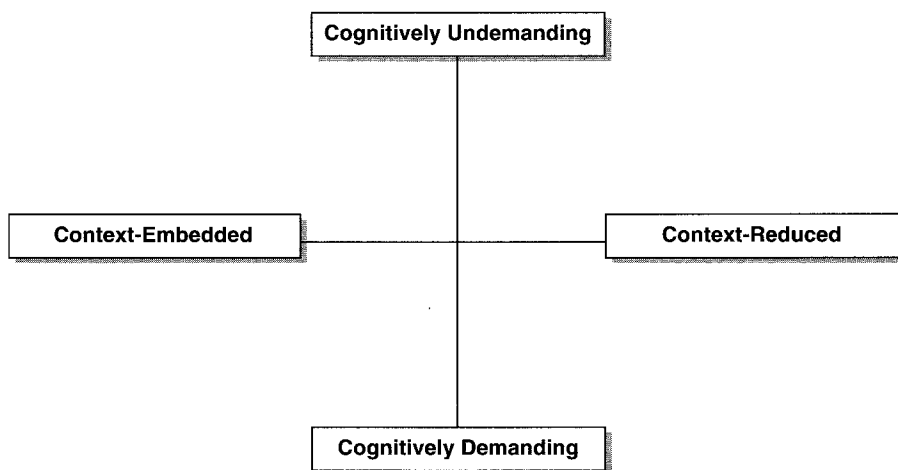
To participate in schoolwide approaches to curriculum integration does not require that language teachers take responsibility for teaching new concepts in other subjects. The language classroom can be the place where

concepts from other disciplines are reinforced and practiced; language instruction can provide review of important information, skills, and concepts taught in a recent unit. Sandrock (personal communication) has suggested that in the language classroom, review of material from the school curriculum that was learned at an earlier grade but incompletely understood or simply forgotten, can lay the groundwork for new instruction that builds on that material to be taught by subject-matter teachers.

Direct ties to the subject content of other disciplines may be easier to make in K–8 settings, and at the postsecondary level. In elementary and middle schools, where teachers usually share responsibility for a group of students, collaborative planning for an integrated language/content approach is facilitated. Similarly, in the adjunct course model often found in postsecondary FLAC programs, content and language instructors work collaboratively. Shared responsibility for a common group of students facilitates planning and implementing integrated language/content models. In contrast, in high schools, where two academic teachers may not share many students over the course of the school day, the language teacher will more likely take sole responsibility for providing opportunities for students to make connections to other disciplines.

Content Is Cognitively Engaging and Demanding

Integrating language and content strengthens the position of foreign languages in schools and universities by promoting academic rigor while simultaneously teaching a demanding set of language skills and understandings. Academic rigor means that content connections must be meaningful and authentic, not trivial. While there are good arguments for making direct links to grade-appropriate content, some teachers will want to draw on subject matter taught at other grade levels in the school curriculum. That subject matter must be intellectually engaging and demanding for students. For example, while simple arithmetic operations such as 2 + 2 = 4 are indeed in the school curriculum, carrying them out in the foreign language classroom does not represent a valid connection at every grade level. In the early elementary grades, practicing simple arithmetic operations in a foreign language can, indeed, be a legitimate connection between language and content, but it might be a very questionable connection at grade 9. Thus, deciding at which point content connections are (or are not) meaningful and legitimate is important. The question of "what is content" is even more complex in considering the abstract and complex nature of concepts adolescents are expected to learn in relationship to the limited language repertoire they have available to them.

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              │   Cognitively Undemanding    │
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│  Context-Embedded   │──────┼──────│   Context-Reduced   │
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              ┌──────────────┴───────────────┐
              │    Cognitively Demanding     │
              └──────────────────────────────┘
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Figure 2

Range of Contextual Support and Degree of Cognitive Involvement
in Communicative Activities

Source: Cummins, James. 1981. "The Role of Primary Language Development in Promoting Educational Success
for Language Minority Students," in *Schooling and Language Minority Students: A Theoretical Framework.* Los
Angeles: California State University at Los Angeles.

Cummins (1981) has suggested a useful model for thinking about the
relationship between content and the language it requires, as shown in
Figure 2.

The intersecting axes describe two important aspects of content and
language learning. On the one axis, content is seen to range from cogni-
tively demanding to cognitively undemanding. For young children, adding
$2 + 2 = 4$ is cognitively demanding; for adolescents it is cognitively unde-
manding. On the other axis, Cummins describes contexts for content
learning ranging from context-reduced to context-embedded. In context-
reduced tasks, there are few external cues to support meaning and learning
beyond the language itself. Reading about the functions of the digestive
system is a context-reduced task. In contrast, context-embedded tasks have
multiple cues to meaning beyond language itself. Such cues may be visuals
(e.g., pictures, videos, diagrams), body language, hands-on experiences, and
even knowing the context or background knowledge. Listening to a lecture
about the functions of the digestive system as the lecturer points to visual
displays and diagrams is a context-embedded learning task.

Cummins's grid is helpful in thinking about the integration of language
and content in Standard 3.1. Cognitively undemanding tasks are unlikely to

engage the interest of learners, and consequently unlikely to provoke the motivation or perseverance needed for task completion and thus learning. Therefore, "content" should be cognitively engaging and demanding for the learner. In addition, the instructional experiences teachers plan should reflect consideration of learners' language proficiency, so that abstract concepts are presented in highly context-embedded formats to learners with limited language proficiency. As learners' proficiency increases, the need for embedding multiple cues to meaning may diminish, and instructional experiences may move along the axis toward more context-reduced tasks.

What Is Content?

The definition of content proposed here rests on the principles discussed thus far. "Content" is drawn from the subjects students are studying in the school curriculum. It allows for meaningful connections that help students integrate information, skills, and concepts into the broader context of knowledge. Content is cognitively demanding—it has to be more than a "no-brainer"— and it demands a level of learner engagement with the material. It is suggested here, then, that *"content" in content-based programs represents material that is cognitively engaging and demanding for the learner, and it is material that extends beyond the target language or target culture.*

Models of Interdisciplinary Instruction

How teachers plan to make connections with other disciplines will depend on a number of factors. Most language teachers in the United States work in a language-driven program model, in which their primary focus is on language outcomes. In high schools, where most language teachers work, opportunities for collaborating with other teachers may be fewer than in elementary or middle schools. Regardless of the setting, teachers in language-driven programs can make authentic connections to other disciplines. Because their primary focus will be on enhancing language learning through content, teachers will most likely be choosing content and learning experiences from other subjects that work well for promoting language outcomes. Jacobs (1989) has suggested a continuum for curriculum integration, as shown in Figure 3.

   An important feature of this continuum is that each approach that lies along the continuum is a legitimate one for interdisciplinary instruction. Foreign language teachers may find it helpful to know that included in Jacobs's continuum of interdisciplinary instruction is the individual teacher, who reaches out to other subject areas, incorporating relevant connections into his