

# Integrating language and content: issues to consider

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*Aurkezpen honetan, besteak beste, hurrengo gai hauek aztertzen dira, hizkuntza eta edukia irakaskuntzaren maila ezberdinetan egokiro integratzea lortzeko helburuarekin: Zelan integratu dira USAn eta beste leku batzuetan hizkuntza eta edukia? Zein faktorek dute eragina edukian funtsaturiko hizkuntzen irakaskuntzako kurso edo programen diseinuan? Zein betebeharrak du dauden programetan hizkuntza bat irakaskuntza berak? Zer jakin behar dute eta zer egiteko gai izan behar dute H2-ko edukin-irakasleek?*

*Giltz-Hltzak: Hizkuntza. Edukia integrazioa. Eragina duten faktoreak. irakaslegoaren prestaketa eta planifikazioa.*

*En esta presentación se examinan, entre otros, los siguientes puntos con el fin de lograr una correcta integración de la lengua y el contenido en los diferentes niveles de enseñanza: ¿Cómo se han integrado en USA y en otros lugares lengua y contenido? ¿Qué factores influyen en el diseño de los cursos o programas de enseñanza de lenguas basados en el contenido? ¿Qué papel juega la enseñanza explícita de una lengua en los diferentes programas? ¿Qué necesitan saber y qué han de ser capaces de hacer los profesores de contenido de una L2?*

*Palabras Clave: integración lengua contenido. Factores influyentes. Preparación y planificación de profesorado.*

*Dans cette présentation on examine, parmi d'autres, les points suivants afin de réussir une correcte intégration de la langue et le contenu dans les différents niveaux d'enseignement: Comment a-t-on intégré aus États-Unis et dans d'autres lieux langue et contenu? Quels facteurs influent dans la configuration des années scolaires ou programmes d'enseignement de langues fondés sur le contenu? Quel rôle joue l'enseignement explicite d'une langue dans les différents programmes? Que doivent savoir et qu'est-ce qu'ils doivent être capables de faire les professeurs de contenu d'une L2?*

*Mots Clés: Intégration langue-contenu. Facteurs confluents. Préparation et planification des enseignants*

Content-based language teaching is an approach to language education that involves using a second language to learn or practice content. In most instances, content is defined as material that is generally different from the traditional course material of language programs. As such, many content-based programs use the second language as the medium for learning the content of specific courses (such as mathematics, science, art, or social sciences). Content-based teaching shifts the focus from language as course content to language as the medium of instruction,

In this talk, I would like to examine how content and language have been integrated in a variety of language education program models. I will then consider how curriculum decisions may be made, and how decisions about which content to teach in the new language influence the language students learn. Finally, I will talk a bit about what content teachers need to know and how planning for content teaching may be done.

**MODELS OF LANGUAGE AND CONTENT INTEGRATION.**

Over the last 30 years many language educators have explored a number of approaches to integrating language and content. In this talk I will use the term 'content-based' to describe a range of language education programs that integrate content. Approaches to integrating language and content reflect a continuum that allows for a range of models, as may be seen in figure 1.

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

Content - Driven			Language - Driven		
			Subject courses plus language classes/ instruction	Language classes based on thematic units	Language classes with frequent use of content for language practice
Total Immersion	Partial Immersion	Subject Courses			

At one end of the continuum are content-driven language programs. In these programs, content is taught primarily or exclusively through the medium of the second language, and student mastery of content may share equal importance with the development of language proficiency. Content-driven language programs are perhaps best reflected by immersion program models. In total immersion, the school curriculum is taught entirely through the medium of a language that is new to the student, although after several years the use of target language may be gradually reduced to 50% of the school day. Partial immersion programs provide half the school day in the first language, and half in the second language from the outset. Less time-intensive models of content-driven language instruction are programs in which one (or more) subjects may be taught exclusively through the foreign language, such as content-based

programs of English as a third language. In a few programs in the U.S., for example, students learn science only in the foreign language, and, conversely, the language curriculum consists solely of teaching the second language through science. In fact, in many content-driven programs, there may be very little explicit language instruction or even none at all. In these programs, it is assumed that language develops naturally out of content instruction. It is often also assumed that students' language skills improve through reading, writing, and discussion tasks that require academic language proficiency for successful performance.

Towards the middle of the continuum are program models that combine content courses with language courses. For example, students may learn one or two subjects in the target language. In addition they may also attend a language class.

At the other end of the continuum of content-based language programs are language-driven content programs. In these programs, students learn language as a subject at designated times devoted to language instruction (typically several hours per week). Examples here could be the content-based teaching of Basque in Model A, Spanish in Model D, or English as a third language.

In language-driven courses, language instruction is the focus. Content serves as an effective vehicle for communicative language experiences. The course may be organized around thematic units that integrate material from a variety of subject disciplines, or around a single discipline. Furthest along the continuum of content and language integration are language classes in which skills are practiced through activities drawn from subject matter or other content. In these classes subject matter concepts that have already been taught in the first language may be enriched or extended, but new content concepts are usually not introduced in the language class.

In the discussions that follow I hope to show how differences between content-driven and language-driven programs affect how curriculum developers make decisions about content outcomes and language outcomes. How we determine the relationship between content and language may strongly influence decisions about which content to teach in the second language. And, as we will see, the language skills students acquire are directly linked to the content that is taught. These curriculum decisions are critical in ensuring that students achieve the objectives of the language education program.

In designing curriculum for content-based language programs, language educators must select the content to be taught through the target language. For example, in the partial immersion programs I have worked with in the U.S., just as here in Model B in the Basque region, program planners must select which subjects to teach in which language. Two major factors can affect the long term results of their decisions. One is the language proficiency of the learner. The other is the match between the desired language outcomes and the language that results from the content selected. We will consider each of these factors in turn.

## HOW LANGUAGE PROFICIENCY INFLUENCES THE SELECTION OF CONTENT

It is certainly obvious that it is difficult to teach content when the material is abstract and conceptually challenging (in a subject such as philosophy) *and* when students have minimal language proficiency, particularly if one wishes to teach content in a way that preserves the academic rigor of the discipline. This can be a significant issue in content-driven programs

where content mastery is important. For example, in immersion programs in U.S. schools, as well as in Models B and D, students who are being educated in a non-native language are expected to acquire advanced levels of academic language proficiency. In these content-driven models there may be equal importance given to student attainment of content outcomes and attainment of language outcomes. Content-based second language teaching must allow students to develop and/or apply concepts and understandings that are in keeping with general curriculum expectations.

In content-driven programs that combine content teaching with language classes such as those that fit in the center of the continuum I have described, the language curriculum can support content learning. These classes may be taught by a team of teachers, one language, one content. The curriculum for the language teacher can be determined by the language demands of the academic curriculum as identified by the content teacher. For example, in the language class students may be taught structures such as the past tense or vocabulary needed for to learn history.

In the other type of program, that is language-driven programs such as Basque or English in Model A, students learn a second language as a subject. These languages are not the principal vehicle for schooling. This type of language teaching is very common in the US. In this program model, students' language proficiency is an important consideration in choosing content. For students with limited language skills, we have found it helpful to choose content that lends itself to concrete experience. Content that relies heavily on visuals or hands-on experiences is not only easier to learn, but it also promotes language development. This is because visuals and concrete experience make input comprehensible: students are able to relate the language they hear (or read) to its referents, matching meaning with experience.

Young students are usually novice language students. However, we have found that it is not difficult to use content-based language teaching with them. For young students, language learning through concrete experiences is facilitated because their school curriculum is by its very nature concrete. In fact, for very young students the content of the school curriculum is not very different from the language curriculum. Young children learn to count from 1-10 (or higher), learn the names of the colors, days of the week, months of the year. They learn about families, homes (for people and animals), community workers. Many of these same topics are introduced in the first stages of the second language program.

Another factor to consider when choosing content is the relationship between the language proficiency of the students and their cognitive maturity or age. Content-based teaching can be challenging when the growth of students' language proficiency is dramatically outpaced by their conceptual development. For example, we have found that teaching world history to U.S. high school students can be difficult. Most U.S. students do not attain high levels of foreign language proficiency in school because most students do not begin language study before age 14. They have limited exposure to the language both in and outside school. As a result, even after several years of language study, our students find learning history in the second language can be quite a challenge.

In summary, the language proficiency of students influences curriculum decision-making. In all content-based language programs -whether content-driven or language driven-careful attention must be paid to ensure that students have or gain the language proficiencies needed to meet the demands of the content.

## HOW DECISIONS ABOUT CONTENT AFFECT LANGUAGE LEARNING

All language education programs should be guided by clear long-term goals and specific learning outcomes that students are expected to attain. Making decisions about content requires careful consideration of what students will be expected to be able to do in the second language, and how content teaching can contribute to helping students achieve the goals of the language program.

Today, most language education programs aim to prepare students to use their new language skills for the purposes and situations they are most likely to encounter outside the classroom. Here in the Basque country, for example, some or all of students' schooling may be in a second language. That language may be required for academic success, and for effective participation in the civic and economic life of the community. In addition, national curricula, along with formal examinations, may require high levels of performance in both content taught in a second language as well as in the second or third language itself. For these reasons, selecting the content to be taught in a language program is a very important decision.

In content-driven programs, such as partial immersion, Model B here in the Basque country, or English if it were to be taught through content in Model D -that is, programs in which students learn one or more subjects through the medium of a non-native language- language educators must decide which subjects are to be taught in the target language. In many content-driven programs there may be limited or no explicit language instruction in addition to the subjects taught in the content. As we will see, the language proficiencies students develop will clearly reflect the academic language (that is, the lexicon, functions, or discourse style) of the subjects they study.

As a case in point, let us consider the possibility of teaching French or German as a third language only through content in Model A or D. Or, imagine a program in the U.S. for young children in which all science instruction is in Spanish. There are indeed a few programs like this in the U.S. that I'm familiar with. In these programs, there is very little time devoted to explicit language development nor is there a curriculum that specifies second language outcomes. The language skills developed in this type of program are tied to the nature of the discipline studied-science. Some of the language skills developed through learning science in Spanish (or German) may be useful beyond the science classroom, and others restricted to it. Certain functions and lexical domains may be learned and others may not. Science has specific terminology, technical words that are used only in science. Students who learn a language solely through the study of science will likely be able to use language for hypothesizing, describing cause and effect relationships, or describing objects and their properties. Their vocabulary may be extensive when asked to describe the life cycle of a moth, to explain the difference between cumulus and nimbus clouds, or to describe the operation of a simple pulley. However, they may not be able to engage in a casual social conversation with a peer.

As is the case for science, learning mathematics in a second language will influence language learning. In many of the language -driven programs I have worked with, we have found mathematics is a good content vehicle for practicing language. But, in some respects, however, we have also found that mathematics can be limiting, particularly in the areas of reading and writing. That is, learning mathematics through oral activities and concrete, hands-on experiences may not limit language development, but eventually students are also expected to read mathematics texts and be able to explain in writing their understanding.

Reading mathematics texts is significantly different from reading other kinds of texts, such as magazines, newspapers, or narratives. Symbols are frequent and significant in mathematics texts. Unlike alphabet-based reading, symbols cannot be decoded through phonemic relationship between sound and symbol. Symbols thus constitute a sight vocabulary for mathematics readers. Reading mathematics texts also differs from reading narrative texts in that pre-reading strategies such as skimming may be counterproductive, since mathematics texts must be read carefully and thoroughly (Reehm and Long, 1996).

For older students, mathematics not only becomes more conceptually abstract and also more specialized in vocabulary and rhetorical features. For example, algebra has a distinct terminology (e.g., *knowns*, *unknowns*) and rhetorical style in the statement of problems, and might be a questionable choice for a language course taught primarily through content.

The context of the language program may also influence the degree to which a specific content limits or shapes the language proficiencies of students. For example, novice students of Spanish in the U.S. learning through science will have limited opportunities to expand their range of communicative abilities in Spanish beyond the language of the science classroom. Their ability to communicate in a range of situations, about a range of topics, or express a range of language functions may be limited to those encountered through study of science. In contrast, Basque students learning Spanish in Model D may have multiple opportunities (and motivation) to use Spanish outside the science classroom, may not be equally constrained in their language development.

While the selection of science or mathematics may, in some ways, constrain the development of diverse language functions or discourse styles, learning a second language through the social sciences may allow students to develop a wider range of language functions, structures, vocabulary, and rhetorical styles. For this reason, the content of social sciences classes (civics, history, geography, economics) may have appeal to language educators. However, this strength can also be a great drawback: to access the concepts in depth and with rigor, we have found that students need to be well beyond even the intermediate stages of language development by age 10 or so. At this age, for example, our students are expected to be able to explain (i.e., talk or write about) the motivations of the Europeans who first explored and then settled the Americas. I remember observing a class of 12 year olds who were asked to debate the merits and shortcomings of various forms of government (democracy, monarchy, oligarchy, and totalitarianism, to name a few). To debate these forms of government promoted language growth. But without a sufficient language base, students may develop an incomplete understanding of the concepts.

In summary, then, it should be clear from the preceding discussion that the content taught shapes the language that is learned, and that language proficiency affects the content that can be learned. Therefore, selecting which content, and how much content, is taught, is an important curriculum decision. When selecting content, language educators may find it useful to consider the following factors:

- *The degree to which learning the content is important.* If second language content instruction substitutes for instruction in first language, and if content learning is important, educators need to select content that is accessible in light of the language proficiencies of students.

- *The degree to which content-driven instruction is the sole or primary vehicle for the development of language skills.* If the content is the major source of language development, we have learned that it is important to select subject matter that will provide students with an opportunity to attain the range of language proficiencies they are expected to develop.
- *The extent of content-based instruction.* Our experience has shown us that the more subjects-and the greater the amount of time-spent learning content in the language, the greater the likelihood that a wider range of language skills (including social language) will develop over time. For example, we have seen that in immersion programs sufficient interactions between teachers and students (and among the students) provide for the development of language functions and vocabulary beyond those encountered in content itself.
- *The proficiency of students upon entry into the course or program.* When students enter with some degree of language proficiency, or if they have sources of language input either in other language classes or outside the classroom, then concerns about the constraints of certain subjects may be addressed. This, of course, is the situation of Spanish in Model D.

In the following section I will examine the implications of language-driven programs in which content-based teaching is supplementary to explicit language instruction, and the criteria by which choice of content/subject to teach may be made.

## PUTTING LANGUAGE OUTCOMES FIRST

As I noted before, content-based language teaching should enable students to attain the goals and language learning outcomes of the language education program. Programs are usually driven by stated curricular objectives, expected outcomes that describe what students should know and be able to do with language. These outcomes determine what teachers teach, and often, how they teach.

In most of our language-driven courses, language outcomes drive teacher decisions about what students will learn and how. In these language-driven content courses, content is used as a vehicle to provide meaningful, purposeful language experiences that are cognitively engaging and demanding. Language is the driving force in decision making, and teachers select content that allows them to achieve the desired language outcomes. The primary purpose of content activities is to enhance language performance. Content serves as a powerful mechanism for promoting communication in the new language. Content drawn from other subjects or disciplines is part of, but not the whole, language course and is in addition to language instruction. Often, the subjects taught in the non-native language are also learned by students in their first language. (Indeed, ensuring content mastery is not the responsibility of the language teacher in these courses). In selecting content for language-driven courses, we have found it helpful to consider a number of factors.

- *The match with specified language objectives.* The content should be an effective means of enabling students to attain the objectives of the language curriculum. The content selected should allow students to develop and practice targeted language skills (including reading and writing), and allow sufficient opportunities for students to communicate in the language.

- *The match with students current language proficiency* We find it helpful to look for content vehicles (units, experiences, tasks, or activities) that are commensurate with the current language proficiency of their students, yet that also provide extensive opportunities for students to stretch, expand, and refine their skills.
- *The degree of cognitive engagement and demand.* Teachers need to consider the degree to which the lesson or unit will be cognitively engaging to students. In many of our programs, it is expected that the content will both connect to subject matter taught at that grade level, and that content-based language instruction will maintain the rigor and integrity of the discipline.

Mathematics is often not considered for content teaching, but I very strongly favor it for young students aged 5-12. Mathematics provides a good example of a content that addresses the criteria just described.

Mathematics fits with language objectives. The mathematics curriculum lends itself exceedingly well to oral second language instruction because many of the objectives of entry-level language classes can be taught through basic concepts in mathematics. Mathematics concepts must be applied to real-life contexts. One cannot simply measure -one must measure something. In our language classes, novice level students may be expected to learn about classroom objects, parts of the body, or clothing. They can also apply their mathematics skills to measuring and reporting the size and weight of objects in the classroom. They can practice vocabulary for parts of the body as they calculate the ratios among the measurements of given parts of the body, like the neck and waist. They learn to describe different types of shoes as they weigh and compare the relative weights of types of footwear. Similarly, language students may learn to express food preferences or identify leisure time activities. In mathematics they learn to make and interpret graphs. Students can make graphs that depict food preferences or graph the number of books read per month by members of the class.

Mathematics fits with students' language proficiency. Mathematics concepts can be taught orally through hands-on activities and the use of concrete materials. This means that students can access the concepts even when they are functioning at novice or intermediate language levels. The accessibility of mathematics to students with limited language proficiency is considerably greater than is the accessibility of subjects such as history. History, and other subjects, are often taught through discussion, lecture, or extensive reading, requiring high levels of language proficiency.

Mathematics is cognitively engaging and demanding. For young students learning mathematics through a second language is inherently engaging and demanding. But, even older students will find mathematics-based activities a motivating approach to language practice. Few older students can sustain interest in reciting numbers from 1-100. In contrast, practicing numbers can be cognitively engaging and demanding if students are given linguistically simple but mathematically challenging tasks.

Over the years as teachers have tried to apply the criteria I have described to other potential content vehicles for language practice, we have discovered that not all topics in all disciplines are equally useful. For example, a primary grades science unit on rocks may not



have a good fit with the objectives of the language curriculum, as it may involve the development of specialized vocabulary (like igneous rocks) that is of minimal communicative usefulness outside class. Further, it may not provide sufficient opportunities for language development (such as oral interaction among students or writing practice).

On the other hand, content vehicles that work well with the language curriculum may not be obvious at first glance, particularly when teachers try to connect with the rest of the school curriculum. Sometimes it takes a great deal of thought and ingenuity to design content-based experiences that meet the criteria and thus serve the language curriculum. One of our teachers demonstrated her creativity in a unit that compared the countries of Ghana and Mexico. Her 8-year old students of Chinese made Venn diagrams to compare animals found in one or more of these countries, combining a second language unit on animals with a social science unit and mathematics. Other teachers I work with have also found creative ways of using content to enhance language skills. One teacher asked 12-year olds who were studying the geography of Africa to learn and apply the language of comparatives and superlatives as they discussed regions of Africa with greater/lesser population density, the distances between African cities and countries, and the extent of certain natural resources in selected countries. Of course, there are many, many more examples I might mention if I had time.

In summary, in the preceding discussion I have outlined the implications of decisions about the nature and selection of content for language teaching. In content-driven programs, selecting content to be taught in the second language may be relatively straightforward. This may be true in models A and D, where some students are schooled in their second language, and in immersion programs elsewhere. However, in other types of content-driven programs (such as Model B, partial immersion, or a third language content-based course), decisions about which content to use may be facilitated by considering the issues I have raised. These are:

- How important is the learning of specific content in relation to the language? If content is very important, then students must have, or they must quickly acquire, sufficient language proficiency to ensure that the rigor of course content is not diminished. This also implies that sufficient time must be available for students to gain the necessary language/content skills.
- Will the course content provide sufficient exposure to the range of language skills students require to meet their communicative needs and purposes? If not, can complementary language instruction be made available?
- Do students need the kinds of language proficiencies that this content will provide. (For example, I wonder if learning to explain and describe the human digestive system addresses the communicative needs of the learner.)?

In contrast, in language-driven courses, we have found that in designing curriculum it helps to begin by determining the communicative language outcomes of the course, and then identifying which types of content (or content experiences) can facilitate language development. In this approach, content-based courses are primarily language courses. They may draw on many disciplines. In addition, they may enrich or expand content already learned in the first language. When language learning is the more important program goal, curriculum decisions may be based upon

- the suitability of the content to the desired language outcomes;
- the accessibility of the content to the students' current language proficiency; and
- the degree of interest and academic rigor the content provides.

## TEACHER PREPARATION AND TEACHER PLANNING

Curriculum is in the hands of the teacher. Curriculum is only a paper document, and as they say, *el papel aguanta todo*. If content teaching is to be successful, teachers must be well prepared. Teaching content through the medium of a language new to students requires specialized professional knowledge, skills, and abilities. I would now like to discuss what content-based language teachers need to know and be able to do.

### Content knowledge and pedagogy

Perhaps the most obvious demand of content-based language teaching is that teachers know the content well. In my experience, most second language teachers are professionally prepared as language specialists. Just as mathematics teachers are not usually specialists in second language development, so too second language teachers are usually not specialists in mathematics. We feel strongly that subject-matter knowledge is particularly important in content-driven programs in which the second language teacher may be solely or primarily responsible for the teaching of content. While many language teachers may have sufficient content knowledge to teach in the primary grades, we find that more advanced courses can be a challenge. In addition to content knowledge, it is important for teachers to be skilled in content pedagogy. They should be well-informed of effective instructional practices and current approaches in the discipline.

### Second language acquisition and language pedagogy

All second language content teachers are language teachers. Like all language teachers, they must understand how language develops and be familiar with current pedagogical practices in language education. In many of our content-based language programs, teachers are content specialists who happen to be proficient in the second language. It will be important that they understand and be able to apply the strategies of effective language instruction. Over the years we have found that teaching content in a language in which students have limited proficiency differs significantly from teaching that same content in a student's first language. Teachers need a repertoire of strategies to ensure that students develop both content and language skills.

### Planning for instruction

In addition to requiring a broader repertoire of professional preparation in terms of knowledge and skills, second language content teachers carry out their responsibilities differently from other content teachers or other second language teachers. Perhaps most salient among the differences is in planning for instruction.

#### *Planning for content*

Planning begins with identifying what students will learn. What should they know and be able to do as a result of instruction? Once content units or objectives have been identified, we

ask teachers to think about the degree of language proficiency required to attain content objectives. Where feasible, we change the sequence of content objectives so that those that demand greater language proficiency come later in the year. This can allow time for teachers to build the required language skills over the course of the unit or year.

Just as course content can be sequenced to reflect the language proficiency required, we suggest to teachers that they sequence activities within a unit or lesson. Activities that move from the concrete to the abstract allow students to develop the requisite language skills for content by providing comprehensible input—students can match what they hear with what they see or experience.

Planning for instruction includes selection of instructional materials. In addition to hands-on materials, students will need print materials to support both content learning and language growth. We find that often materials that were written for native speakers are too difficult for second language students. Teachers need to select existing materials or develop their own that allow students to develop content knowledge and concepts but that are within the range of their language competence. Further, because reading can be a powerful tool in providing comprehensible input and in promoting language growth, teachers need to be sure that materials selected are well designed. We look for materials that are well-organized, so that headings and sub-headings provide advance organizers and allow students to anticipate meaning. Illustrations should be clear and useful; text or captions should relate directly to illustrations so that the meanings of unknown language may be reasonably deduced. Key vocabulary should be highlighted in some way so that it is salient to students, and definition through illustrations, paraphrase, or example should allow students access to meaning.

### *Planning for language growth*

In our schools, we insist that every second language content teacher is a language teacher. Every second language content lesson should result in language growth. Whether they teach in content-driven programs, such as immersion, or in language-driven content programs, it is important for second language content teachers to consider carefully language outcomes for every lesson.

Snow, Met, and Genesee (1989) have identified two types of language objectives in content lessons: content-obligatory and content-compatible. Content-obligatory objectives are easily identified—students simply cannot learn the content without them. For example, it would be difficult to discuss the causes of pollution in the environment without knowing certain vocabulary (*e.g., pollution, environment*) and ways to describe cause-and-effect relationships (*e.g., because, when...then...*). This type of language is so necessary for the learning of content that few of our teachers have trouble identifying the content-obligatory language for a unit.

Content-compatible language objectives are sometimes more challenging for teachers to identify. Content-compatible language objectives are those language skills that *might be taught* within the context of a given content lesson, but are not *required* for content mastery.

To determine content-compatible language objectives we suggest teachers turn to three sources:

One is the language curriculum. Teachers may consult the language objectives of the curriculum to identify areas where students need instruction and practice. The second source is the teacher's observation and analysis of student needs. Teachers are good judges of areas where students need further instruction and support. Their knowledge of student needs is an important source of content-compatible language objectives. For example, one teacher noted that students were having difficulty with the third person singular form of verbs. To provide meaningful practice, the teacher incorporated this grammar point in a content lesson on percents. Students calculated the amount of time their partner spends on five daily routines (attending class, doing homework, playing sports, watching TV, sleeping, etc.). Students then reported what they learned about their partner (David studies at home for 10% of the day. He sleeps...etc.)

The third source is content-obligatory language for future content lessons. It was noted above that all content requires certain language skills for successful content mastery. Teachers can anticipate the demands of future content lessons, and build into their lesson planning the development of needed language.

Second language content teachers can ensure that students develop language skills by planning as thoughtfully for language growth as they do for content mastery. This is particularly critical for teachers in content-driven language programs, where opportunities to incorporate content-compatible language objectives may be easily overlooked.

#### *Planning for assessment*

Since second language content teaching integrates language and content outcomes, teachers will need to consider how students will be assessed. If content mastery is important, as in content-driven language programs, teachers will need to decide the degree to which language and content are assessed independently of one another. Effective content teachers use a number of instructional strategies that allow students to access content despite limited language proficiency. As a result, students may acquire concepts yet be unable to verbalize their understanding well. But on the other hand, we also know that the ability to verbalize understanding of new concepts reflects a higher level of attainment. Students who can explain or discuss concepts thus demonstrate a higher level of content mastery and language proficiency. Students may be expected to take external content examinations in their first language or second language, and teacher decisions about integrating the assessment of language and content may thus reflect prevailing circumstances beyond the classroom walls. In language-driven programs where language is of primary importance, content mastery may not be considered significant when assessing students, particularly if the second language content teacher is not responsible for ensuring that students master content. Nonetheless, we believe that equitable assessment requires that teachers assess students in ways consistent with how students were taught, and suggest that language assessment reflect the content vehicles used for instruction.

#### CONCLUSION

In the decades between the explosive growth of immersion programs in North America (beginning in the mid-1960's) and the present, there has been considerable growth in the use

of content-based language teaching. In the last three decades, language educators have had opportunities to observe, experience, and explore the ramifications of content-based language programs for the development of second or third language proficiency. In this talk I have tried to draw attention to some of the issues my colleagues and I have experienced in designing curriculum for content-based programs or courses of study. These issues are related to the interactions between language learning and content learning, and the implications for teacher preparation and planning.

While much has been done, much remains before us. Experience has provided language educators with information about content-based language instruction, but information derived from research studies is limited. Experience and common sense, rather than an established research base, currently help guide decisions about which courses are most effective for second language instruction. We need to know a great deal more about the relationship between content-based teaching and other variables related to students; program models and design; teacher skills and content knowledge; and the materials available and/or used for content instruction. In particular, the role of explicit language instruction needs to be explored: not *whether* there should be direct language instruction, but rather what kind? how much? and when? And although time has not allowed me to address the issue of culture, I also believe we need to determine effective ways of ensuring that content-based language programs prepare students to communicate in culturally appropriate ways in the various contexts which they are likely encounter.

THANK YOU.

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