WORKING WITH CCBI: VOLUNTEER WORKBOOK

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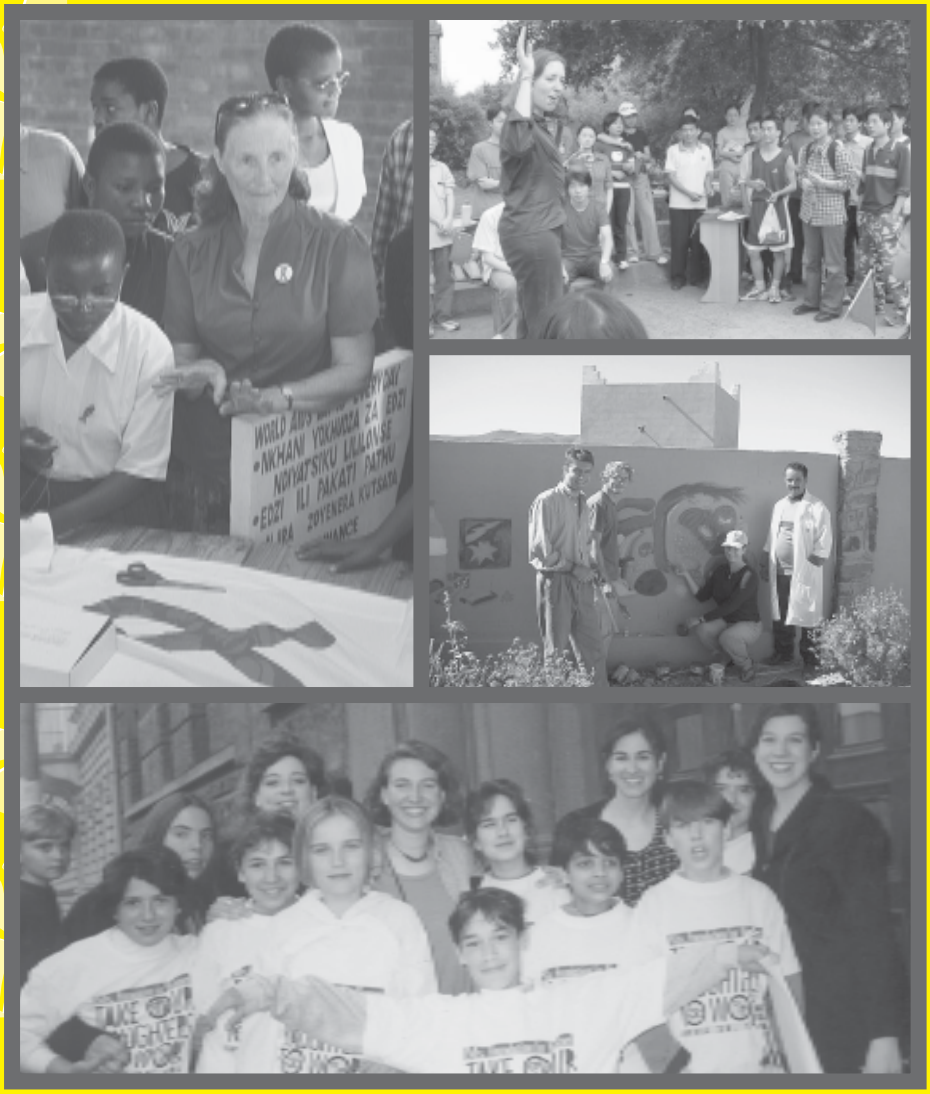

Peace Corps

ICE Number
M0073

Information Collection and Exchange
Publication No. M0073

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PEACE CORPS
2004

INFORMATION COLLECTION AND EXCHANGE
ICE #M0073

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ACKNOWLEDGMENTS

Community Content-Based Instruction grew out of several development initiatives and field needs. It began to take shape in a Gender and Public Health Education for Teachers Workshop and an In-Service Education Workshop for Volunteers and their counterparts, in the spring of 1996 in Eritrea. Since that time, the concept has been further developed and refined through efforts in the field and at headquarters.

The Peace Corps acknowledges the many persons worldwide who have contributed to the development of this important development approach. This Volunteer workbook with its companion materials and the accompanying *CCBI Manual* have had significant input from Peace Corps staff at headquarters and at several posts during field testing. Gratitude is also expressed to Bernice McCarthy to referenced ideas from her book *About Teaching: 4MAT in the Classroom*.

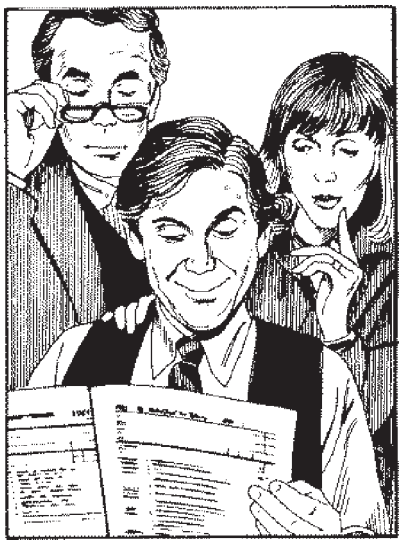
INTRODUCTION

Welcome to your personal experience with community content-based instruction—CCBI. This workbook will be your companion as you begin using CCBI.

OBJECTIVES

When you finish this section, you will be able to:

- Explain how to use this workbook.
- Describe the goals of CCBI.



ABOUT THIS WORKBOOK

This workbook is a complement to the training you receive as part of your pre-service training (PST) and in-service training (IST). Although we usually think of CCBI in the context of the classroom, this workbook can help you incorporate CCBI in your activities in any sector. It will help you:

- Become integrated into your community;
- Incorporate what you learn about your community into your regular class and community activities.

Working With CCBI is not a conventional training workbook. First of all, there might not be a Peace Corps "trainer" within miles. It's up to you to learn as much as you can. This workbook will help guide you through the learning process.

Learning with this workbook requires that you:

- Take an active part in the learning.

- Work independently or with little supervision.
- Take responsibility for learning.
- Keep track of your results.
- Be prepared to share your experiences with others.
- Learn what you need to learn.

Working With CCBI is packed with useful information and practical activities. It starts off at a basic level, assuming that you are new to your community and the local language. As you continue to use the workbook, the information and activities become more challenging.

HOW TO USE THIS WORKBOOK

This workbook is yours to keep. You can work your way through it cover to cover. You can refer to it when you're looking for inspiration or direction. It will reinforce some of what you learned in training and it will lead you in new directions. You should use this book to record your thoughts, feelings, and questions. You will have a chance to share your experiences with other Volunteers when you get together again for an IST or other event.

The workbook is full of activities that will bring you into contact with your new community. Many activities involve observing people and recording what you see. Be careful! In many cultures being watched and recorded can be very threatening. Always remember that you are an outsider (at least for a while) and only visiting. When an activity requires observing people try to be invisible. At the end of the day, take some time to reflect on what you've seen, heard, felt, and smelled, and then write it down. After a while, and depending on other circumstances, you may be able to make notes in public and take pictures.

This workbook is organized around a typical lesson plan design. Given where you are and that you are reading this workbook, you are probably pretty motivated to get started. Each section of the workbook presents you with some fundamental information and the opportunity to practice what you've just learned. The goal is for you to be able to apply what you learn to your activities in the classroom and in the community.

IN THESE TINY TOWNS IN SOUTH TEXAS, pride of place and family heritage motivate students to learn, excel—and then give back.

When The Community Is The Classroom

San Juanita Lazo—better known as "Janie"—knows what hard work is. She has spent 20-hour days in the fields every summer since she was 5, picking cabbages, leeks, cherries and other crops from Alabama to New York along side her Mexican-American migrant-worker family. But her future will be different. "I'm going to the University of Michigan," says Janie, now 16. "That's always been my favorite state."

There's little doubt that Janie will succeed in her goals thanks to her experience attending a high school in the southernmost tip of Texas where students view their backgrounds as a source of strength rather than a liability.

Ever hear of Edcouch, Elsa, or La Villa, Texas? In these tiny towns, 90% of the households have incomes of less than $10,000, and 91% of parents lack a high school diploma. Yet, in the last decade, Edcouch-Elsa High School has sent 45 students to elite colleges and universities, such as Stanford, Brown, Yale and Princeton, while 65% of graduating students go on to some form of higher education—well above national norms for Hispanic students.

More remarkable, many graduates choose to return to these towns to live, work and encourage others to achieve their goals. This commitment has been nurtured by a movement called "place-based education," which takes the history, culture, economy and ecology of a community and uses them as both a textbook and laboratory. Place-based education is not new (similar techniques were used in the '60s in Appalachia), but today communities across the nation are applying it to teach a broad range of subjects, including science, history, geography, the arts and even math (see box).

The Llano Grande Center at Edcouch-Elsa High School offers courses called "Research Methods," which qualify as social studies electives. "The community becomes the classroom," explains Francisco "Frank" Guajardo, 37, a history teacher who helped found the center. "Our students don't inherit yachts, stores or stock options, but they live in a vibrant community with a wealth of human stories."

For example, Delia Perez's students collected oral histories of World War II and the Depression from elderly residents. One woman described work in a juice-making factory; another recalled stealing a few tortillas to survive hard times. "I like my students to see history through the experiences of people they know," says Perez, 27, a Yale graduate.

Talking and writing about family and neighborhoods generates a strong desire to succeed, notes David Rice, 37, a writer-in-residence at Llano Grande—because they're doing it not just for themselves but for the whole community.

That connection is what lures graduates back home. "I always though I was one of those people who could move away and never look lack," says Angelica Tello, 24, a graduate of Emerson University who now works on the *Llano Grande Journal*. "But doing this has made me realize I wanted to be closer to the people I grew up with—and that wasn't such a bad thing."

Across the Nation

Place-based programs exist in more than 700 rural elementary and secondary schools in 33 states. Here are four examples:

- In Clinton and Jackson, LA, **students analyzed water samples from creeks to determine the flow of pollutants.**
- In Mendocino, Calif., **students restored a Chinese temple.**
- In Santa Fe, N.M., **students interviewed Pueblo tribal elders about traditional growing cycles and rural plant remedies.**
- In 18 rural schools in Vermont, **students worked with community members to solve local problems.**

BY ROSEMARY ZIBART

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In essence, this workbook is one big lesson that you take at your own pace. Each section contains:

Motivation—some thoughts that spark your interest

Information—content specific to the subject of the section

Practice—activities that help you learn

Application—incorporating what you've learned

CCBI COMPANION MATERIAL

At the end of this workbook is a collection of reference and sample documents, which includes the lesson plan we are using to model a good CCBI approach, additional sample lesson plans, a blank lesson plan that you can use as a template, and lots of useful information.

CULTURE MATTERS

CCBI creates an intimate relationship between you and the local community. To be successful, there needs to be a lot of trust. As you use CCBI activities to gather information, be careful to respect social norms. Consult with your community partners, other experienced Volunteers, and your associate Peace Corps director (APCD) if you have any questions about what is and is not acceptable to your community.

A WORD ABOUT CCBI

Content-based instruction (CBI) is a term commonly used by educators in the United States to connote a theme-based approach to teaching subject matters such as English as a second language (ESL), science, or math. Instead of using such standard phrases as "I threw the ball" to conjugate a verb in the past tense, students might work on phrases such as: "The children washed their hands every day before eating" or "I picked up the litter in the street and threw it into a trash bin."

In developing the framework for *community* content-based instruction (CCBI), "community" has been added to emphasize the need for the content and process of lessons to originate from the issues and needs found in your local community. CCBI is a natural outgrowth of the Peace Corps' approach to community development and the Volunteer's role in that process.

CCBI goes beyond making local references in the classrooms. It can inspire and inform community action. In the context of the Peace Corps' projects, CCBI is a fully participatory approach to assisting communities. CCBI:

Uses participatory techniques, such as participatory analysis for community action (PACA), to explore community assets and needs, and identify community issues;

Incorporates content themes, such as health or environment, into lessons based on needs assessments;

Implements actions, projects, or activities around the identified content that links schools with the communities; and

Provokes community-based activities, such as making and placing posters that communicate the importance of proper hand-washing, or making and installing public trash bins.

SUGGESTED ACTIVITIES

Review "Applications of CCBI" starting on page 33 of this workbook.

Start to think about how you can incorporate content-based instruction in your project areas.

If you are an education Volunteer, you may be required to follow a mandated curriculum or you may have the freedom to create your lesson plans. In any case, become familiar with your curriculum guides, lesson plans, and anything else that is already developed.

THE SUBJECT

The subject you teach will influence how you incorporate community content. In some instances you have full control over what you teach. In other instances you have to follow strict guidelines mandated by a government ministry. In either case, think of creative ways to incorporate CCBI into your lesson plans.

OBJECTIVES

- Review the sample lesson plans in the CCBI companion material.
- Create some ideas for incorporating CCBI into your lesson planning.

EDUCATION EXAMPLES

The following CCBI lessons are examples of some of the ways Volunteers have used CCBI in their community. The complete lessons are available in CCBI companion material.

Lesson Title	Community Topic	Academic Subject
1. Deforestation	Environmental resources—deforestation and loss of habitat	TEFL (with environment issues)
2. The Cost of AIDS	Health—HIV	Mathematics and/or business (with health)
3. Gender Differences in Daily Life	Girls' education	Math (with social/cultural community issues)
4. Fuels in the Community	Utilization of environmental resources	Chemistry (with cultural community issues)
5. Effective Résumé Writing	(Un)Employment	Business or English (with social/cultural community issues)
6. Rivers, Lakes, and Clean Water	Utilization of environmental resources and water supply	Geography (with local environmental issues)

(continued on page 6)

Lesson Title	Community Topic	Academic Subject
7. Preventive Health	Health and hygiene	English or biology (with local health issues)
8. Hand-washing Hygiene	Water/sanitation—hygiene	English (with health issues)
9. Taking Chances With HIV	Health—HIV	Mathematics (with health issues)
10. Myths About Thunder and Lightning	Mythology about weather	TEFL (with science issues)

OTHER EXAMPLES

Volunteers are using CCBI in projects that are not associated with classroom learning. Some examples are:

A community development Volunteer is working with a group of out-of-school youth on developing business skills for self-employment. In addition to setting up tree nurseries to generate income, the youth also are educated about the effects of deforestation. While selling the seedlings from the nursery, the youth also work on a community tree-planting campaign.

A group of women are concerned about the distance they have to travel to collect firewood. A Volunteer starts a project that teaches women how to build fuel-efficient stoves and then how to teach other women how to build the stoves.

SUGGESTED ACTIVITIES

Review the sample lessons in the CCBI companion material, paying special attention to the lessons in your subject area.

List some of the CCBI examples that you find most interesting or applicable to your circumstance.

What are some of the advantages to CCBI?

What are some of the constraints?

INFORMATION GATHERING

Very often Volunteers arrive in communities and set out to fix problems. While these intentions are good, unless the community helps determine what is and what is not a problem and helps develop the appropriate solution, the fix will likely end when the Volunteer leaves. Remember, "community" is the first C in CCBI.

OBJECTIVES

When you finish this section you will be able to:

- Describe three techniques for gathering information about your community.
- Describe which techniques you find most useful.
- Use one or more of the techniques.
- Analyze the results of your information-gathering technique and list the topics you will incorporate into your classes or other activities.

GETTING STARTED

This section will help you get to know your community and help the community get to know you. The process of community entry can take a while. Use these activities with other resources like *Culture Matters* (ICE No. T0087), *Learning Local Environmental Knowledge* (ICE No. M0071), and *A Few Minor Adjustments*. It may take some effort to appreciate the cultural differences of your community.

SUGGESTED ACTIVITIES

Here are some things you can start doing right away to introduce yourself to your community. These activities require very little language skills but do require an awareness and respect for the local culture.

Community Walks

You can learn a lot about your community and new neighbors simply by walking around and observing where different people congregate at different times during the day.

Some things to keep in mind as you walk around the community:

- Start out walking in a limited area close to where you live and gradually expand the distance.
- Respect social norms concerning where you go, whom you talk to, writing notes, and taking pictures.
- Consult with your APCD, community partners, host family, and other Volunteers for suggestions and advice.
- Be alert and careful.

Activity Centers

Where do people congregate at different times of the day? Do men and women congregate in different places? What kinds of social or business activities take place?

Make a chart with three columns for morning, afternoon, and evening. Over a couple of weeks, note who meets where and when. Determine whether the meeting is work related or strictly social. How do you know?

Neighborhood Sketch

After a week or so of walking around your neighborhood you should have a good idea of where things are. Draw your neighborhood, including the homes of other people you have met, popular gathering places, things you find interesting or beautiful, and other assets of the community like local services and institutions.

Reflective Questions

Take a few minutes to think about these questions.

- What kinds of things did you draw on your map?
- What kinds of things did you not draw on your map? Why?

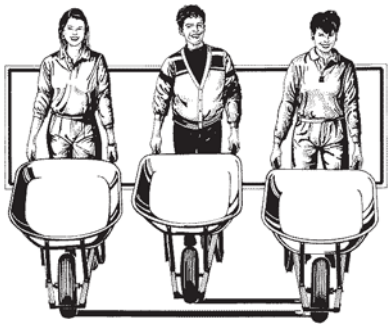
Our culture and life experience influence what we consider to be important. You can learn more about your community by asking others to map the same area. For example, does a group of boys or girls see the community in the same way? In what ways are their views similar to or different from your view? How would mothers with small children view the community? An

entrepreneur selling homemade food products on the street or at the market? Or a small business person needing to transport goods to another part of town or a different city? (Other groups of people of interest to you?)

Shadowing

Shadowing is something you can do while you're developing your language skills. Work with your community partner to identify some people you can tag along with as they perform their daily activities. Make sure your community partner explains what you are doing. Try to shadow several different people of different ages: men, women, boys, and girls, as is culturally appropriate. At the end of a shadowing experience, record your observations and experiences.

Some things to keep in mind as you shadow:



- You might want to shadow a neighbor or host family member first.
- Be sensitive to time constraints and workloads.
- If appropriate, participate.
- Ask simple questions.
- Make mental notes of what is important to different elements of the community.

At the end of the day, or when you get home, write down where you went, what tasks you observed people doing, where people tend to congregate, the textures and aromas around you, and how people spend their time at work and relaxing.

Host Family Interviews

If you are living with a host family, you can use them as a resource to learn more about the entire community. Arrange for a time to meet with individual family members or the entire family (as socially acceptable) and ask them a series of open-ended questions. You do not need to write down their responses. If you want, make mental notes on how the different family members respond and record them later. Encourage them to elaborate.

Sample Questions

Where in the community do you (the men, the women, the boys, the girls) spend most of the day?

What are some of the most important places in the community (neighborhood, town, village)?

What is your favorite holiday? Why? How is it observed?

Who are important persons in the community? Why?

What is a historic event that people still talk about? Why?

What is the community most proud of?

Other questions of interest to you.

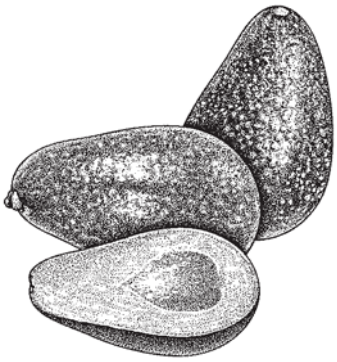
ADDITIONAL ACTIVITIES

First Impressions

What are some of your first impressions of your new community? What are some of the things that impress you?

Treasure Hunt

Try to locate these things in your community and writ a note about each of them.



- The most common flowering plant
- The places to buy the freshest food
- Where to store fresh food
- The place with the best view

List other things that you might need: personal items (needle and thread, sharp knife, shampoo), services (shoe repair, haircut, laundry), and sources of information (a radio, newspaper, an informed member of the community). Explore your community to find the necessary items. Make note of anything else that you may learn while exploring.

Relate These Activities to School

You've completed a few activities and know your community much better. Now, list some ideas and topics you might use in your lesson planning. (Hint: resource people, examples of subject matter content applications [science, languages, mathematics], topics of interest to people in the community, and so on.)

SUBJECT OBJECTIVES

Learning is a journey—hopefully a mostly pleasant journey that lasts a lifetime. Like any journey, learning has destinations and milestones. In the world of learning, a road map would be a syllabus or curriculum. The destinations and milestones are the objectives. As a teacher you are a lot like a tour guide. Your job is to help your students reach their destinations.
No matter what you are teaching—academic subjects like math or English, or vocational skills like managing a budget or building cabinets—you, and your students, need to know where you are going.

OBJECTIVES

When you complete this section you will be able to:

- Describe the role of objectives in teaching and learning.
- Write instructionally sound objectives.
- Write objectives for your subject area.

THE ROLE OF OBJECTIVES

Which statement is better?

A. Today I am going to teach you how to subtract numbers.

B. By the end of this lesson you will be able to figure out how much change you should get back after making a purchase.

Although it is hoped that you chose B without much difficulty, it wouldn't be surprising if you had a hard time choosing. Many of us are a product of the A type of learning. Remember, objectives are the learners' destinations, and you are the guide.

Instructional Design

Good instructional design does the same thing as PACA—it looks at what is and compares that to what could be. The differences between the way things are and the way we want things to be are what we work to reconcile. Once we know what's needed we can make a plan to get it. That's where objectives come in.

Good objectives tell you three things:

Learning: the skill, knowledge, attitude, or behavior the students will learn.

Observable student behavior: the observable (and perhaps measurable) thing that the students will do to show they have learned the skill, knowledge, attitude, or behavior.

Conditions: the circumstances under which the student will demonstrate the skill, knowledge, attitude, or behavior.

Examples:

Given a 10-question multiple-choice test, students will answer correctly at least eight of the questions.

You can use the following sentences as guides for writing objectives:

Given (Conditions), the students will demonstrate the ability to (Learning) by (Observable Student Behavior).

Compare the following statements:

A. Appreciate the significance of traffic signals and road signs.

B. Given a list of the 10 most common traffic signals and road signs, correctly describe each one.

The difference between these two statements is that with statement B success can be measured. Good objectives help teachers teach and learners learn. They do not describe how to go about achieving the desired results. They simply state what the results will be.

SMART OBJECTIVES

Objectives should also be SMART. It is helpful to remember this acronym when you want to check your objectives.

Specific: What is the exact result you are looking for?

Measurable: How does the learner demonstrate success?

Appropriate: Does the objective directly relate to the identified need?

Realistic: Can the outcomes really be achieved?

Timely and time-oriented: Is there enough time to be successful?

ACTION VERBS

One way to make your objectives SMART is to use action active verbs. Action verbs describe results that are observable and measurable, like write, draw, list, or name. Other verbs like understand, know, appreciate, and believe cannot really be observed or measured. Below is a list of common action active verbs to use when writing objectives.

define	compare	simplify	estimate
describe	contrast	assemble	measure
differentiate	deduce	construct	prove
identify	explain	draw	reduce
list	paraphrase	apply	solve
name	present	make	verify
order	discuss	demonstrate	calibrate
state	design	articulate	convert
classify	expand	outline	dissect
formulate	predict	read	manipulate
locate	reorder	summarize	report
reproduce	restate	calculate	specify

Here are a few examples of well-written objectives:

Given two angles and one side of a triangle, students will calculate the lengths of the other sides of the triangle by applying trigonometric equations.

When presented with a velocity-time graph, students will calculate distance traveled by the moving object represented by the graph.

Given a political map of the Southern Zone of Tanzania, the students will label all political districts and identify at least one major crop for each district.

Given a list of types of human interactions, students will describe which can and which cannot transmit HIV.

When allowed to reflect on a story, students will summarize the plot, describe the setting, and list all the main characters.

SUGGESTED ACTIVITIES

Review the Levels of Learning section in the CCBI companion material.

Rewrite the following statements to turn them into good objectives. Make sure each one involves learning, has an observable or measurable behavior, has conditions, and follows SMART guidelines.

A. Develop an understanding of when to use “to,” “too,” and “two.”

B. Learn to add fractions.

C. Appreciate clean water.

D. Build a simple table.

E. Become familiar with the local geography.

Sample Objectives

Here are some suggestions for rewriting the objective in the previous activity.

A. Develop an understanding of when to use “to,” “too,” and “two.”

- Given 10 sentences, indicate which five sentences use “to,” “too,” and “two” correctly.
- Given six sentences with blank spaces, correctly complete each sentence by using the correct “to,” “too,” or “two.”

B. Learn to add fractions.

- Given two fractions, correctly describe the process to add them.
- Given five sets of fractions, correctly add each set.

C. Appreciate clean water.

- Given a list of illnesses, choose the three that are caused by drinking contaminated water.
- Describe an easily available process to purify water.

D. Build a simple table.

- Given four wooden legs and a tabletop, follow the directions to correctly assemble the table.

E. Become familiar with the local geography.

- Given a map of the local area divided into zones, correctly label each zone.
- On a blank piece of paper draw a map of the local area, indicating all of the sources of clean water.

COMMUNITY CONTENT OBJECTIVES

This is where you combine what you know about writing objectives with what you've learned about your community. The community entry activities you completed earlier are a good starting point. However, using PACA-type tools is the best way to understand the community's desires, wants, and needs.

OBJECTIVES

- Use what you know about writing good objectives and what you know about your community to write educational objectives that incorporate community issues.

- Revise educational objectives to incorporate community issues.

CONTENT AND CONTEXT

Classroom learning is often a matter of memorization. The teacher or a textbook presents a topic and students are supposed to learn it. This is the way most of us were taught in school. For some types of information, it is a useful approach. However, CCBI adds value to conventional classroom teaching by putting learning in context.

By using community content to teach, we take abstract topics and ground them in everyday life. Instead of learning how to create percentages with numbers only, we use percentages to analyze how the cost of AIDS impacts the family budget. Instead of being able to use if-when clauses in random sentences, we use if-when clauses to describe the consequences of deforestation.

Topics presented in context greatly improve learning.

SUGGESTED ACTIVITIES

Review the model lessons in the companion material for ideas.

Rewrite these objectives to incorporate community issues.

A. Develop an understanding of when to use “to,” “too,” and “two.”

B. Learn to add fractions.

C. Appreciate clean water.

D. Build a simple table.

E. Become familiar with the local geography.

LEARNING STYLES

Imagine you've just been given a new personal computer, complete with monitor, printer, modem, and a scanner. You have all the parts you need and they are still in their original boxes, stacked on the floor in front of you. You're very excited and want to get it working right away. How would you proceed?

Calmly open the main PC box, find the instructions and follow them as you assemble the components?

Rip open the boxes, start plugging things in, and maybe check the instructions if you have a problem?

Ask a friend who knows about computers to come over and help?

Clearly, there are different ways to accomplish the task—different learning styles.

OBJECTIVES

- Define "learning style."
- Describe how you learn best.
- List some ways others might learn best.

SUGGESTED ACTIVITY

Consider that your task is to learn something. Think of a thing you are expected to learn in the near future—new vocabulary, how to cook local food, how to negotiate a ride into town, how to teach math to fifth graders.

Pick one thing and think about how you would prefer to learn it. Would you rather:

	Yes	Maybe	No
Listen to lectures?			
Listen to lectures and then practice on your own?			
Work one-on-one with an expert instructor?			
Watch a video?			
Watch a video and practice with an expert?			
Read a book on the subject?			
Read a book on the subject with an opportunity to ask an expert questions?			
Just do it and see how it works?			
Put it off until some time in the future?			

Your responses have a lot to do with what you are expected to learn. Your responses also reflect how you prefer to learn. The next time you get together with colleagues or at an IST, compare notes and discuss why you each chose what you did.

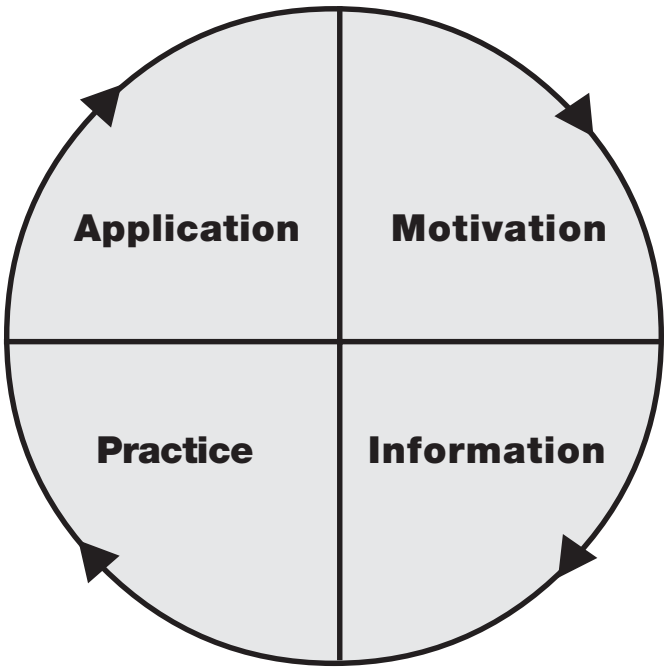
REFLECTIVE QUESTION

Take a moment to think about why it is useful to understand that people learn differently?

INTRODUCTION TO 4MAT®

The typical lesson plan used by many Peace Corps teachers is based on the 4MAT model developed by Bernice McCarthy. McCarthy's book, *The 4MAT System, Teaching to Learning Styles with Right/Left Mode Techniques* (ICE No. ED107), is often used during PST. If you have not seen it, you can order it from ICE.

The 4MAT model divides a lesson plan into four quadrants. Each quadrant appeals to a different learning style. By the time the lesson is complete, all learners will have been engaged.



The following sections describe each quadrant in detail.

From *The 4MAT System: Teaching to Learning Styles with Right/Left Mode Techniques.* © 1987 by Bernice McCarthy. Reprinted with permission of the publisher, EXCEL Inc., Barrington, IL. [ICE No. ED 187]

MOTIVATION

The first part of the 4MAT model is motivation—motivation to learn. But just what motivates a child or a young person to learn?

Getting a passing grade to please someone (parent, teacher)?

Passing a test so she can stay in school?

Pride, self-esteem, discipline?

A desire to go on to the next level in school and get into a university?

To become a doctor and care for the people in his village?

To become a doctor and be able to leave his village?

Like everyone else, children and young people are motivated on many different levels. If you try to appeal to what is important to each child in a classroom at any given moment, you may not be successful, feel very frustrated, and waste a lot of time.

This section offers some ideas on how to motivate a class of learners.

OBJECTIVES

When you complete this section you will be able to:

- Define motivation.
- Explain the role of focus in the classroom.
- Describe several techniques you can use in the classroom to motivate your students.
- Describe some ways to handle resistance.

SO, WHAT IS MOTIVATION?

Take a minute and write a few lines about what it means to have a motive.

We usually equate motivation with having a reason to do something. In this case, motivation is finding a reason to want to learn.

Now, take a few minutes and think about what has motivated you to learn how to:

- Tie your own shoes
- Recite the alphabet
- Ride a bicycle
- Drive a car
- Contribute your share toward the bill for a group meal
- Speak another language
- Protect yourself from danger

FOCUS OF LEARNING

Generally students do not learn (or at least learn well) for the sake of the teacher. Students, like everyone else, learn well when they see how learning will improve their lives. Learning becomes more challenging when there is pressure to satisfy strict curriculum requirements and an overwhelming amount of material. CCBI can help.

The ultimate goal of CCBI is community action—linking learning in the classroom to activities outside the classroom. By incorporating themes and attributes of the community into the lesson plan you are helping students relate the academic subject to their lives.

In the traditional classroom, the teacher stands in the front and presents information to the students quietly seated in neat rows. In effect, the teacher is the focus of the learning process. CCBI helps shift the focus to the students.

Suggested Activity

Take a few minutes to think about your favorite learning experiences. They might have taken place in school or elsewhere. Think about what makes them memorable as good learning experiences and how you might incorporate similar activities into your class.

1. What was your favorite learning experience?

2. Why?

3. How I can use it in the classroom?

CLASSROOM MOTIVATION ACTIVITIES

Every class is unique. Methods that work with younger children may not work with older students. Some cultures might prohibit certain activities or not find them acceptable classroom behaviors. Use this list as a guide to plan activities for your class. Remember, the most important thing is to get the students involved in the learning.

Activity: Target age	Suggestions
Storytelling: All ages	• Create your own stories around the subject. • Incorporate local myths or folklore. • Have students write stories. • Create characters that represent content themes.
Open-ended questions: Middle and high school	• Ask thought-provoking questions. • Ask increasingly difficult questions. • Have students ask you questions. • Create Jeopardy-type games. (Keep in mind that they may not have seen the American TV show.) • Divide the class into teams and have them ask each other questions.
Teamwork: Middle and high school	• Divide the class into teams and assign each a problem to solve or scenarios to discuss. • Have each team present their work to the entire class. • Have teams draw maps of their community and incorporate subject content (label structures with their English names, map the progress of deforestation, etc.) throughout the year. • Use a debate format to analyze a community concern.

(continued on page 24)

Activity: Target age	Suggestions
Competitions: All ages (Note: Not all cultures value competition. In those cultures that do not, consider using teams instead of individuals.)	• Essay contests • Art contests • Music contests • Theatrical contests • Debris collection • Flower, insect, fruit collections • Debates • Math contests • Science fairs • Food fairs
Student interviews (in the classroom or extracurricular): Middle and high school	• The mayor, police officer, government representative • Local health, legal, and other professionals • Upper-class, graduated, or model students • Parents, clergy, teachers, other family members

Suggested Activity

- Take a few minutes and think about other activities you can use to motivate a class in your subject area, grade level, and host culture. What activities have you used successfully in the past? What activities have not been so useful?

- Observe your community in action. How do parents motivate children? How do community leaders motivate people to attend meetings? To get things done?

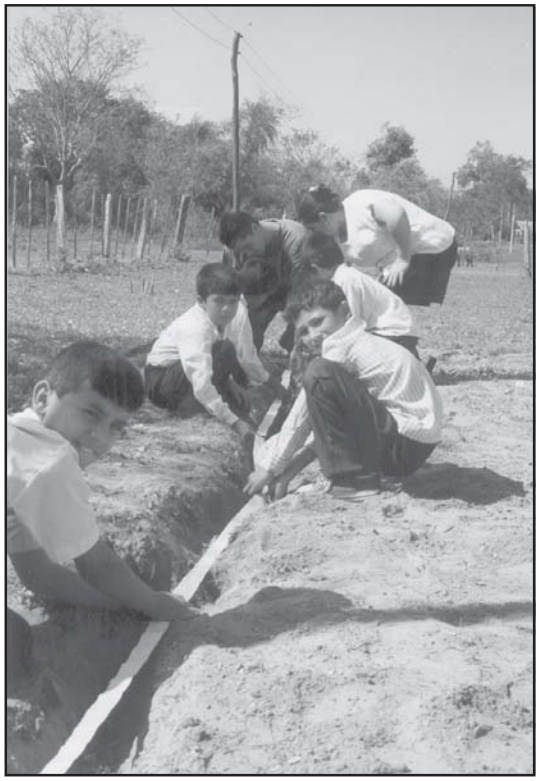
- Review the section on motivation in the companion material, under “Developing a Lesson or Community Action Plan.”

RESISTANCE

No matter how hard you work, how much you consult with experts and plan; no matter how nice you are or how good your intentions, there is always the possibility that some students will not cooperate. An older student may view some activities as below him. A younger student may not have the experience to role-play and might feel intimidated. Be careful to consider culture, maturity, social, and gender issues when using activities to motivate.

Never force a student to participate. Design your activities so that students will want to join in. Use your creativity and knowledge of the students, their cultural norms, and individual personalities to motivate the class.

See "Questions and Answers About CCBI" in the companion material for some thoughts on how to incorporate CCBI into your class and for insights into how other Volunteers have been successful.



INFORMATION

The specific information that students must learn is usually established before you arrive at your post. There may be an official, government curriculum and a series of tests, which frees you from having to figure out what has to be taught and lets you work on how to teach it.

OBJECTIVES

- Identify common sources of information.
- Locate new sources of information.
- Describe how to use CCBI to deliver information in a way that reinforces learning.

DEFINING INFORMATION

It helps to know what you're supposed to teach.

You may have stacks of tried-and-true lesson plans, a comprehensive syllabus from the ministry of education, and colleagues who have been teaching for years. On the other hand, you may be lucky to have chalk for the single blackboard and an outline of the curriculum. Whatever your situation, information is what the students must learn and what you must teach. But, perhaps, the way the information is presented is as important as the information itself.

Suggested Activity

Locate and make a list of all of the resources (textbooks, lesson plans, magazines, posters, videos, etc.) you can find that contain information on the subject you are teaching.

Make another list of resources that you would like to have.

Now, be creative! Think about all of the nonconventional resources that you can take advantage of in your community. Are there local musicians who will play songs written by your class? Is there a festival where your class can perform a play? Is there a radio handy? Are there other groups—farmers, market women, children in other grades—your class can interact with to reinforce a topic?

PRESENTING INFORMATION

In addition to the approach to classroom instruction where the teacher stands in front of the class and delivers information, effective teachers also are able to engage students and make them part of the instruction. Engaging students improves retention and makes learning a lot more fun for both them and the teacher.

CCBI makes it easy to bring an academic subject into the reality of daily life. You can use the sights, smells, sounds, tastes, textures, daily activities, and history of your community to engage your students.

Suggested Activity

Think of a way you can incorporate each of the following into a lesson:

- A national holiday
- Local produce
- The full moon
- The national flag
- A community activity center
- A popular game
- Local insects
- Rain or snow
- A popular song

FORMAL AND INFORMAL

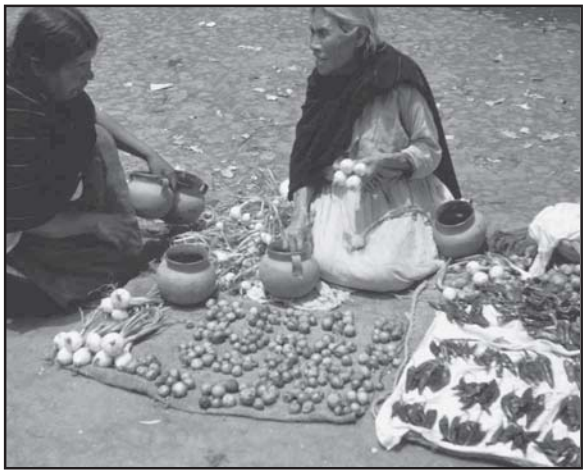
As teachers we tend to focus on the learning that goes on inside the classroom. As a Volunteer working with CCBI you can extend the power of information to other aspects of the students' lives.

Suggested Activity

A lot of learning happens outside of a classroom. We learn chores at home, we learn appropriate behavior through social interactions, and we sometimes receive religious training. We often learn by making mistakes.

- As you carry out your daily activities, try to be aware of the subtle ways in which informal learning takes place. Be especially aware of how young people interact with elders, community leaders, and people in positions of authority.

- In many cultures, gender influences learning. What are some of the differences between how, where, and when boys and girls are involved in informal learning and what they learn?



PRACTICE

Think of a professional athlete, ballet dancer, actor, writer, or musician. How did they become great at what they do? Think of something you do very well. How did you get good at it?

OBJECTIVES

- Describe the difference between work and practice.
- Describe different ways students can practice what they have learned in the classroom.
- Develop ways students can practice when outside of the classroom.

WORK OR PRACTICE

Although some people are born with incredible skills and talents, most of us have to work hard to become very good at something. However, if we enjoy what we're doing it's not really work; it's practice. If we are told to practice something we dread, that's work.

Suggested Activity

Which of the activities below do you think of as practice and which do you think of as work?

Practice	Work	
		Write the entire alphabet, from A to Z, 15 times.
•	•	Have the class arrange themselves in alphabetical order by first or last names.
		Quietly read the first act of a play.
		Read the first act of a play by taking turns at playing characters.
•	•	Work in small groups to create posters that show the effects of cutting down too many trees.

TEAMWORK

Think again about an athlete, a dancer, or a musician. How do they practice? Professionals usually spend some time working on their own to sharpen their skills. When they prepare for a competition or a performance, they practice as a team, a troupe, or an orchestra. You can provide opportunities for your students to practice in teams while having fun.

Games	• Divide the class into teams at the beginning of a unit or semester. Keep score based on accomplishments. • Give teams practice tests and award points for the most correct answers. • Begin each morning by asking questions about what was covered the day before.
Peer learning	• Couple students with complementary skills and have them solve problems or analyze situations. • Enlist talented older students to partner with students who need extra help.
Drills	• Use flashcards for building vocabulary, learning multiplication, and other skills requiring memorization.
List some other ideas	

HOMEWORK

Homework is probably the most dreaded type of practice. But it doesn't have to be all that bad. Remember, the goal of CCBI is community action, and the foundation of community is the home. Students can become the emissaries of education when they practice and share what they learn with their families.

Here are some ideas on how to make homework effective:

- Make it fun.
- Make it no longer than it needs to be.
- Incorporate routine chores.
- Involve other family members.
- Incorporate extracurricular activities like sports, church, and entertainment.
- Assign tasks that build on a community action.
- Encourage students to practice together at home.
- Encourage older students to help their younger siblings.
- Provide rewards to students or teams who develop innovative ways to practice outside of school.

Think about ways you would practice if you were the student instead of the teacher.

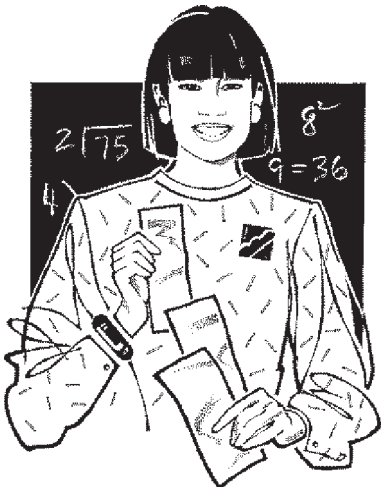
SUGGESTED ACTIVITIES

What are some specific ways that students can practice a subject you teach? Take 10 minutes to think about it and write down your ideas. Try them out and discuss them the next time you spend time with other teachers.

APPLICATION

How do you know when you've learned something? In most schools, it is by passing a test. When you take a test you apply what you have learned to answer the questions. How do you know when you have learned something that cannot be applied to a written test?

OBJECTIVES



- List different kinds of learning.
- Describe different ways to apply learning.
- Integrate different ways to apply learning into your classroom.
- Describe some ways to apply what has been learned in the classroom to activities in the community.

WHAT IS LEARNED?

Your primary goal may be to teach math or English, but if you're using CCBI you are teaching other things.

What are some of the other things you hope your students learn? You can get some ideas by looking at the sample lesson plans in the companion material.

You know when students have learned a math or English lesson because you can test them. What about the other things you are teaching? The noncognitive things? How can you tell when a student has learned a new skill, behavior, or attitude?

Remember that good objectives describe three things:

Learning: the skill, knowledge, attitude, or behavior the students will learn.

Observable student behavior: The observable (and perhaps measurable) thing that the students will do to show they have learned the skill, knowledge, attitude, or behavior.

Conditions: the circumstances under which the student will demonstrate the skill, knowledge, attitude, or behavior.

What follows are some activities that allow students to demonstrate new skills, behaviors, and attitudes.

	• Debates • Soap operas • News broadcasts • Plays written by the class • Courtroom (lawyer, judge, litigants, and jury) • Holiday themes
Games	• Jeopardy • Contests
Class discussions	• Use open-ended questions to stimulate discussion. • Have groups give presentations and then allow the class to discuss. • Invite a guest speaker who can lead a discussion. • Watch a video and discuss.
Journals	• Students make daily notes and reflect on them at the end of the term or semester.

COMMUNITY ACTION

Using activities in the classroom is effective at reinforcing learning, whether it is knowledge, a behavior, a skill, or an attitude. But, CCBI does not stop with students in a classroom. CCBI applies lessons learned in the classroom to community issues.

SUGGESTED ACTIVITIES

- For your subject area, what are some techniques that allow students to demonstrate, outside of the classroom, what they've learned? Remember, the goal of CCBI is community action.

You've been working with this workbook for a while now, perhaps several weeks.

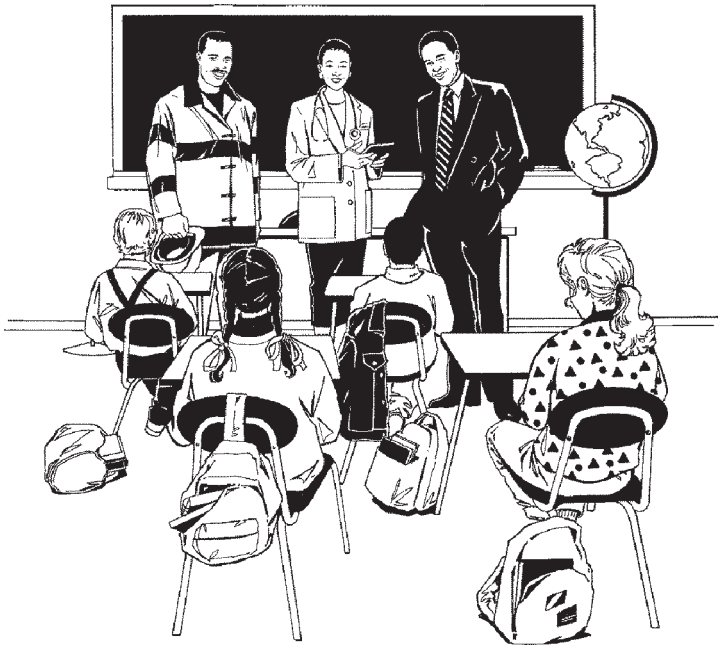
- Go back to Section 2, Information Gathering, and review the activities you completed.

- How have your views and opinions changed? What more do you know about the activity centers in your community? What additional resources have your found in your neighborhood? What new things impress you about your community?

Reflective Questions

Think about a CCBI lesson you are teaching or are about to teach. How will the students translate the content into action?

Imagine that you return to your community in five years with your best friend. What would you like to be able to point to and say, "Look, my kids started that"?



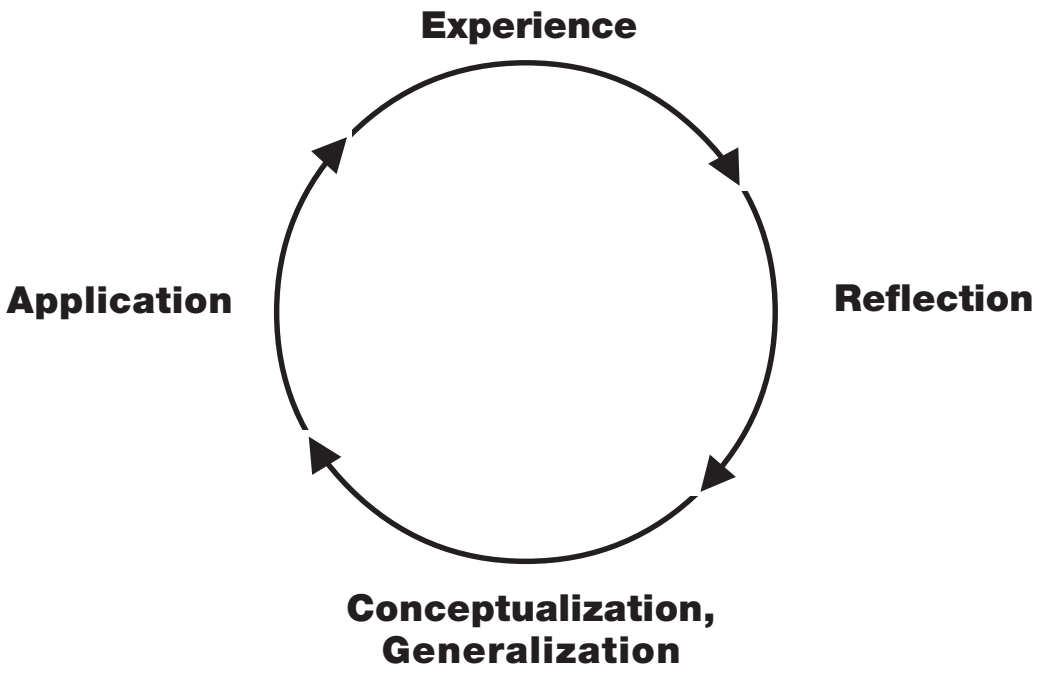
COMPANION MATERIAL

1. 4MAT AND THE EXPERIENTIAL LEARNING CYCLE – Pg. 38
2. LEARNING STYLE PREFERENCES – Pg. 39
3. LEVELS OF LEARNING – Pg. 45
4. MONITORING AND EVALUATING LEARNING – Pg. 47
5. LESSON PLAN FORMAT – Pg. 51
6. MODEL LESSONS – Pg. 52
7. CREATING A MODEL UNIT – Pg. 114
8. MODEL UNIT ON POLLUTION – Pg. 115
9. A CCBI LESSON/UNIT CHECKLIST – Pg. 121
10. QUESTIONS AND ANSWERS ABOUT CCBI – Pg. 123
11. RESOURCES – Pg. 131

4MAT AND THE EXPERIENTIAL LEARNING CYCLE

The 4MAT system, which reflects the four steps in the experiential learning cycle, is an effective approach to planning CCBI lessons and units.

The concept of experiential learning and the experiential learning cycle is widely accepted by educators. It also is one of the cornerstones of CCBI and applies both to school learning and to community learning.



The learner first has an experience, reflects on it, tries to conceptualize and generalize it, and finally applies learning from that experience to another situation. For full learning to take place, learners need to complete all four steps of the cycle. Teachers can facilitate learning by consciously taking students through this cycle of experience.

In the 1970s, educator David Kolb popularized an awareness of *learning styles*, and created a model that suggests four different categories of learning—concrete experimentation, reflective observation, abstract conceptualization, and active experimentation. The experiential learning cycle addresses the four learning style preferences.

- **Concrete experience**

  Learners prefer to learn through actual experiences with the content.

- **Reflective observation**

  Learners prefer to reflect on and discuss content.

- **Abstract conceptualization**

  Learners prefer to understand conceptual frameworks.

- **Active experimentation**

  Learners prefer to actively experiment with ideas in order to understand them.

Each of us has a preferred learning style, which we have developed over time. Educational systems, too, have preferred learning styles in the sense that they tend to reinforce certain learning styles in the curriculum as it is developed and presented. At times these cultural learning styles are so strictly adhered to that it is believed there is "only one way to learn," particularly in classroom settings.

LEARNING STYLE PREFERENCES

A model for taking learning styles preferences into account when designing lessons or units was developed by Bernice McCarthy. Below is McCarthy's description of the four learning styles:

- **Imaginative learners** are those most comfortable with the first step, concrete experience. The special skills of these learners include observing, questioning, visualizing or imagining, inferring or drawing conclusions, brainstorming, and interacting.

- **Analytical learners** are most comfortable with the second step, reflective observation. Their special skills include finding and making patterns, organizing, analyzing, identifying relationships, identifying parts, making order, prioritizing, classifying, and comparing.

From David Kolb *Experiential Learning: Experience as the Source of Learning and Development* © 1984. Published by Pearson Education, Inc., Upper Saddle River, NJ. © 1984 by Pearson Education. Adapted by permission of the publisher.

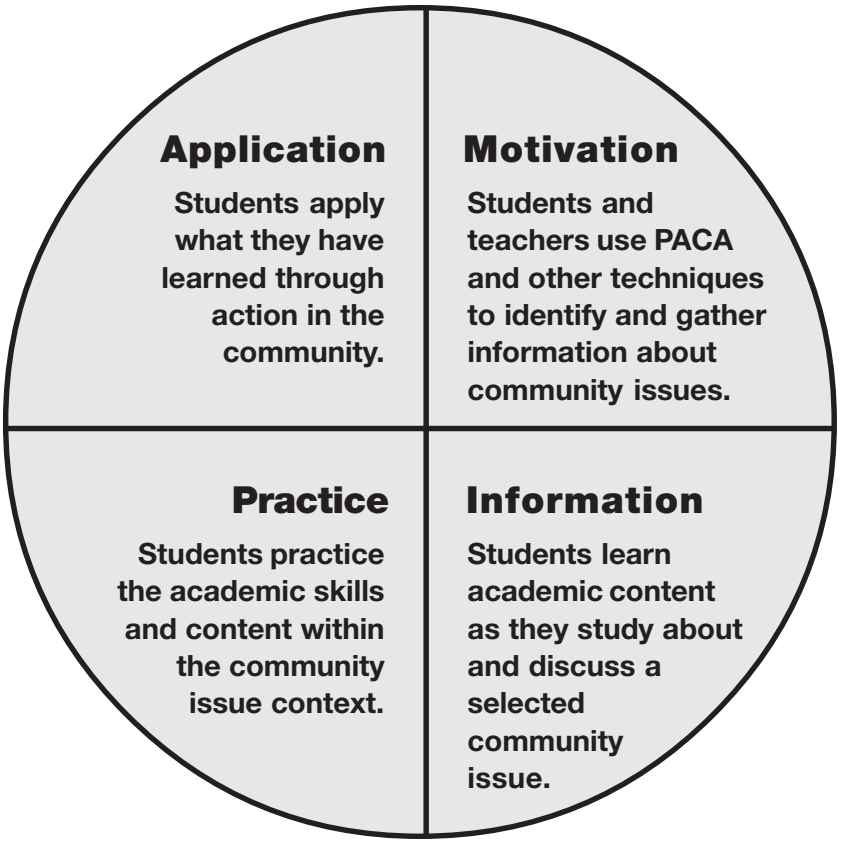
- **Common-sense learners** are most comfortable in the third step of the learning cycle. The special skills of these learners include exploring and problem solving, experimenting, seeing, predicting, tinkering, recording, and making things work.

- **Dynamic learners** are most comfortable in the fourth step of the learning cycle. Their special skills include integrating, evaluating, verifying, explaining, summarizing, representing, and focusing.

The 4MAT approach is a good fit with both the spirit and substance of CCBI. It can be used to organize daily lessons, develop theme-based units, design activities and projects, or organize trainings and seminars. It also can be applied to longer-term project planning and community action.

4MAT for Classroom Learning

The diagram below demonstrates how Volunteers can use 4MAT to plan lessons or to work toward community action with community members.



4MAT Lesson Planning and CCBI

This section describes examples of how the 4MAT model can be applied in classrooms and in community development situations.

Motivation

During the motivation step, the teacher helps students gather data about community issues or information that is relevant to a specific community issue or he or she asks the students to talk about an experience from their lives that relates to the community issue. Although all students start here, this step appeals most to imaginative learners. The role of the teacher is to motivate or engage students.

To gather community-relevant information, students might:

- engage in PACA activities
- listen to a speaker
- read an article
- perform a skit
- take a field trip
- look at pictures
- make observations outside of the classroom
- discuss experiences
- answer questions
- watch a dramatization, video

For example:

In the classroom a lesson or unit could begin with students listening to a guest doctor or nurse define HIV/AIDS and the specific situation with HIV/AIDS in their community.

In the community, community members participate in seasonal calendar activities, working in small groups of women and men, farmers and storekeepers, or any other groups that are relevant, to identify seasonal issues for labor, food availability, weather and health, and so on.

Information

During the information step students learn more about the topic being addressed. Although all students work through this step, it appeals most to analytic learners. The role of the teacher is to inform, to move students from specific personal reality to theoretical notions, and to help them understand more abstract concepts. With enough information, and both structured and less structured learning activities, students can grasp and apply to their own lives abstract concepts such as how HIV/AIDS is transmitted. This is the point at which students link their personal experience with the academic content at hand.

Activities might include:

- lectures, reading material
- information gathering
- presentation of new concepts
- note taking
- vocabulary expansion
- use of diagrams, tables, and charts

For example:

In the classroom a biology teacher may use the example of the spread of HIV when teaching about cells.

In the community, community members might start to analyze information concerning types of work, workloads, seasonal work, gender roles and work, etc., and how these are reflected in the community's resources and concerns. A list of high priority areas could be produced in small groups, discussed and ranked in the large group to arrive at several top priority issues, such as a lack of a doctor in the community or the deforestation occurring from the harvesting of trees for fuel.

Practice

During the practice step, students work with the information they have learned. Although all students participate in the activities, this step appeals most to common-sense learners. The teacher's role is to coach and to organize materials and activities so students can test their understanding of what they have learned. They have been taught skills and concepts and now they are asked to manipulate materials based on those skills and concepts.

The activities in this step might include:

- worksheets
- pair work
- project planning
- creating cartoons
- keeping records
- formulating questions on a text for others to answer
- problem sets
- small group work
- writing
- case studies
- polling classmates or community members

For example:

In the classroom students might work in pairs or small groups to write a dialogue concerning the topic of HIV/AIDS, incorporating what they learned from the doctor's or nurse's presentation, the teacher's additional information, or their own experiences.

In the community, community members might develop a strategy to address the issue at hand. Human and material resources available in the community also are identified, such as free housing or clinic space to encourage a doctor to live in their town.

Application

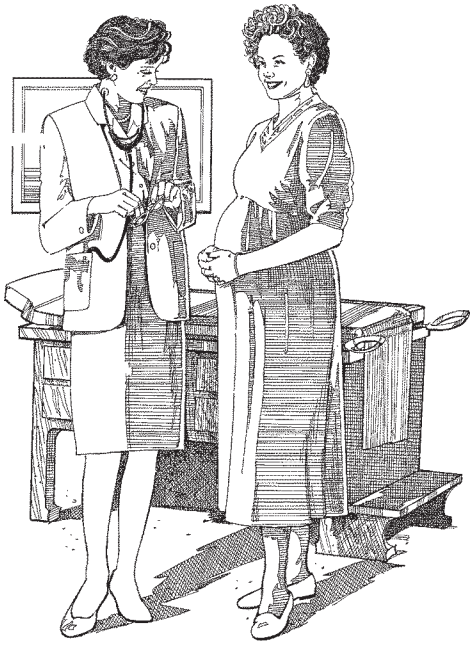
During the application step students apply what they have learned in new situations. Although all students finish the cycle together, this fourth step appeals most to dynamic learners. The teacher's role is to mediate and evaluate. Students are required to refine and apply, on a personal level, what they have learned and share it with the community.

Activities might include:

- gathering materials for and implementing projects
- taking small actions in the community
- sharing written work
- critiquing each other's projects
- being members of the audience
- reporting back to the class about a project

For example:

In the classroom students could perform their dialogues and discuss what kinds of conversations they foresee having at home with family and friends concerning HIV/AIDS. They might practice the conversation through role playing. In the community, community members begin to implement their action plan by finding housing and clinic space, perhaps using existing resources or by applying for grants to construct new facilities. They might then recruit a doctor and set him or her up in donated housing or clinic space.



How Does 4MAT Actually Work?

The 4MAT approach has been applied successfully to many different types of learning experiences, from individual lessons and theme-based units to training seminars and student projects. To develop a theme-based unit, a simple theme might be divided into four lessons. Each lesson then could be designed to fit into one class period or could cover two or more class periods. A teacher or presenter needs to do what makes sense in his or her particular situation so that the most is made of the subject matter. Students need to be given an opportunity to become oriented to the topic at hand, to absorb the information presented, to practice using it, and then to apply it an activity.

It may be possible to fit all four steps into one 50-minute lesson, if, for example, a particular vocabulary item or part of speech is being taught. However, it may be effective to put each of the four steps into two, three, or even four lessons, depending on the subject matter, objectives, and activities used. A teacher or presenter may find that he or she wants to spend two class periods on motivation, one period on information, two class periods on practice, and three class periods on application. Topics, available time, and other factors will influence such decisions.

In some cases, there may be lesson plan formats that are prescribed by the school. The important thing to remember and follow is the flow and sequence of the experiential learning cycle itself. As long as the cycle is followed, and each step is included, the timing and format of lessons and activities can be adjusted to match the school's curriculum needs and the needs of the students. The sample lessons later in these materials provide some concrete examples of how to apply the experiential learning cycle and 4MAT to classroom teaching.

LEVELS OF LEARNING

In 1956, Benjamin Bloom led a group of educational psychologists who developed a classification of levels of intellectual behavior important in learning. Bloom identified six levels, from the simple recall or recognition of facts, as the lowest level, to increasingly more complex and abstract mental levels, to the highest level, which is classified as evaluation. Here are some examples of verbs appropriate to each level.

1. **Knowledge:** arrange, describe, duplicate, label, list, memorize, name, order, recognize, relate, recall, repeat, reproduce, state.

2. **Comprehension:** classify, describe, discuss, explain, express, identify, indicate, locate, recognize, report, restate, review, select, translate.

3. **Application:** apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write.

4. **Analysis:** analyze, appraise, calculate, categorize, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test.

5. **Synthesis:** arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepare, propose, set up, write.

6. **Evaluation:** appraise, argue, assess, attach, choose, compare, defend, estimate, judge, predict, rate, core, select, support, value, evaluate.

Each level of learning builds on the previous level. For example, before students can describe, discuss, or explain they must be able to label, list, or repeat. By building on the achievements of lower levels, student will eventually develop higher level skills, like assessing the outcome of an election, predicting the rate of growth of seedlings, and evaluating the success of a project. The illustration on the next page will help you visualize the relationships between levels. As you read the levels, consider how CCBI helps students move up the levels with any particular topic.

From Benjamin S. Bloom, Et Al, Taxonomy of Educational Objectives © 1984. Published by Allyn and Bacon, Boston, MA. Copyright © 1984 by Pearson Education. Adapted by permission of the publisher.

CCBI COMPANION MATERIAL: THE SIX LEVELS OF LEARNING

Level 6: Evaluation
- The ability to make a judgment about the value of something by using a standard.
- Developing criteria
- Judging accuracy
- Making decisions
- Identifying values

Level 5: Synthesis
- The ability to combine existing elements in order to create something original.
- Communicating ideas
- Planning projects
- Forming hypotheses
- Drawing conclusions

Level 4: Analysis
- The ability to break down information into its integral parts and to identify the relationship of each part of the total organization.
- Judging completeness
- Recognizing relevance and irrelevance
- Identifying story elements
- Recognizing fallacies

Level 3: Application
- The ability to use a learned skill in a new situation
- Estimating
- Anticipating probabilities
- Making inferences
- Using math

Level 2: Comprehension
- The basic level of understanding. It involves the ability to know what is being communicated in order to make use of the information.
- Making comparisons
- Ordering steps in a process
- Identifying main ideas
- Identifying relationships

Level 1 : Knowledge
- A starting point that includes both the acquisition of information and the ability to recall information when needed
- Memorizing
- Classifying
- Giving definitions and examples
- Outlining and summarizing

MONITORING AND EVALUATING LEARNING

How did this go? What worked? What didn't? What did the students learn? Was community participation successful? Monitoring the learning process and evaluating its outcome, accomplishments, and impacts are essential steps in the experiential learning process. Important lessons are learned from the information acquired and then applied to future classroom lessons and community activities.

What are "outcomes" and "impacts"?

Outcomes and accomplishments refer to what happened and are often quantitative in nature. For example, lesson outcomes might involve the number of sentence structures learned, the number of problem sets done, the number of theories explained, test scores attained, or pass rates.

Community project or action outcomes might focus on the number of people who attended a community health workshop on hand-washing or an AIDS awareness theater performance. It also could be the amount of money raised to repair farm equipment or to hire a second doctor for the clinic. An outcome also is an accomplishment or the result of a lesson or community action. For example, after a lesson on AIDS, students may go and talk to their families about how AIDS is transmitted and what can be done to avoid transmission. They also may be able to describe this on a test. Both are outcomes.

While information concerning the outcome of a lesson or community project is important, it also is incomplete because it does not describe the full impact of the lesson on students or community members. Impacts typically are more qualitative in nature and tend to demonstrate long-range effects of a lesson or community activity on people's well being. An impact is more comprehensive than an outcome, generally takes longer to achieve, and involves a real change in attitudes and behavior. In the case of a deforestation lesson or community project concerning deforestation, an impact would include the regular use of fuel-efficient stoves rather than open-fire cooking.

What kind of impact does CCBI consider important?

CCBI's goal is to support education for sustainable development. Therefore, the impact of learning is as important a measure as the class test score. To gather information on impacts, learners must be involved in the evaluation process. Different people have different perspectives, and each perspective can add to the understanding of an impact. Making sure everyone's perspective is heard and addressed can be challenging but essential to the process. The more perspectives involved in the monitoring and evaluating process, the more valuable the results will be.

How is the monitoring and evaluation work done?

There are many participatory techniques used to monitor and evaluate outcomes and impacts of learning that takes place in classrooms or in the community. To determine the impact of a lesson or community project on AIDS, ask "So what?" If the response is that students talked to their families about AIDS, again ask, "So what?" If the response is that the students' families are now more aware of how AIDS spreads, then once again ask, "So what?" Now the response may be that with the knowledge of how AIDS is transmitted people can protect themselves. Or the response may be simply that there is discussion about ways to protect against HIV/AIDS transmission.

If people's well-being is affected, it could be described as an impact. Of course, additional "So what?" questions are possible, and it is up to the teacher and students to decide when it makes sense to stop questioning. Generally, the logical stopping point is when the answers describe the well-being of people. Experience suggests asking the "So what?" question two or three times.

PACA techniques, used to identify and gather information about community issues, can be used again to determine the impact of learning on students and the community. For example, during a lesson students might conduct a daily activities schedule. During discussion of this schedule they conclude that girls spend a disproportionate amount of time on household chores, such as fetching water, serving tea, and collecting firewood. As part of the lesson, students may discuss the unfairness of this inequity and brainstorm strategies to change the division of labor, or at least broach the subject at home. If several months later the students do another daily activities schedule and they conclude that chores are more equitably distributed between boys and girls, then it is reasonable to say that one outcome of the lesson was the redistribution of work. When the girls' response to the "So what?" question is that they now have more time to study because their families are asking them to do fewer chores, an impact is identified.

Identifying an impact may be difficult because change happens slowly or in subtle ways. This can be a frustrating part of the experience, but be patient and persevere. Even minute changes are a positive sign and can lead to more significant changes farther down the road.

Does the monitoring and evaluation process work the same way when implementing small actions or community projects?

The evaluation process is the same whether students develop and implement a small action to be taken in the community or community members undertake their own community project. It is important to include a monitoring and evaluation component when planning a small action or community project. Students or community members must:

1. decide what they hope to accomplish (i.e., their goals for the activity or project);

2. ask themselves, "How will we know if we've accomplished these goals? What will happen?" (The responses to these questions are the indicators of achievement of the goals);

3. decide how, and from whom, they can collect information about the indicators. (Students can observe, interview, measure, or use other PACA techniques to gather their information); and,

4. discuss the outcomes, impacts, and lessons learned for future activities after they carry out their evaluation.

As an educator and development worker, your CCBI lessons will have objectives that relate to both academic content and community content. It is important to evaluate each of these sets of objectives using a process such as the one described above for student and community actions. Some tools will be quantitative like multiple-choice exams or problems sets. Other tools will be more qualitative in nature such as journals, interviews, results of PACA activities, or observation.

Remember that when working with students or community members to monitor and evaluate lessons or project activities, the aim is to work together to determine the outcomes and impacts. Together, Volunteers, students, and community members measure the achievement of goals and gain insights that can be used in planning future classroom or community activities.

LESSON PLAN FORMAT

TITLE:

ACADEMIC SUBJECT:

COMMUNITY TOPIC:

LEVEL/FORM:

SUBJECT OBJECTIVES:

COMMUNITY CONTENT OBJECTIVES:

TIME:

ACTIVITIES:

I. Motivation

II. Information

III. Practice

IV. Application

V. Community Action

EVALUATION

CCBI MODEL LESSONS

These model lessons were prepared by Peace Corps Volunteers, counterparts, or staff in the field. All lessons integrate 4MAT components and combine at least two sectors.

Most of the lessons suggest content and sequencing information, but not necessarily information about timing, or how long each lesson, step, or activity should take. The specifics of timing, content, and sequencing are to be determined by educators based on the particular group of students involved and the particular site or teaching situation.

Model Lesson Topics		
Lesson Title	**Community Topic**	**Academic Subject** (with other sector or cultural issues)
1. Deforestation What happens to animals and food in the forest?	Environmental resources—deforestation and loss of habitat	TEFL (with environment)
2. The cost of AIDS	Health and HIV	Mathematics and/or business (with health)
3. Gender differences in daily life	Girls' education	Math (with social/cultural community issues)
4. Fuels in the community	Use of environmental resources	Chemistry (with cultural community issues)
5. Effective résumé writing	(Un)Employment	Business or English (with social/cultural community issues)
6. Rivers, lakes, and clear water	Use of environmental resources and water supply	Geography (with environment)
7. Preventive health	Health and hygiene	English or biology (with health)
8. Hand-washing hygiene	Water/sanitation and hygiene	English (with health)
9. Taking chances with HIV	Health and HIV	Mathematics (and health issues)
10. Myths about thunder and lightning	Mythology regarding weather	TEFL (with science)

1 MODEL LESSON 1: TEACHING ENGLISH AS A FOREIGN LANGUAGE—DEFORESTATION

ACADEMIC SUBJECT

English as a Foreign Language

COMMUNITY TOPIC

Environmental resources—Deforestation (cutting down forests) and loss of habitat (no place for animals to live or plants to grow)

LEVEL/FORM:

Middle-school students, first-year secondary students, advanced-beginner or low-intermediate English ability

LANGUAGE OBJECTIVES

L

1. To use known vocabulary in a new context
2. To identify vocabulary while reading and listening to a text
3. To introduce if-when clauses
4. To speak about deforestation using both vocabulary and if-when clauses

COMMUNITY CONTENT (DEFORESTATION) OBJECTIVES

1. To identify the importance of trees and forests as homes to animals, sources of food, and fuel for humans

2. To raise awareness about the consequences of deforestation

3. To list possible solutions to deforestation and promote community action

ACTIVITIES

Motivation

1. Teacher tells students that they are going to talk about forests. Teacher asks students who in their family collects firewood. How far does that person have to walk to get the wood? How much time does it take? This is done as a general question-and-answer format session.
   - Teacher reminds students that forests are essential to plant, animal, and human life. To understand this importance, students need to see how the forests have changed over many years. To do this, students interview their families and local community members to understand how the forest was used in the past.

2. Students are divided into small groups and given tasks in the community:
   - **Group 1:** Students interview their mothers and grandmothers to find out how far they had to walk in the past to get firewood and how long it took. How far do they walk today to get firewood and how long does it take? Why do they believe this change has taken place?
   - **Group 2:** Students interview their fathers and grandfathers to find out how far they had to walk in the past to get firewood and how long it took. How far do they walk today and how long does it take. Why do they believe this change has taken place?
   - **Group 3:** Students interview oldest community members to find out: what kinds of food used to be available that are not now available? What forest products used to be available but are not now? What animals used to live in the forest who don't now? What crops cannot be grown now? What do they think are the reasons for these changes?
   - Groups report their findings to the class.

3. Teacher writes the word "tree" on the blackboard and asks for a volunteer from the class to come to the blackboard and draw a picture of a tree. Ask that the drawing include branches, leaves, and a root system.

4. Teacher asks students if there are any special times of the year, or traditional times, when trees are planted in their community or by their families. Ask students to explain why the trees are planted and why the time of year is important. Ask the students how trees help their communities or families.

   - Ask for three student volunteers to write answers in each of three columns titled: Why Plant Trees? What Time of Year? How Do Trees Help Community/Family? These columns can be on the blackboard or flip chart.
   - Each student recorder then leads a short class discussion based on the answers in his or her column; traditional tree-planting ceremonies or other reasons for planting trees, importance of the time of year, and how trees help their community or family. To facilitate the discussion, ask student recorders to use reporter questions, such as *who, why, what, where, when,* and *how*.

5. Teacher writes the word "forest" on the blackboard. Depending on the size of the class, have students come up to the blackboard at the same time and write a word somewhere on the blackboard that describes a forest or something in the forest. If the class is too large, have students verbally brainstorm words. As the words are called out, write them on the blackboard as quickly as possible. This is to help present an image of a forest as a big, complex entity with many different kinds of things living in many different places in the forest.

6. Create a vocabulary list of animals and food that live and grow in the forest by asking:

- Who lives in the forest?
- What grows in the forest?

As students answer these questions, circle or underline the students' words that are on the blackboard. If colored chalk is available, use one color for answers to "Who lives in the forest?" and one color for answers to "What grows in the forest?" If colored chalk is not available, circle who lives in the forest and underline what grows in the forest. If students give new answers to the questions, write those on the blackboard in appropriately colored chalk, circled, or underlined.

Information

From the students' list of what a forest is and what lives in it, choose four animals and four kinds of food and add them to the blanks in the text below. Possible answers include squirrels, deer, bears, birds, nuts, mushrooms, raspberries, and blueberries.

1. Introduce the concept of deforestation by reading and having students listen to a short text:

Cutting Down Trees in Kyrgyzstan

Many trees grow in the forest. _____, _____, _____, and _____ (fill in animals) live in the forest. _____, _____, _____, and _____ (fill in foods) grow there. People often cut down trees to build houses, to keep their houses warm, to bake bread, and to make paper and other things.

Cutting down trees and leaving the forest empty is called *deforestation*. Food cannot grow there, and the animals will have no homes. Trees also provide shelter for many useful plants.

Read the text again and ask the students to write down the new vocabulary when they hear it. Ask a few students to repeat one or two of the vocabulary words they heard.

2. Introduce and practice the grammar rule of if-when clauses.

Key words: If, when, after, before

Rule: Key word + present indefinite tense + future indefinite tense

Check to make sure students understand:

- The first half of the sentence: action is in present indefinite tense
- Second half of the sentence: consequence is in future indefinite tense

Examples:

- If birds live in the forest, they will build nests in trees.
- When Gulnara meets us, we will walk in the forest.

Note: When using these types of examples in your own teaching, it's important to include words, phrases, and sentences that are based on the content objectives of the lesson. For this example, words from the deforestation activities are used.

Practice:

Have students fill in the blanks by writing at their desks or writing on the blackboard.

If Misha (chop down) _____ trees, he (have) _____ firewood.

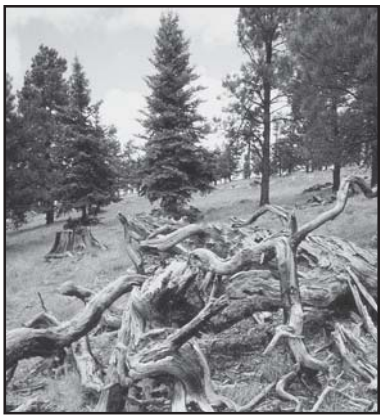
When she (hike) _____ in the forest, she always (see) _____ deer.

If we cut down all the trees, _____. (Finish the sentence.)

With the last practice sentence, make two lists: a list of good reasons to cut down trees (i.e., "When we cut down trees, our houses will be warm") and a list of the negative consequences of cutting down trees (i.e., "When we cut down trees, deer will have no home").

3. Arrange for the class to take a field trip to a farm or an area where deforestation has occurred. Ask the students to make notes of what they see that may harm plants, animals, and humans in the future. Ask students what they studied in class that can be applied to this situation. They should be able to respond with the vocabulary words studied, use the grammar studied, give a definition of deforestation and its effects, and refer to information they learned when interviewing their families and community members.

Practice



1. Tell the students they are going to play a game. They are going to make a forest and see what happens when it is cut down. Pass out small pieces of blank paper and markers (or ask students to bring in something to draw with). Ask students:
   - Who cuts down trees?
   - What does this person use to cut down trees?

   Instruct half of the class to draw trees and the other half of the class to draw the animals and food from the text. Assign the role of woodcutter to one student who will draw an ax. While the students are drawing their trees, animals, and food, the teacher writes on the blackboard sample if-when clauses about the consequences of cutting down trees:

Tree 1:	If the woodcutter cuts me down, mushrooms will not grow.
Mushroom:	If the woodcutter cuts the tree down, I will not grow.
Tree 2:	If the woodcutter cuts me down, the bear will have no food to eat.
Bear:	If I have no food to eat, I will die.

2. Have all the students stand up. The students with the pictures of trees are to choose a student with a picture of an animal or food (this should not take more than two or three minutes). Each set of students sits down together.

3. Ask all students to stand up and make a forest by holding up their pictures. Review vocabulary by asking: Who lives in the forest? What grows in the forest?
   To be sure students understand, ask one or two students: What are you? Where do you live? If the woodcutter cuts down a tree, what will happen? Students are to respond using if-when clauses.

4. Begin the game. Have each set of students say what they are and, using the sentence guides on the blackboard, say what will happen if a tree is cut down. Then have the woodcutter cut down each tree. As trees are cut down, and after students respond to the questions, have each set go back to their desks. Cut down all the trees until the woodcutter is the only person in the front of the classroom.

Application

1. Lead a class discussion using the following questions:
   - What happened to the forest?
   - What happened to the animals?
   - What happened to the food?
   - When people cut down trees in the forest, will it be a problem?
   - Why?
   - Who is it a problem for?
   - What can we do?

2. Have the students create before- and after-pictures of deforestation. These can be drawings, pictures from magazines cut out and pasted on flip chart paper, or whatever else the students might come up with. The before-picture should include animals and food from the vocabulary list, but it is not limited to these words. It also may include animals and food from the interviews with families and community members. For students who do not like to draw, have them write five sentences using if-when clauses describing negative consequences of cutting down forests. Hang the pictures and sentences in the school corridor to share what was learned with other students and teachers.

COMMUNITY ACTION

Possible activities:

- Set up a tree-planting day in a park in your community. Encourage students to invite friends and relatives. Invite other teachers in your school, families, and community members.
- Present a demonstration for the community on alternative types of fuel or more efficient ways to burn (less) wood.
- Create posters (with or without words) that demonstrate the effects of deforestation and ways to prevent deforestation and put them up in local stores or meeting places.
- Help establish a community-wide committee to research local deforestation and what preventive measures can be taken.

2 MODEL LESSON 2: MATHEMATICS OR BUSINESS—THE COST OF AIDS

ACADEMIC SUBJECT

Mathematics or business: Depending on subject area, teachers may want to alter the focus of different sections of the lesson

COMMUNITY TOPIC

Health and HIV

MATHEMATICS OBJECTIVES

1. To understand percentages
2. To learn how to draw pie charts
3. To analyze data

COMMUNITY CONTENT (THE COST OF AIDS) OBJECTIVES

1. To discuss possible sources of HIV information
2. To analyze the financial cost of becoming infected with AIDS
3. To analyze how the cost of AIDS impacts the family budget and family life

MATERIALS

None

TIME

Several class periods

ACTIVITIES

Motivation

1. Begin the class by explaining to the students that you are going to conduct a small survey. You will ask them a question and you want them to think carefully about the choices and write down their answer. You will collect their answers, without their names, and tally the results.

   Question: Where would you go to receive information on health issues, in particular sexual health and HIV?

   a. Parents and relatives
   b. Teachers
   c. Friends
   d. Health professionals
   e. Media sources (newspapers, radio, books)

2. Collect the responses and have a student help to tally the results in a chart like the following:

Response	Tally	Frequency
a. Parents and relatives	𝍸	5
b. Teachers	𝍸 ||	7
c. Friends	𝍸 𝍸	10
d. Health professionals	𝍸 𝍸	10
e. Media	𝍸 |||	8
Total		**40**

3. After the students understand how to tally the results in a chart, instruct them to do the same survey with members of the community, their families, or school staff.

4. Back in the classroom, have a student volunteer draw a survey tally chart on flip chart paper. Ask each student to mark the results of their survey in the appropriate place on the chart. Have the whole class participate in tallying the results.

5. Lead a discussion on the results of the student responses and the community responses. Consider:
   - What are some of the pros and cons of going to these different sources for information?
   - What are some of the most common questions that people have about HIV?
   - What can you do as an individual to be a good source of information?

6. Tell the students that they are now going to learn how to represent this information on a pie chart. A pie chart is an effective visual for representing data. This particular pie chart may provide some valuable information as to which community members and groups are valuable resources and which should have additional information/training on HIV.

Information

To construct a pie chart, students must understand percentages and be able to manipulate them. Provide enough drill and practice exercises in the following areas before constructing the pie chart.

1. What is a percentage?

   Introduce percentages (out of 100) and explain the relationship between a percent, a fraction, and a decimal. Have students complete the following table:

Percentage	Fraction	Decimal
25%		
75%		
12.5%		
150%		

- Finding a percent:

  To convert a percent into a fraction, students must divide the percent value by 100.

  Example: 25% = 25/100 = 1/4

  To convert a fraction into a percent, students must multiply the fraction by 100.

  Example: 3/4 x 100 = 75%

Have students practice by converting the following fractions into percents:

1/2 _____
3/8 _____
2/3 _____
6/20 _____
4/10 _____
12/50 _____
8/40 _____

Lead students through the procedure of finding the percent of a number by answering the following questions:

– If 40% of the 320 students at school ride bicycles. How many students ride bicycles?

Example: 40% of 320 = 40/100 x 320 or .4 x 320 = 128

– The girls netball team won 60% of its games. If the girls played 20 games, how many did they win?

– John answered 70% of the questions correctly on a test. If there were 200 questions, how many did he answer correctly?

Evaluate whether the students need more practice manipulating percents before moving on to constructing the pie chart.

■ Constructing a pie chart: Work with students to complete the following chart.

Sources of Health Information				
Choice	**Number of responses**	**Fraction**	**Percent**	**Degrees**
a.	5	5/40	5/40 x100=12.5%	12.5% x 360= 45
b.	7			
c.	10			
d.	10			
e.	8			
Total	40	40/40=1	100%	360

Construct a pie chart with this data. If possible, use colored pencils. Display pie chart(s) around the room where all students can see them clearly.

Practice

The following example will enable students to use their knowledge of percents and construct a pie chart. Consider having your students work through this example in groups, as some of the questions are open-ended and will lead to interesting discussions.

1. Mrs. Phiri is a computer saleswoman who earns an average 75 kwacha (adapt to local currency) per day. Mrs. Phiri was diagnosed with HIV six years ago, and during this last year she has developed AIDS. She is the primary income earner in the family since Mr. Phiri died of AIDS three years ago. The following chart shows how many days of work she missed in the last year.

Month	Days of Work Missed
January	3
February	5
March	5
April	7
May	7
June	5
July	5
August	10
September	10
October	10
November	15
December	20

- Prior to developing AIDS, Mrs. Phiri was able to work an average of 20 days every month:
- What would her income for the past year have been if she had been able to work 20 days per month?
- What was her actual income last year? How much did she lose?
- What percent of her previous income was lost last year?

The following table shows each item in Mrs. Phiri's family budget as a percentage of her total income:

Category	Percentage
Food	20
Rent/utilities	30
School fees	15
Health	10
Misc.	15
Savings	10

3. Display the family budget in a pie chart.

4. Calculate the amount of money that the family was able to spend in each category in a normal year.

5. Calculate the amount of money that the family was able to spend in each category last year.

6. Using Mrs. Phiri's income this year, reallocate the percentage of income that should be spent on each of the budget items.

Category	Percentage
Food	
Rent/utilities	
School fees	
Health	
Misc.	
Savings	

Write a paragraph explaining how you determined the new allocations. Which categories changed the most? Why?

APPLICATION

Ask some of the groups to share with the class how they arrived at the new percentages. Ask them to include the following points:

- How are fixed expenses like rent and school fees affected?
- What happened to the family's ability to pay the rent? What does this mean to the family members?
- Can all of the children still go to school? How do you determine which children will be able to stay in school?
- Have the health costs risen? Why? What is the money being spent on?
- What will happen to the family's savings?

COMMUNITY ACTION

Possible activities:

- Students make posters (with few or no words) showing the consequences of HIV/AIDS and ways to prevent transmission of HIV/AIDS. Posters are placed in the school, local health clinic, and other public places.
- Students try to gather statistics about the projected economic costs of HIV for their country and local community. They can use these statistics to construct graphs and charts.
- Students try to gather information and/or statistics about behavioral changes in their community since the beginning of AIDS awareness campaigns.
- Students can investigate sources of HIV information, support, etc., in the community and share this information at school.
- Students can explore ways that they can be resources for their peers and communities.
- Interested students can organize a Healthy Living Club and ask other students, school staff, and community members to join. They might plan a public community meeting to determine strategies, behavioral changes, and education needed for preventing the transmission of HIV/AIDS.

3 MODEL LESSON 3: MATH—GENDER DIFFERENCES IN DAILY LIFE

ACADEMIC SUBJECT

Math

COMMUNITY TOPIC

Girls' education

LEVEL

Depending on the math level of the students, this can be adapted to secondary students also.

MATH OBJECTIVES

1. To compile and analyze simple statistics
2. To solve basic statistics-related problems
3. To represent statistical information graphically

COMMUNITY CONTENT (GENDER DIFFERENCES) OBJECTIVES

1. Identify the different daily activities of men and women.
2. Discuss impact of gender differences on the community.

MATERIALS

Chalk, blackboard, flip chart paper, colored markers, tape. Individual flip charts with each of the following drawn on them: histogram, pie chart, bar graph, mean, mode, and median

TIME

Three or four double periods

ACTIVITIES

Motivation

1. As a homework assignment, ask the students to define the word *gender*. They should not look it up in the dictionary; they should talk to friends, family, and other community members. Following this assignment, in class, the teacher writes the word gender on the blackboard. Students then discuss the meaning of the word based on their research. The goal is to have students arrive at a definition of gender based on their thoughts, ideas, and perceptions. The teacher should provide minimum guidance.

2. Students are divided into small groups and instructed to go into the community to ask gender-based questions.

   - Students will prepare questions before going out into the community.
   - Each group will interview people in the community about what they expect the students' daily schedules to be like.

     Example: How many hours each day does a student (male, female) cook? Study? Relax? etc.

   - The last question of each interview will be: Do you think the roles of boy and girls need to be changed? If so, how would you change them?

Note: *Either one of the activities below can be used as part of the motivational step, as both flow nicely into the information segment of this lesson. Teachers also may create another activity that combines elements from each of the activities presented here.*

Activity 1:

1. The teacher asks students to name a few roles in the family or community and to write them on the blackboard as column headings (such as washing dishes, feeding livestock, harvesting fields, disciplining children). Students are asked who in the family or community assumes each role. The words *boy*, *girl*, *man*, *woman*, *mother*, and *father* are written under each heading as students respond to who does what .

2. The teacher explains that these are gender roles: roles that are attributed to females or males.

3. Students are divided into groups (one group for each heading).

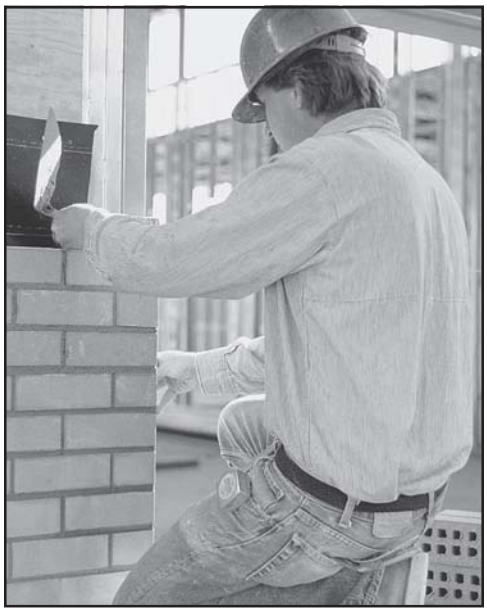
   Each group is given one column to work with and asked to total the number of people named in that column. Next, the group divides the total number of people in the column into the number of males and females in the column. They are asked to determine the percentage of males and females under each role.

   Finally, the groups are given about five minutes to write a definition for gender. Each group then reads aloud its definition of gender. As each definition is read, the teacher writes the key words from the definition on the blackboard. Using all the key words, the class collectively arrives at a definition of gender, which should be something like: The roles, rights, responsibilities, and priorities that a society/culture assigns to people based on whether they are male or female.

   That definition is written on a flip chart and put where all students can see it.

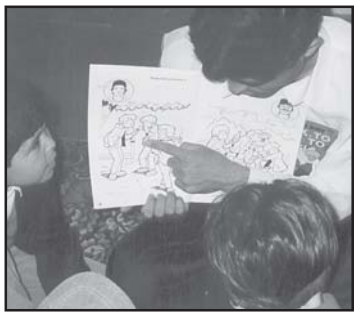
4. Students are asked if there is a word equivalent to gender in their language. How is that word used in sentences? Is it a positive word in their language?

Activity 2:



1. Divide the class into two groups: one group of women and one group of men. Each group is to generate a typical daily schedule, identifying all of their various tasks in time blocks beginning with the time they get out of bed in the morning and ending with the time they go to bed in the evening. The schedules are written on flip chart paper or other large pieces of paper. If the group chooses, it may do a separate schedule for unique labor periods, such as harvesting, or school versus vacation periods.

2. Each group also is instructed to generate a daily schedule for the other group. That is, female students will create a daily schedule of male students, and visa versa.



3. The two groups then present their work to each other. The teacher encourages the students to interpret the differences in labor demand (using percentages) and in perceptions of workloads. Have students save this work so that they can focus on constraints and opportunities for community projects at the end of this lesson. Tape charts somewhere in the room so that all students can see them easily.

Information

1. Using prepared flip charts, the teacher presents statistical concepts to students (a histogram, a pie chart, a bar graph, mean, mode, and median).
   After each concept is explained, students are given an opportunity to ask questions and get clarification about the concepts. Tape the charts somewhere around the room so that all students are able to see them easily.

2. Using information from the daily activities exercise or from the community interviews, the teacher introduces students to the methodologies used in each of the statistical processes presented.

   - Using the daily activity charts, compile information.

     Example: What is everyone doing from 3:00 to 3:30 p.m.? This might be presented in a pie chart or a histogram.

   - Using the daily activity charts, show students how to create frequency charts or bar graphs (by sex) for various activities. Examples: time spent relaxing/recreation, time spent studying, time spent doing chores

OR

Using the gender roles and community interviews, have students find means and modes of gender differences in each of the charts (number of hours spent on specific tasks).

3. Discuss the meaning of the statistical information.

   - Using the statistics presented, engage the students by asking them to interpret the local social meanings of the gender differences they have found.

   - Ask students why the gender differences may exist. Identify the problems that arise as a result of these differences, and what (if anything) they can/should/want to do about them.

Practice

1. Divide students into small groups. Each of the groups can use the information in the activities to compute statistics and draw graphs. They must use percentage, mean, mode, median, and represent at least one graph. Each group puts its information on a flip chart or the blackboard and presents its findings to the class.

2. Review answers and ask students what kind of picture is being painted of their community or family.

Application

1. Evaluation: Students are instructed to use two of the statistical tools studied during the lesson to compile and evaluate the information gathered from the interviews or daily activity schedule.

Sample Student's Daily Schedule

Separate schedules are needed for boys and for girls.

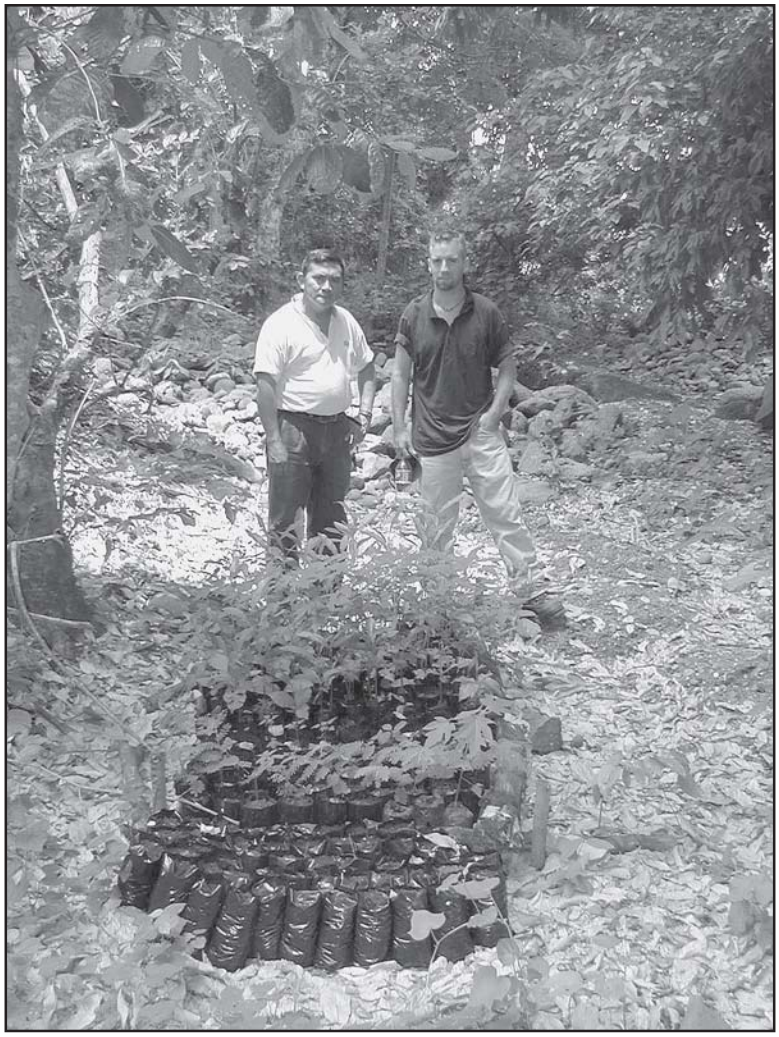
AM	5:00–5:30	Wake up/cook
	5:30–6:00	Cook
	6:00–6:30	Eat
	6:30–7:00	Clean dishes
	7:00–7:30	Go to school
	7:30–8:00	School
	8:00–8:30	School
	8:30–9:00	School
	9:00–9:30	School
	9:30–10:00	School
	10:00–10:30	School
	10:30–11:00	School
	11:00–11:30	School
PM	11:30–12:00	School
	12:00–12:30	School
	12:30–1:00	School
	1:00–1:30	Go home
	1:30–2:00	Relax
	2:00–2:30	Eat
	2:30–3:00	Study
	3:00–5:00	Tutoring
	5:00–5:30	Sweep
	5:30–6:00	Shop
	6:00–6:30	Relax
	6:30–7:00	Eat
	7:00–7:30	Clean dishes
	7:30–8:00	Study
	8:00–8:30	Study
	8:30–9:00	Study
	9:00–9:30	Bathe
	9:30 p.m.	Bed/sleep

- During a class discussion, students use their statistical analysis to discuss how gender constraints might be challenged and how new concepts might be introduced into the community at large.

COMMUNITY ACTION

1. Students present the statistical analysis of their interviews or daily activity schedules to community members during a town meeting or to their families as homework.

2. Using interviews with community members or families, or their own ideas based on class discussion, students present the new concepts as ways to overcome gender constraints. People at the town meeting or family members are encouraged to discuss how the new concepts might be introduced.



4 MODEL LESSON 4: CHEMISTRY—FUELS IN THE COMMUNITY

ACADEMIC SUBJECT

Chemistry

COMMUNITY TOPIC

Environmental resources

CHEMISTRY OBJECTIVES

1. To describe varieties of solid, liquid, and gaseous fuels and their origins
2. To explain uses of solid, liquid, or gaseous fuels and their impact on the environment

COMMUNITY CONTENT (FUELS IN THE COMMUNITY) OBJECTIVES

1. To gain an awareness of alternative sources of fuel for the school (other than firewood)
2. To develop strategies to incorporate environmentally friendly fuels into the school's fuel system

LEVEL/FORM

Middle school. This also can be adapted to the secondary school level.

MATERIALS

Visual aids (pictures or drawings) of coal, kerosene, firewood, natural gas, and other local fuels; Bunsen burner; matches; kerosene stove; spirit lamp; flip chart paper; colored markers; chalk; blackboard

TIME

Two class periods

ACTIVITIES

Motivation

Note: *The following interviews should be assigned to the students a week before the class.*

1. Divide students into small groups. The groups are to conduct interviews with their families, school staff, or community members. The following information is to be collected:
   - What types of fuel do you use?
   - How do you acquire this fuel? How much time does it take to get the fuel?
   - Who acquires the fuel?
   - What does it cost?
   - What impact does the fuel have on the air? On the water? On the land?
   - What do you like about using this fuel? What do you dislike?
   - What other types of fuel are available for you to use?
   - If you could use any type of fuel, which would you prefer? Why?
2. Following the interviews, each group of students presents their findings to the class and leads a short class discussion on fuel and the school, using the following questions:
   - Who collects firewood in the school community (boys or girls)?
   - What are the advantages and disadvantages of using this type of fuel?
   - What are advantages of finding alternative forms of fuel?

Information

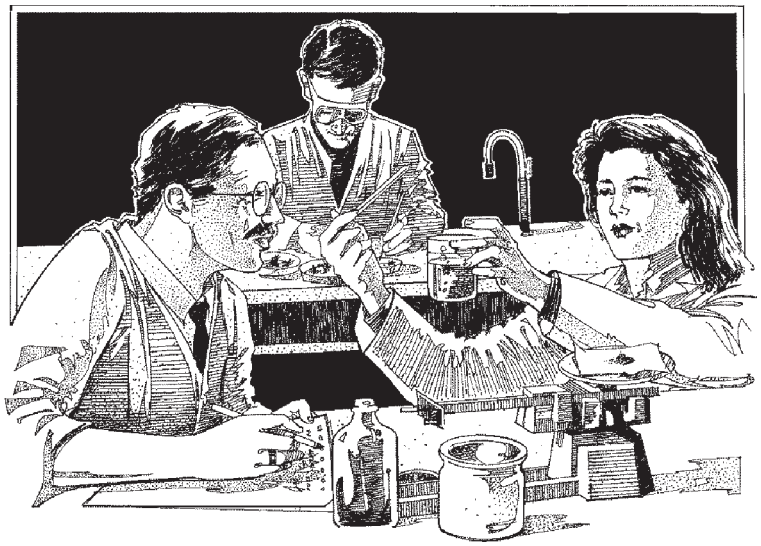
Introduce the topic of fuels by asking students to explain what a fuel does. Write their ideas on the blackboard.

1. Ask the students to name different types of fuels found in their community. Write their responses on the blackboard.
   - Divide students into groups of four and have them write definitions of the word fuel. This should take about five minutes. Have a representative from each group write its definition on the blackboard.
   - Using the students' answers, have the whole class agree on a definition of fuel. Write the class definition on the board, which should be something like: a material consumed to create energy or a material burned to produce heat.

2. Introduce the topic of solid fuels:
   - Use firewood as an example of a fuel used in the school and/or community (show firewood as a visual aid).
   - Ask students to name some properties of a solid fuel. Write their responses on the blackboard under the heading Solid Fuels.
   - Ask students to name some solid fuels found in their community. Write their responses under the heading.
   - Ask students if any of their families have used fuels other than wood as heating or energy sources.

3. Introduce the topic of liquid fuels:
   - Use kerosene as a possible example (show visual aid).
   - Ask students to name some properties of liquid fuels. Write their responses on the blackboard under the heading Liquid Fuels.
   - Ask students to name some liquid fuels found in their community. Write their responses under the heading.
   - Ask students if their families have used any liquid fuels as sources of heat or energy.

- Ask those students who have used liquid fuels as a heat or energy source to explain how they might be used as an alternative form of fuel in the school or community.



4. Introduce the topic of gaseous fuels:

- Use natural gas as an example (if a Bunsen burner is available, use this as a possible visual aid and ignite it).
- Ask students to name some properties of gaseous fuels. Write their responses on the blackboard under the heading Gaseous Fuel.
- Ask students to name some gaseous fuels found in their community. Write their responses under the heading.
- Ask students if their families have used any gaseous fuels as sources of heat or energy.
- Ask those students who have used gaseous fuels as heat or energy sources to explain how they might be used as alternative forms of fuel in the school or community.

5. If possible, demonstrate how the above-mentioned fuels give off energy in the form of heat by burning a small amount of each during class. Write the chemical symbol and/or formula for burning each type of fuel.

Practice

1. Divide students into small groups. Have them prepare a presentation that answers the following questions:
   - What do you think should be used as a fuel at school? Why?
   - What environmental impact would that fuel have on the air, water, and land?
   - What would be the most cost effective fuel to use at school? Take into consideration the responses of those people interviewed. Consider the distance one has to walk to get the fuel or the cost of transporting the fuel, how much time is spent getting the fuel, and any costs involved in storing the fuel.
   - What are some possible fuel-conserving techniques that could be implemented at school? At home?
   - If a new form of fuel is used at school, who will be affected more by the change, boys or girls? Why?

2. Each group is to prepare flip charts that include:
   - The fuel(s) they have chosen and reasons for their choice
   - Environmental impacts and why the fuel is cost-effective
   - Some techniques that can be used at school and home for implementing fuel conservation
   - Who is affected most by changing the fuel

3. Encourage the groups to be creative, to draw pictures or cartoons on their flip charts, etc. They should refer to the flip charts during their presentation.

4. Tape the flip charts somewhere in the room where everyone can see them.

Application/Evaluation

Following the group presentations, have the students prepare for and engage in debate about which type of fuel should be used at school and why. Invite the head of the school, other school officials, families, and community leaders and members.

COMMUNITY ACTION

Possible activities:

1. Students, school staff, and community members work together to organize small workshops in the community to demonstrate and teach about alternative fuels.

2. Students, school staff, and community members learn about alternative stoves and how to use them. For example, Volunteers in Zambia are currently teaching students how to use an improved cooking stove that is more cost efficient and more environmentally sound.

3. Students produce posters comparing advantages of traditional stoves or fuel sources and their alternatives. Posters can be put up at school, the market, local stores, and other public areas.

4. A community meeting could be held to discuss the fuel situation. Environmental, economic, social, and cultural implications are discussed as well as strategies for addressing community concerns. Invite the mayor or local chief, as well as health care workers and others who may be able to provide important information or wield influence over the "powers that be."

5. A nice project to accompany this lesson is to students construct clay or solar ovens.

5 MODEL LESSON 5: ENGLISH—BUSINESS/ RÉSUMÉ WRITING

ACADEMIC SUBJECT

English

COMMUNITY TOPIC

Unemployment

LEVEL

Secondary students; intermediate language learners

TIME

3-hour seminar or a series of lessons throughout the week. Consider coordinating these lessons with career days and Take Your Daughter to Work days.

LANGUAGE OBJECTIVES

1. To learn and use active versus passive voice
2. To learn and use qualitative adjectives and verbs typical of statements of work
3. To design and format effective résumés

COMMUNITY CONTENT (BUSINESS/RÉSUMÉ WRITING) OBJECTIVES

1. To understand the advantages of effective résumés
2. To identify one's own skills, knowledge, and experiences

3. To target résumés for specific positions

4. To gain employment

MATERIALS

Sample job advertisements; prepared flip charts (timeline, skills list, targeted population, targeted employer); sample résumé styles (block, narrative, chronological, design); sample cover letter; three prizes

ACTIVITIES

Motivation

1. Divide students into small groups. Each group is to interview community members and school staff to determine what types of jobs are available in their community and surrounding communities. Have the class generate a list of possible questions for the interview. These qualifications will be used to write the résumé. One group will be assigned to each of the following community groups:

   - business people
   - community leaders
   - government officials
   - school staff
   - health care workers
   - farmers

   Each student also will interview his or her family.

2. Each group presents its findings to the class. To aid in the presentation, each group is given a flip chart. They write the name of the group they interviewed at the top of the paper and list their findings under the heading.

3. On the blackboard, write *Desired ("Dream") Jobs* and *Short-term Goals*.

   - Discuss students' desired jobs and short-term employment goals.
   - Have two student volunteers come to the blackboard. As students talk about their dream jobs and short-term goals, one student lists jobs under *Desired Jobs* and the other student writes their short-term goals under *Short-term Goals*.

4. The teacher helps students compare the results of the interviews with the list of desired jobs and short-term goals. Students are encouraged to realize that the jobs that are actually available in the community may be a realistic way to meet short-term goals. However, they may also be a path to desired jobs.

5. Write the word "résumé" and its definition on the board. Ask students to identify key components of a résumé. In their society/culture, which components are the most important in finding a job? Which components do they not understand?

6. Show and discuss real job advertisements from local newspapers, magazines, etc.
   - Have students point out the key components of the ad.
   - Do students think they have the skills to do the job advertised?
   - How do they discover their skills?
   - How do they develop and build their skills?

Information

1. Present various types of résumés to students:
   - **Timeline:** Prepare a flip chart with a sample timeline and put it where all students can see it. Explain how a timeline is drawn. Have students create a timeline of their experiences and jobs.
   - **Skills list:** Prepare a flip chart with a list of skills and put it where all students can see it. Discuss what a skill is. Have students list their personal, academic, and professional skills.
   - **Targeted/local or international population:** Prepare a flip chart with a sample résumé targeted to a specific population and put it where all students can see it. Ask students how they think their skills could be targeted to a certain population (for example, local/international).

- **Targeted/employer:** Prepare a flip chart with a sample résumé targeted at a particular employer and put it where all students can see it. Ask students how they think their skills could be targeted at a particular employer. What skills and experience would they need to emphasize? What are the employment issues?

2. Define and explore résumé adjectives and verbs:

- Write a few action verbs on the blackboard. Define what an action verb does. Have each student list four or five action verbs that describe their skills and/or experience.
- Write a few synonyms/antonyms on the blackboard. Define what synonyms/antonyms are.
- Have each student take four or five of their skills, previously listed, and replace those words with synonyms and antonyms.

3. Present grammar/syntax information:

- Explain the use of full sentences versus phrases/bulleted points in résumés. Show students when to use each and how each is important.
- Have students write three sentences describing their skills or experiences.
- Have students turn the same three sentences into phrases or bulleted points.

4. Present résumé formats (for employer's three-minute review). Explain to students that résumé formats are more a matter of individual preferences and/or industry preferences. On flip charts, provide samples of the following résumé styles:

- block style
- narrative
- chronological
- design

Explain the advantages and disadvantages of each. Put flip charts up where all students can see them.

5. Introduce cover letters. Discuss why they are important, how they begin, what they should include, and how long they should be. On a flip chart, write a sample cover letter and point out the necessary parts. Put the flip chart up where all students can see it. With the students, review the following:
   - grammar
   - format
   - structure

Practice

1. Discuss a famous person's résumé.
   - Have the students list the attributes/experiences/skills of a famous person (e.g., president of their country, the U.S., or another country; Julius Nyerere, Nelson Mandela, etc.). Put the person's name on the blackboard and list the attributes under the name.
   - Have students choose which attributes should/could be included in an effective, targeted résumé, and which are inappropriate. Have them give reasons why some attributes are effective and why some are inappropriate on a résumé.
   - Have the class construct an effective, targeted résumé for the famous person, based on all of the samples they have studied.

2. Using lists of their own skills and experiences, have each student choose a résumé format and write a résumé for themselves. Also have them write a cover letter following the sample provided. When they have finished, have the students pair up and critique and comment on each other's résumé. Things to consider:
   - Is the résumé realistically based on the information gleaned from the community interviews?
   - Did the student effectively use the action verbs, adjectives, synonyms, and antonyms presented?
   - Did the student follow the sample résumé?

- Are the student's skills and experiences listed?
- Does the student reviewer have any comments for the résumé writer?
- Is the résumé culturally appropriate to the local community?

Students are to rewrite résumés based on the reviewer's comments.

3. Competition: Display the finished résumés. Have students walk around and read each résumé. Students vote for the three best résumés based on the samples and criteria they have studied. The votes are added up. The writers of the three résumés receiving the most votes receive a prize. The teacher can provide a candy bar, a book, some fruit, or whatever small, inexpensive item may be culturally appropriate.

Application

Students work with Volunteers or counterparts, or both, to hold résumé-writing workshops for interested members of the (urban) community.

COMMUNITY ACTION

Students work with Volunteers or counterparts, or both, to organize community meeting to discuss the unemployment situation, strategies for supporting families in need, and ways to help the unemployed find work.

6 MODEL LESSON 6: GEOGRAPHY—RIVERS, LAKES, AND CLEAN WATER

ACADEMIC SUBJECT

Geography

COMMUNITY TOPIC

Environment, water/sanitation

LEVEL/FORM

Five — can be adapted to higher levels

GEOGRAPHY OBJECTIVES

1. To understand and be able to diagram the water cycle process
2. To be able to describe sources and uses of fresh water
3. To be able to describe sources of and treatments for water pollution

COMMUNITY CONTENT (ENVIRONMENT AND WATER/SANITATION) OBJECTIVES

To educate students about the proper management of lakes, rivers, and underground water for maintaining a clean and safe water supply

MATERIALS

Chalkboard, chalk, textbook or syllabus handouts, flip chart paper, colored markers

ACTIVITIES

Motivation

1. Community mapping exercise: Divide students into groups of two or four with an equal number of males and females in each group. Have them draw a map of their community. Ask them to include as much detail as possible, especially water sources, any nearby lakes or rivers, trash disposal areas, trash burning areas, etc.

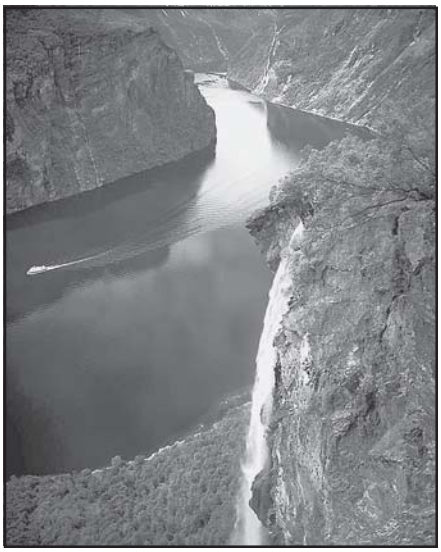
2. Instruct each student group to interview community members using their maps. (You can invite community members to come into the classroom as a way to link the school and the community.) Ask each group to assign a student to take notes during the interviews. Some questions that might be asked are:

   - Is this map a realistic drawing of our community?
   - What do you think should be added?
   - Do you think our community has a problem with polluted water?
   - How does the polluted water contribute to the health problems in our community?
   - Whom does the polluted water affect? How are they affected? Why?
   - How can we make sure our water is not polluted?

Information

1. Have each group present its map to the class. Display maps in an area of the room where all students can see them. Have each group present the findings of their community interviews.
   - Group writes on blackboard names, positions, or organizations of those they interviewed.
   - Group provides interview questions and answers.
   - Group presents findings from the interviews.
   - Group asks the class if there are any questions.

2. Use the group presentations as a means of presenting school syllabus information about lakes and rivers. Include:
   - Fresh water is a very important and scarce resource. Although 70 percent of the Earth's surface is covered by water, only about 1 percent of the Earth's water is safe and clean for human use. If we are to conserve this valuable resource, we must manage it correctly.
   - The sources of fresh water are rivers, lakes, and underground water (water that filters downward and is stored in permeable rock).
   - Introduce the water cycle to the students.
   - Emphasize the importance of clean fresh water for drinking, cooking, and cleaning. In addition to these basic uses, fresh water is vital to agriculture and to sustain fish and wildlife, as well as for industrial use.

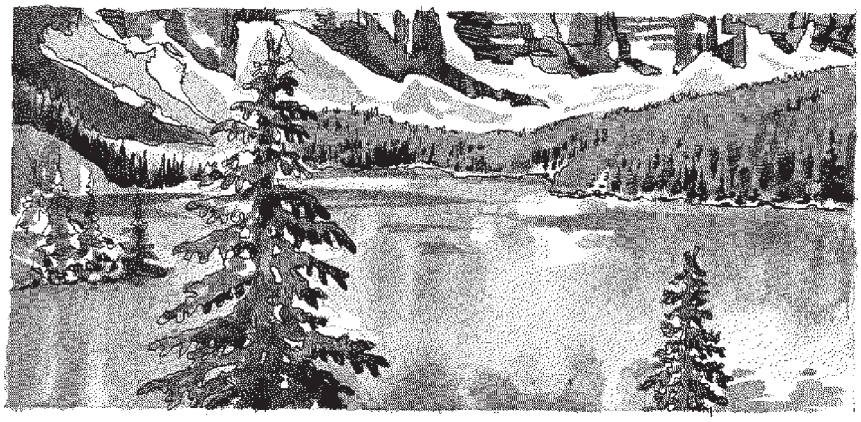


   - From the students' maps and interviews, identify community water sources. List those sources on the blackboard.

3. Ask students if there is a water source near their homes, in their local environment. If so, ask them to describe it.

Practice

1. Ask students if the water is polluted. What do they think the causes of the pollution are? During the discussion, make sure that all syllabus information related to sources of water pollution is presented either by the students or by the teacher. Use some of the following questions to facilitate the discussion.
   - Where do you get your water?
   - Who gets the water?
   - What is the quality of the water? If it is not of good quality, why?
   - What do you do if the water is of poor quality?



2. Using the interviews and the class discussion about water at home, ask students if they learned anything new about the situation and its causes.

Application

1. Take the students on a field trip to a local water source that is polluted. Ask them to describe the situation. Some questions to facilitate the discussion might be:
   - What do you see?
   - What is polluting the water?
   - How does the pollution get into the water?
   - Where is the water kept?
   - What kind of container is the water in?
   - Does the container have a lid?

- How long does the water sit in the container?
- What weather conditions might affect the water? Sun? Rain? Wind? Dust?

2. In the classroom, discuss what can be done about the polluted water source and write students' comments on the blackboard. Make sure that the following syllabus information is presented and discussed.

- Maintaining a clean water supply involves:
  - controlling water pollution
  - treating polluted water
- To control water pollution, avoid:
  - dumping of sewage (animal or human waste) in the rivers or lakes. Failure to do so results in waterborne diseases such as bilharzia and typhoid.
  - dumping of oil, paints, and other chemicals in rivers or lakes, or into the ground. The water filtration processes fail to remove the harmful effects of chemicals, and small amounts of paint, oil, or battery acid can pollute a large amount of water.
  - other practices, such as washing vehicles near grazing animals or near fresh water sources, can also cause pollution.

If all pollution were controlled, the treatment of water would not be necessary. It is cheaper to limit pollution than to control it after it has occurred. However, it is difficult to control all pollution, and, therefore, water must sometimes be treated.

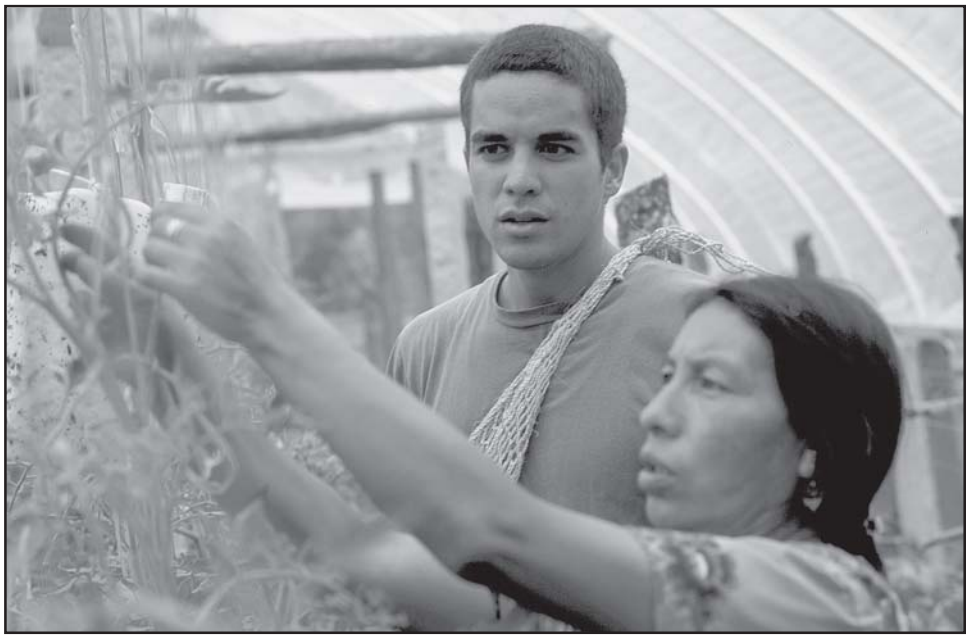
Water treatment can occur on a small scale at home by filtering and boiling water to kill bacteria and waterborne diseases. Treatment of water on a large scale, such as for a city or municipal area, is an expensive process.

COMMUNITY ACTION

Possible activities:

1. Work with musicians in the community to write songs that teach responsible water care and highlight local fresh water issues that need attention. Ask musicians to present these songs during festivals, other traditional gathering times, and school functions.

2. Ask those community members previously interviewed to help organize a community meeting to discuss issues relating to local fresh water sources such as rivers, lakes, creeks, wells, etc. Working in a participatory manner, identify the most urgent concerns. Strategize on next steps to further research and address those concerns.



7 MODEL LESSON 7: ENGLISH— PREVENTIVE HEALTH

ACADEMIC SUBJECT

English

COMMUNITY TOPIC

Health and hygiene

LEVEL

Secondary students; advanced-beginner to low-intermediate language learners

LANGUAGE OBJECTIVES

1. To learn health vocabulary
2. To use health vocabulary while explaining the transmission of disease

COMMUNITY CONTENT (PREVENTIVE HEALTH) OBJECTIVES

1. To describe the oral-fecal disease transmission cycle
2. To identify several preventive health measures students can take to improve their families' health

MATERIALS

Chalkboard, chart of seven preventive measures, flip chart paper or posters, pens or markers

ACTIVITIES

Motivation

1. Introduce health vocabulary to students that identifies how a disease is transmitted and what to do to prevent the disease.
   - List all relevant health vocabulary on the blackboard, such as garden, mud, dirt, weight, restless, field, to relieve oneself, latrine, treatment, infected, worms, oral, fecal, precaution. (***Note:*** Add other medical or health terminology here.)
   - Ask students if they know any of the vocabulary words.
   - Help students define the vocabulary words.
   - Write all definitions on the blackboard or have students write the definitions in their notebooks.

2. Ask the students to listen carefully to the story of Saba, a child in a living in a small village. Have the students take turns reading parts of the story.

The Story of Saba

Saba was 10 years old. She loved to play in the garden near her house. From morning until night she was outdoors playing. She liked the way the mud and dirt felt on her bare feet.

Saba's mother was beginning to worry about her though. Saba had lost some weight and was growing very restless. Some days she did not even go outside, except to the field to relieve herself since her family did not have a latrine.

Finally, after trying several types of local treatment, Saba's father and mother carried her several kilometers to the medical doctor. To their surprise, the doctor found that Saba was seriously infected with worms. The doctor asked Saba's parents how the worms had entered her body. They said they did not know how the worms had entered her body. So the doctor carefully explained to the parents and told them what precautions they should take in the future to prevent such problems for themselves and their family.

3. Ask students to describe the situation. Is there a problem? What is it?

- Write two headings on the blackboard: situation and problem.
- As students identify the situation or the problems, list those words or phrases under the appropriate heading.

4. Arrange for the students to go on a field trip to the local clinic. Have the doctor, nurse, or health worker there tell them where worms are found, how they get into the human body, how they are treated, and how they can be prevented.

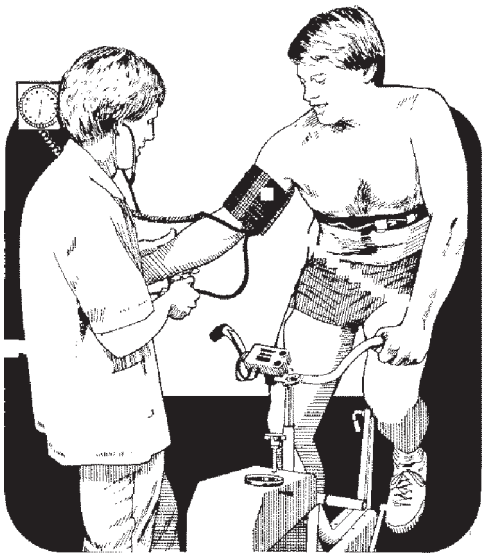
OR

Ask a local doctor, nurse, or health worker to come to the school to talk to the students about worms.

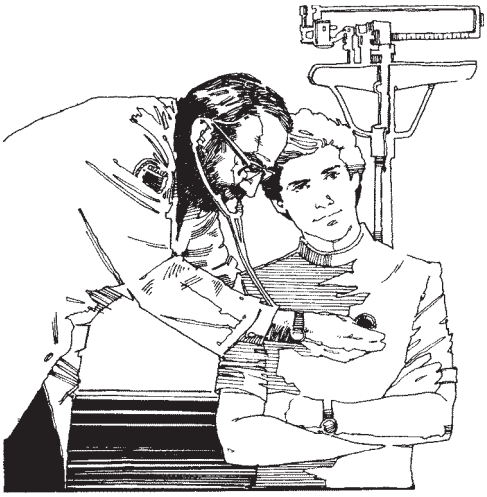
Note: *For both of these activities, the teacher should get a list of vocabulary words from the clinic worker. Have these translated into English and use them as part of the vocabulary list.*

Information

1. Remind students of their trip to the health clinic or talk with the health worker.



- Write the relevant vocabulary words on the blackboard.
- Ask a student volunteer to tell the class (in English) how worms get into our bodies.
- Ask the students to explain how Saba got worms.
- Discuss with the class the transmission of worms in the fecal-oral cycle; that worms or their eggs are often transmitted through feces. Make sure students talk about hand-washing and clean water for drinking, cooking, cleaning, and bathing.
- During the discussion, point to the health vocabulary words on the blackboard, encouraging the students to use these words in their discussion.



2. Ask students what can be done about the problem.
   - Write the word *prevention* on the blackboard.
   - Solicit student definitions.
   - Write the term *preventive health* on the board.
   - Solicit student definitions.

3. Display a flip chart that lists the seven ways to prevent worm diseases:
   - Wash fruits and vegetables before eating them.
   - Wash hands before eating and after using the toilet.
   - Wear slippers or shoes.
   - Do not put fingers into your nose and mouth.
   - Avoid mud and soil where worms might be found.
   - Be examined by a doctor from time to time.
   - Use a latrine, not the garden or field, when possible (cover your feces).

Practice

1. Divide students into seven groups. Assign one of the preventive measures to each group. Together they are to design a poster depicting their preventive measure.

2. Each group comes to the front of the classroom. They conduct a class discussion as they present their poster to the rest of the class. Ask the groups to recall the story of Saba and to make suggestions about what precautions Saba and her family could take in their daily lives to prevent worm diseases.

Application

1. Students place their posters in common areas of the school so that all students are able to see them.

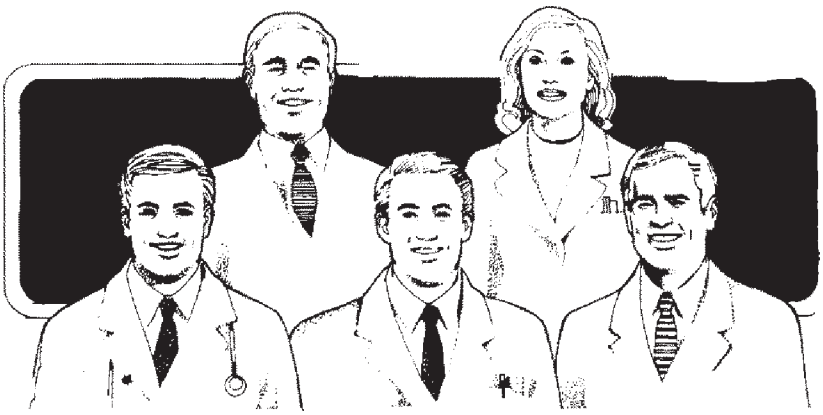
2. Ask the students to think about this activity when they go home. Ask them to look at their own home environment. Are there changes that they should make to prevent worm diseases? Ask them to think about the needed changes and discuss them with their families.

3. Ask students to discuss their home observations and assessments in the classroom if they are comfortable discussing this topic publicly. Have students commit to teaching their family one of the seven steps to use in their daily living.

4. Have the students keep a simple journal about the preventive step they have been using and the changes taking place in their family as a result. After a month or two, have students evaluate or note any changes they noticed since using one of the steps. Have students choose a second step to take home and teach.

Community Action

Invite a local health care worker, community leader, and school staff to the classroom to learn their views and techniques regarding prevention. Focus on common ground (areas where everyone agrees) and plan a joint activity within the community to help raise awareness about prevention techniques.



8 MODEL LESSON 8: ENGLISH—HYGIENE AND HAND-WASHING

ACADEMIC SUBJECT

English

COMMUNITY TOPIC

Hygiene

LEVEL

Beginning language learners

LANGUAGE OBJECTIVE

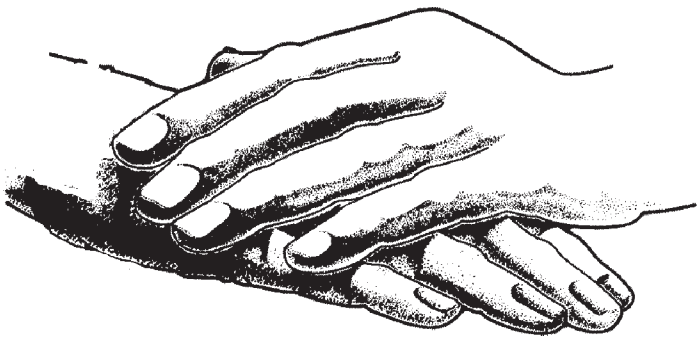
To use the present perfect tense in dialogues

COMMUNITY CONTENT (HYGIENE AND HAND-WASHING) OBJECTIVE

To learn about the importance of washing hands before eating and after using the latrine

MATERIALS

Towel, soap, water, and water container for washing; visual aids, such as pictures of people; flip chart paper, markers, chalk, and board



ACTIVITIES

Motivation

1. Teacher explains that students will be studying the present perfect tense. To help introduce the lesson, three students will do a mime (a role-play without speaking) and act out three different situations.
   - The teacher asks for three student volunteers to act out the mime.
   - The teacher takes the three students out of the classroom for about a minute or two and tells them what they are to mime.
2. Students act out the mime. For each mime, the class is asked to observe what is happening.
   - The first person washes without soap and then eats.
   - The second person automatically eats.
   - The third person washes with soap and then eats.
3. Discuss students' observations.
   - Teacher asks students to describe what each person was doing.
   - Was there a problem with anyone's behavior? Teacher writes students' observations on the blackboard.
   - What is the problem? Why is it a problem? Teacher writes students' observations on the blackboard.
4. Students are told to go home and ask their families the following questions:
   - Do you wash your hands before eating?
   - If so, do you use clean water or soap?
   - If not, do you think washing before eating is important? Why or why not?
5. Ask a health worker to come into the classroom and tell students the importance of washing with soap before eating. Or take the students on a field trip to the local clinic to speak with a health worker about the importance of washing with soap before eating.

Information

1. Write the word *hygiene* on the blackboard.

- Ask students if they know the meaning of this word. Write their responses on the board.
- From their responses, come up with a definition for hygiene, which should be something like: conditions or practices conducive to health.
- Have students brainstorm other words connected to the word hygiene, adding and clarifying as necessary. Have a student volunteer write his or her responses on the blackboard.

2. Introduce the present perfect tense. Explain that it is used when discussing action that is happening in the present time. Ask students:

- What did your families tell you about their hand-washing practices?

  Sample response: *They (wash) (do not wash) their hands.*

- Do you see problems with hygiene in people's daily practices? Describe them.

  Sample response: *Yes. They (do not clean) themselves.*

  Sample response: *Yes. They (do not have) soap.*

- What are the causes of hygiene problems?

  Sample response: *People do not (know) that it is important.*

  Sample response: *The water (is) dirty.*

  Sample response: *There (is) no soap.*

- Is hygiene different for girls than for boys? How?

  Sample response: *Yes. Girls (use) soap when they wash dishes.*

- What are good hygiene practices?

  Sample response: *Good hygiene means hands (are washed) with soap and water before eating.*

Teacher should be ready to add to students' information as necessary with other hygiene-related verbs and several sentence models.

Practice

1. Teacher models a dialogue with one student using the present perfect tense.

   Example: *Have you washed your hands?*

   Yes, I have washed my hands.

2. Ask for two volunteer students to perform a dialogue in front of the class. Have them use different verbs in the dialogue.

3. Put students into pairs. Create boy/girl pairs if possible. Using the sample sentences on the blackboard and the hygiene-related words and verbs listed, have the pairs formulate and practice their own dialogues related to hygiene.

4. Have each pair perform a short dialogue in front of the class.

Application

Students are to interview 10 people (five males, five females) in the community. Students can work in groups to design their own questionnaires but should include the following questions:

- When do you wash your hands?
- Do you use soap? Why or why not?
- Should you use soap? When?

Instruct students to come to the next class with their findings. On a flip chart, each student is to write two sentences from his or her interviews. The sentences must be written in the present perfect tense.

The teacher will make a chart of the findings and have the class discuss them. They are to use the present perfect tense during the discussion. The discussion also should include what students can do to improve their own hygiene and that of their families.

Community Action

Possible activities:

1. Students prepare a short awareness-raising play about the health benefits of hand-washing with soap and perform in various places around the community, either outdoors as roving actors or for a scheduled indoor performance. Community members also are recruited to participate in performances.

2. Students meet with school administrators, parents, and other community members to discuss improving toilet facilities and access to water and soap in the school(s).

3. Students strategize on ways to raise money to buy soap for their school.

4. If soap is made locally, invite a soap maker to demonstrate the process to your students. Use the opportunity to reinforce the importance of good hygiene.

9 MODEL LESSON 9: MATHEMATICS—TAKING CHANCES WITH HIV

ACADEMIC SUBJECT

Mathematics—probability

COMMUNITY TOPIC

Health and HIV

LEVEL

Senior secondary students

MATH OBJECTIVES

1. To calculate basic probability
2. To understand the intersection of independent events
3. To understand the union of complementary events

COMMUNITY CONTENT OBJECTIVES

1. To increase awareness of HIV transmission and prevention
2. To discuss the risks involved in being sexually active and ways to reduce these risks

MATERIALS

Chalk and board

TIME

Two or three class periods

ACTIVITIES

Motivation

1. The teacher introduces the lesson by asking students if they have heard of any percentages related to the rate of HIV infection in the country. If not, then what do they think the rate of HIV infection in the country is? Write their answers on the board and examine the range of numbers; most likely it will be very wide, indicating much confusion.

2. Have the students use their estimates to calculate the range, mean, mode, and median. What are some of the methods that the government uses to estimate the rate of infection? Write those methods on the board.

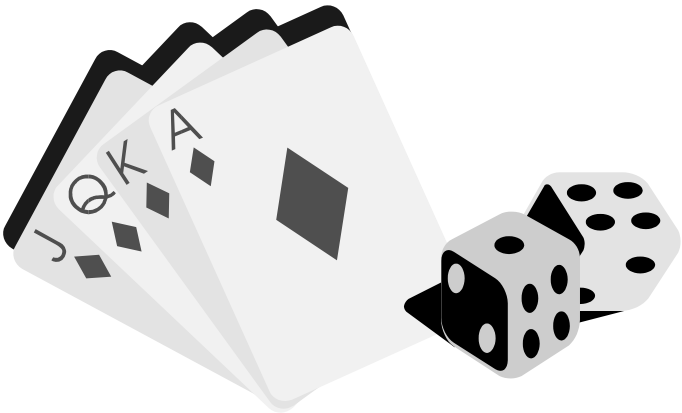
3. Discuss how, in reality, it is difficult to accurately determine a figure for the HIV infection rate, which varies from place to place. An educated guess for Tanzania would be somewhere between 10 percent and 15 percent for the general population and much higher for the sexually active population (perhaps up to 40 percent in urban areas for high risk populations).
   - Discuss why this rate of infection varies.
   - Discuss the meaning of a high-risk population.

4. Ask students what they feel would be the infection rate in their school? Their community?
   - What are some of the factors that affect the rate of infection in their school and community?
   - Invite a local health worker to come to class and discuss these statistics and definitions with the students.

5. Explain that the following exercises relate probability to an issue that the students understand is very serious and relevant to their own lives. Many students are already sexually active by this age, but may be very confused about the facts. These exercises will give them a clearer picture of what those facts mean.

6. Point out to students how this question relates to their national examinations. The teacher could point out the national exam/syllabus question that it was adapted from: "What is the probability of rolling an even number on a die and drawing a red card from a deck of cards at the same time?"

7. Answer this question and assign some similar traditional probability questions for homework.



Information

Note: *The basic concepts of probability should have been introduced prior to this lesson.*

1. Introduce the following situation to the students:

   At Hatari Secondary School, 30 percent of the young boys have been infected with HIV (a tragedy but none of them know it yet).

2. As a warm-up exercise give students the following questions to work on in class:

   What is the probability that Baraka, a randomly chosen boy at that school, will be one of the boys who is infected?

   What, then, is the probability that Baraka is not one of the HIV-infected boys?

   What is the probability that Bahatik, Shida, and Sunday, three other boys chosen at random, are all HIV-infected at the same time?

3. As the students work on the warm-up problems at their desks, check their work. For each problem, select one student to write his or her answer on the board. After sufficient time, ask each student who wrote their work on the board to explain to the class how he or she arrived at the answer.

4. Introduce the following situation to the students:

What is the probability that at least one of the three boys is infected with HIV?

Solution: The probability of being infected is 0.3 and the probability of not being infected is 0.7. In considering the problem above, we must consider the situations of one, two, or all three of them being infected. In the solution below, a capital letter indicates infection.

1 infected	(.3 x .7 x .7) x 3 possibilities (Abc, aBc, abC)	=	.441
2 infected	(.3 x .3 x .7) x 3 possibilities (ABc, AbC, aBC)	=	.189
All 3 infected	(.3 x .3 x .3) x 1 possibility (ABC)	=	.027
	Total	=	.657

Alternatively, the probability that at least one of the boys is infected is the complement of the event where none of the boys is infected.

1 infected	(.7 x .7 x .7)	=	.657

Practice

1. Present the following scenario to the class as a practice problem:

Mary is from a poor family with many brothers and sisters. Her parents only have enough money to pay the school fees for her brothers so she must pay her own fees. To do this she has acquired some boyfriends from Hatari Secondary School who are willing to help her. Unfortunately, this is not a very safe strategy for Mary because 30 percent of the young boys at the school have been infected with HIV. (However, the boys do not know they are infected; a person with HIV shows no symptoms for many years.).

2. Assign students the following question to answer on their own. Remind them that this problem is very similar to the problem that they just worked on in class. Encourage them to use any method they want. After working on the problem alone, have the students form groups to discuss their ideas and solutions.

If Mary has five boyfriends, what is the probability that at least one of them has been infected with HIV?

3. Have each group present its solution to the class. Focus on the process as well as the answer. Review the solution: (1 - .7 x .7 x .7 x .7 x .7 = .83). What are the students' reactions to this answer?

Application

The following are some activities that you may do with your students to apply what they have learned:

1. Discuss with students the implications of Mary's situation.
   - Do they understand the risk Mary takes if she is sexually active?
   - Should Mary's parents be concerned about her safety?
   - Is it fair that Mary's parents favor her brothers?
   - What can Mary do to reduce her risk?

These questions need not be answered finally in the class. They may provoke a lot of interesting, important discussion that teachers may not have time to complete during the class period. In fact, the questions may not have definitive answers at all. Therefore, they should come at the end of the lesson so that teachers can more easily regulate the time spent with students.

2. Afterwards, encourage students to talk more among themselves and with others about HIV/AIDS. Teachers may want to schedule a time after class to meet informally to continue the discussion.

3. Ask the students to visit the regional hospital. Have them inquire about the local statistics available on HIV infection rates. How are these statistics determined?

4. Have students interview family or community members about their knowledge of HIV transmission.

5. Have interested students prepare a presentation, make posters, or organize an HIV/AIDS awareness club.

6. Arrange to have a person living with AIDS (PLA), preferably a young person, come to visit the school and talk to the students.

Student Evaluation

As an additional assignment each student can be given a number from 1 to 10 (or simply have them roll a die). Have them recalculate the answer to the class problem given the local HIV infection rate and a specific number of boyfriends for Mary.

Teacher Evaluation

Reflect on this lesson.

1. What worked well?

2. What should be changed for next time?

3. Were students more motivated to learn the math since it was related to a community issue?

4. Did students learn the math content?

5. Did students learn more about HIV and gender issues?

Community Action

Possible activities:

1. Link students with community organizations that are working on HIV education activities
.
2. With the assistance of students, identify musicians in the community interested in working with students to write about HIV/AIDS prevention and positive behavioral changes that they have seen in the community. The songs can be performed outdoors informally or indoors in a more formal setting.

3. Organize a small acting troupe made up of community members and students. The troupe can prepare short skits or plays about HIV/AIDS and performs outdoors in the town center or indoors for more formal performances.

4. Have school staff, students, and community members organize a town meeting to discuss and develop a plan of action to incorporate positive behavioral changes in the community's social life.

10 MODEL LESSON 10: ENGLISH—MYTHS ABOUT THUNDER AND LIGHTNING

ACADEMIC SUBJECT

English as a foreign language
Based on ministry of education required text and syllabus

COMMUNITY TOPIC

Cultural myths

LANGUAGE OBJECTIVES

1. To answer questions on the provided texts using full sentences in the present tense
2. To use a template to write about students' community legends of thunder and lightning
3. To write a short paragraph on a myth about another natural phenomenon

COMMUNITY TOPIC (CULTURAL MYTHS) OBJECTIVES

1. To understand origins of local cultural myths
2. To become familiar with geography or history of the country

LEVEL

Secondary students; advanced-beginner and low-intermediate language learners

MATERIALS

Map of Mozambique (for example), pictures depicting vocabulary words, copies of text, blackboard and chalk

TIME

45 minutes

ACTIVITIES

Motivation

1. The teachers give the students the following instructions for making a rainstorm.
   - Teacher directs the first row of students to begin to rub their hands together and directs the remaining three rows to do the same one at a time.
   - Then the teacher directs the first row to snap their fingers while the other rows are still rubbing their hands together.
   - The other rows are instructed to begin snapping, one row at a time until all the rows are snapping.
   - The teacher directs the first row to start patting their legs while the others are snapping and then directs the other rows to start patting their legs.
   - If resources are available at this time, the teacher makes lightning by flashing the lights, and thunder by banging on a garbage can.
   - Then the teacher goes through the same process in reverse. The first row changes from patting to snapping, etc. The overall effect should sound like a rainstorm.

2. Students are told to interview at least four people in their town, using the following configuration: at least one male, one female, one older person, and one child or adolescent. They are to ask the following questions and record the responses.
   - What do people in your town think causes lightning and thunder?
   - What do you think causes lightning and thunder?

Information

1. The teacher says the words *rain*, *thunder*, and *lightning*, and has the students repeat them.

2. The teacher writes the words on the blackboard and explains them using pictures and the motivation activities above.

3. The teacher then asks the question, "Where do rain, thunder, and lightning come from?" Teacher writes student responses on the blackboard.

4. What do the people you interviewed think causes lightning and thunder? Students are put into groups of three or four. Each group is given flip chart paper or a large poster-size piece of paper and a marker. The group writes the following sentences on the poster paper. They are to write one sentence for each person, using their interviewees' responses.

   The people of ___(name of town)___ believe that lightning is caused by
   ___(write interview responses here)___ .
   They also believe that thunder is caused by ___
   ___(write interview responses here)___ .

5. The teacher invites each group to come to the front of the room and present the sentences. Each flip chart is put up in the room where all students can see them.

Practice

1. The teacher introduces the legend from the Mia Couto book *Mitos e Lendas Na Gestão Tradicional dos Recursos Naturais*, "Relampagos e Pedras No Céu" (p. 17), a Mozambique Ministry of Education required text.

2. The teachers says that Inhaca is an island in the south of Mozambique, and asks students, "Do you know where Inhaca is?"

3. Have a student show where Inhaca is on the map.

4. The teacher reads the following story:

Inhaca is a small island off the southern coast of Mozambique. The people of the island of Inhaca have many myths and legends that explain things that happen in nature. For example, they believe that thunder is caused by two big rocks hidden in the sky. Sometimes, God orders these rocks to come together to fight. They believe this makes the sound of thunder.

The people of Inhaca also believe that lizards with blue heads (commonly called gala-gala) attract lightning. The lizards do this by shaking their heads while resting on trees. They think that when it is raining they should stay away from trees because this is where the lizards are.

5. The teacher asks the following questions about the story, and the students write the answers in their notebooks using complete sentences:

- Where is the island of Inhaca?
- What makes the sound of thunder?
- What animal attracts lightning? How does it do this?
- Why should people stay away from trees when it is raining?

6. The teacher passes out copies of the story and students read along silently as the teacher reads it again.

7. Write the following vocabulary words on the blackboard: *believe*, *God*, *fight*, *rocks*, and *lizards* and ask student volunteers to define the words for the rest of the class.

8. Students read the story again while other students act out the following vocabulary words: *lightning*, *thunder*, and *rain*.

Application

1. Ask students about other natural phenomena in their country. Write the responses on the blackboard.

2. Tell the students to choose one of these phenomena and ask their parents or grandparents if there is a myth about it.

3. Students then are to write a short paragraph about the myth. They are to use as many of the new vocabulary words as possible.

COMMUNITY ACTION

Possible activities:

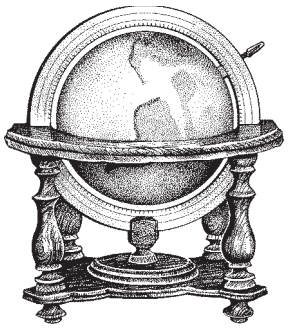
1. Have students perform several short plays about the myths in their community for community members at a traditional day celebration or festival.

2. Invite community members, families, and school staff to come to the school for a workshop on myths and how they can be used to teach the community about health, the environment, girls' education, or other community issues.

CREATING A CCBI UNIT

A unit is simply a series of lessons held together by a common theme such as “pollution” or “nutrition” or “customer service.” If Volunteers are working within a required syllabus or curriculum provided by their school or supervisor, then they will have to weave CCBI activities into the existing topics or units. The challenge, as always, is to make the lessons relevant and interesting, to bring community issues and members into the classroom, and to take students out into the community. This is particularly effective if you are able to integrate a CCBI theme throughout a number of different subject areas and involve a number of different teachers. For example, in a unit on pollution, the math class could work with statistics, the chemistry class with water pollution, the geography class with air pollution and global warming, and the English class could write essays and organize debates on pollution. No one claims this is easy, but it is extremely rewarding!

The model unit outlined below was originally developed by educator Deborah Short and taken from the book, *How to Integrate Language and Content Instruction* (ICE #ED196). It is ideal for an English as a foreign/second language class and has been adapted slightly for the purposes of this manual. Math and science educators can use the same general approach working from required math and science topics to incorporate CCBI units.



Short’s model unit plan was originally written for grades 6 through 12. Once again, the topic and content are general enough to be adapted to a wide variety of overseas learning situations. It’s up to educators to adapt the model so that it works for their students and the physical and cultural environment. A portion of the model unit on page 163 can be used to design one or two lessons, or the unit can be built on to create a longer or different unit addressing a number of environmental issues.

The following model unit includes commentary regarding the purpose of each 4MAT phase (and each phase may end up being one or more class periods). Of course, educators who are writing their own unit plans would not necessarily include so much commentary. However, we hope that Volunteer and counterpart educators, as well as Peace Corps staff not yet familiar with CCBI and 4MAT, will find it useful to get a more in-depth view of the lesson and unit planning process.

1 A MODEL UNIT ON POLLUTION

ACADEMIC SUBJECT

English as a foreign language

COMMUNITY TOPIC

Environmental pollution—littering (solid waste)

LANGUAGE OBJECTIVES

1. Listening/speaking:
   Recite/listen to a dialogue with meaningful content.

2. Discuss environmental issues as a whole class and in small groups.
   Conduct interviews and report orally.

3. Reading/writing:
   - Design a questionnaire.
   - Complete a list or chart.
   - Write in a journal.

4. Structure: Question formation

5. Key vocabulary:
   litter, trash, garbage, dump, mess, environment, cause, solution, solid waste, pollution, survey

COMMUNITY CONTENT (ENVIRONMENTAL POLLUTION) OBJECTIVES

1. To recognize environmental problems
2. To identify litter and patterns of littering
3. To identify human influence on the environment

COGNITIVE SKILLS

1. To analyze problems
2. To generate solutions
3. To infer reasons for human actions

MATERIALS

Teacher-made dialogue, poster, items of trash (empty soda cans, paper wrappers, broken glass, etc.)

TIME

If conducted exactly as suggested here, the following plan may require one to two weeks to complete.

ACTIVITIES

Motivation

(These activities should be done before lesson is presented, or at the start of the lesson.)
This activity whets the students' interest and visually represents some background information about the topic.

For example:

1. A week before the lesson is presented, hang a scenic poster on the wall. Some students

may comment on the lovely view or ask questions about objects in the scene. Every other day, attach to the poster an item that might be considered trash (candy wrappers, empty box, an aluminum can), thus creating a "trash collage." Although the students may be curious, you should not reveal the purpose of the activity. This activity whets the students' interest and visually represents some background information about the topic.

(To introduce the actual lesson)

2. All students can participate. Help them make speech-print connections by writing their comments on the board. Ask students what they think the trash collage represents. Write students' ideas on the board. Finally, through guided questioning, lead the students to recognize/acknowledge that the lovely place is being ruined by litter.

Changing the focus from the scene in the poster to the local environment, and adding some vocabulary to the list, ask some of the more advanced students to explain why there is litter and write comments on the board. Some students may want to consider the consequences of the littering problem.

Information

This dialogue introduces, in an interactive way, some key vocabulary words and causes associated with littering.

LITTERING AT SCHOOL

Student 1: Don't throw that on the ground.

Student 2: Why not? What's the big deal?

Student 1: Our school looks like a garbage dump.

Student 2: So what? Tell one of the younger kids to clean it up.

Student 1: But you littered.

Student 2: Everyone does it. Teachers do it, too.

Student 1: You're impossible. Do you know what our school will look like if everyone continues to litter?

Having begun with concrete examples (poster, dialogue), students can now expand and organize their information.

On the board write the headings: Challenges, Causes, and Solutions in chart form. Categorize and expand the vocabulary list with student input. Show students a written copy of the dialogue.

This activity incorporates some language practice for the students.
To check on comprehension and practice writing questions, have the students take dictation.

Dictate the following questions:

- Where does the action take place?
- Who is talking?
- What happens?
- Why is one student upset?
- Does this happen at our school?

Have pairs compare their work, and ask volunteers to write their dictations on the board.

Encourage students to peer-edit. Discuss relevant grammar points (e.g., question words, verb-noun positions).

Ask students to think of additional questions about the dialogue. Write the students' questions on the board. Work as a class to edit errors.

If desired, add questions such as "Why is there a challenging situation here?" (cause) or "What can you do?" (solution).

Practice

This paired activity allows for oral language practice in the context of the lesson topic.

Have pairs role-play the dialogue, "Littering at School," and discuss the vocabulary and the issues together. Then have pairs ask each other the class-generated questions (more advanced students should answer first).

Review

The review activity leads students to work individually at first, then with peers.

After the structured conversation, ask students to write ten questions and answers about the topic (littering). Before they hand them in, encourage students to peer-edit.

Home task *(applies the topic directly to their lives)*

For homework, have students write in their journals about the trash they see as they go to and from school during the course of one week. As this task continues, expand the vocabulary list under CHALLENGES and put it on a poster or chart to hang in the room. Make two other posters, one with CAUSES and the other with SOLUTIONS as well.

Application

The groups offer all students a chance to participate.

In small groups, have students discuss the causes of the littering, then share ideas with the class. Write the ideas on the CAUSES poster. Then ask groups to consider solutions. Share students' suggestions and write on the SOLUTIONS poster.

This activity reinforces the language structure objective.

Next, have small groups design a questionnaire to interview classmates, teachers, neighbors, family, and friends. The questionnaire should be limited to five questions. If needed, help groups write their questions but do not provide them with a full list. Possible questions:

- Does litter bother you?
- Do you litter?
- What do you throw away as litter?
- Why do people litter?
- Who is responsible for solving this problem?
- What can be done about this problem?

Home task

This task encourages interaction with nonclassmates on the topic and may provide clarification practice as students explain their task to others.

Have students conduct a survey for three days, each interviewing 10 people. (If they interview non-English speakers, they may ask the questions in the native language, but should write responses in English.)

(Optional) Extension Activities

Each group contributes to the whole class. Optional presentations allow each group to choose one method best suited to group members' learning styles and academic skills.

Have students share this information in their groups. Have recorders in the group organize the results of the survey and a representative of the group report to the whole class. Help the whole class find ways of organizing and presenting the results of the survey. Some students may list the results on the posters; others may do a chart and quantify the responses. Some may prepare an oral report or a debate between individuals who litter and those who don't. Other students may create a role-play or drama. Some may design a visual display or collage, highlighting before and after schemes.

Have students write a composition. Display the papers and, if appropriate, encourage some students to submit their work for publication in a school/class newspaper.

To further students' problem-solving and study skill development:

Expand this introduction to individual generation of and influence on solid waste pollution to heighten students' awareness of other sources of solid waste (industrial, agricultural, and municipal) and methods of disposal. Design additional lessons to help students research sources of solid waste in their communities and learn about local disposal methods, such as dumping, burying, burning, and recycling.

COMMUNITY ACTION

Students can invite official and active members of the community (mayor or local chief, local merchants and businessmen and women, parents, etc.) to a town meeting to discuss the solid waste pollution situation in their village, town, or city and ways to address community concerns.

A CCBI LESSON/ UNIT PLANNING CHECKLIST

We've included here a simple checklist that you can use to guide your thinking and lesson planning with CCBI. This is not the only way to work through the design of a CCBI lesson or unit, but this list may help you get started. With time and experience, you will determine which of these steps—and other steps—are most useful as you develop your own style and approach to community content-based lesson planning.

- ☐ Conduct some PACA exercises with your students and/or community members to identify and gather information about community issues and problems. These exercises can be conducted with some already established groups: sports team, English club, environmental club, PTA, and so on.

- ☐ Determine which of these community issues and problems might be most relevant and interesting to your students. Which of these issues might your students be able to do something about? Which do they say they are interested in?

- ☐ Examine the syllabus to determine opportunities to integrate these community issues and problems into your teaching. What opportunities are there to address these issues in extra-curricular or community-related activities?

- ☐ What constraints will there be to addressing any of these issues? What do you need? What can you do? Who can help you?

- ☐ Ask yourself and others how any of these issues affect girls and boys differently? What impact do these issues have on the education of girls? Boys? What about other groups?

- ☐ Talk with the head of the school and your counterpart about their ideas and solicit their ideas before creating the lesson.

- ☐ Develop a new CCBI lesson or enhance a lesson you already have done. As you are developing the lesson think about:
  - What subject area/content objectives are being addressed in this lesson?
  - What community content objectives are being addressed in this lesson?
  - What materials and resources do you need? What resources (people, material, etc.) exist in the community that you could use for this lesson/activity?
  - What would motivate and interest students in the topic?
  - What information and skills will be learned—in the content area, about the community issue?
- ☐ Which participatory, student-centered learning activities would be good to use in this lesson? How will students interact with each other?
- ☐ How can students practice what they have learned?
- ☐ How can gender issues be integrated into the lesson?
- ☐ What small action can students take to apply or use what they have learned in a situation outside of the classroom?
- ☐ How will students evaluate their learning?
- ☐ Reflect on what worked and what didn't. Make any changes for next time.
- ☐ Remember: There is a great deal of flexibility in community content-based teaching and learning, allowing you to make a variety of topics work together in your particular teaching situation. Do not feel limited to the ideas suggested in the model lessons/unit included in this manual. Depending on your particular situation, you may find that two sectors not linked in these examples, or elsewhere in the CCBI manual—such as business and biology—can be pulled together for a lesson or unit and community action activities.

QUESTIONS AND ANSWERS ABOUT CCBI

In addition to the enthusiasm that has been shown for CCBI in the field, there are questions and concerns that have arisen from Volunteers, students, and host country counterparts. This appendix of the CCBI manual addresses some of the most frequently heard questions and concerns. These comments are in no way comprehensive, but they should assist you in using CCBI.

ONCE THE CONCEPT OF CCBI IS UNDERSTOOD, WHERE DO EDUCATORS START?

Teachers have found that it is best to start small and slow. This not only allows for integration of CCBI into current teaching and activities, but it also provides students time to become accustomed to a different way of learning.

There are many different ways to use CCBI both in and out of class. A first step might be to use PACA techniques to identify community issue(s) of relevance to students. Then check to see if there is a topic in the curriculum that is related to the community issue. Think about how to integrate the community issue into in- and out-of-class lessons and activities.

Volunteers might:

- use these community examples, problems, and issues as content for presenting and practicing academic skills and knowledge through classroom exercises, problems, activities, homework, or assessments.
- have students use PACA techniques to collect further information about these community issues as a syllabus topic is taught.
- have students discuss, develop, or implement solutions to problems in their community in the form of small actions or projects done in class or as an extracurricular activity.

IT'S EASY TO SEE HOW AN ENGLISH TEACHER CAN USE CCBI, BUT WHAT ABOUT SCIENCE OR MATH TEACHERS? HOW DOES CCBI APPLY TO THOSE SUBJECTS?

The broad applicability of CCBI in English language instruction is evident. For teachers of other subjects such as math, the sciences, and geography it may not be immediately apparent how, and where, CCBI can be used. The use of CCBI may not be appropriate for every syllabus topic. It may be difficult to see how to use CCBI when teaching differential equations or molecular structure. This is especially true for those teachers who may have been taught technical subjects in a highly academic manner devoid of "real world" links.

Since teachers tend to teach as they were taught, it might be difficult, at first, to make the jump between the academic nature of these subjects and their links and applications to the local community. However, teachers in every subject have identified some syllabus topics that readily lend themselves to a community issue.

Start with these "easy" topics. As teachers become accustomed to looking for academic-community links, they may discover additional syllabus topics that can be applied to community issues. Many teachers also have found that it helps to discuss and exchange ideas and lessons with colleagues who teach other subjects.

WHAT ABOUT THE BUSINESS SECTOR? HOW CAN BUSINESS FIT WITHIN CCBI?

The basic premise behind CCBI makes it possible to address the needs of any sector or content area. Where business topics are concerned, it's especially important to keep in mind that we are talking about education work, so that use of the CCBI framework should be within a business education context.

For instance, in a math or TEFL class students could learn how to create simple budgets or inventory systems. English language students also could discuss customer service and conduct role-plays. Math students could learn basic statistical concepts or how to do a cost analysis. As part of a unit on budgets, students could learn about fundraising—what it is and different ways a business, group of people, or individuals can raise money.

Students could apply their learning to a community-based activity or small action by:

- helping a local business take inventory of its stock;
- conducting an income generation activity that raises funds to improve a local water source; or
- purchasing medical equipment for a clinic or hospital.

Volunteers or counterparts can collaborate with storekeepers and other community members in a town meeting to identify issues of concern to the business and general community. Participants could eventually develop and implement strategies for addressing their concerns.

For English language teachers who are not completely comfortable with the technical content of business topics, remember that one of CCBI's strengths is that it encourages cross-sectoral collaboration; don't hesitate to ask a business Volunteer to be a classroom guest or to present a topic.

Other ideas for TEFL-business lesson topics include:

- writing a business letter;
- preparing a résumé;
- writing an advertisement for the local paper; or
- promoting a new product.

THERE DOESN'T SEEM TO BE ENOUGH TIME TO DO CCBI BECAUSE THE SYLLABUS IS SO FULL AND THE SCHOOL TERMS ARE TOO SHORT. HOW CAN THIS BE REMEDIED?

Many teachers are responsible for covering a comprehensive syllabus, which is sometimes more of a challenge when school terms are shortened or interrupted. Such realities make it difficult to introduce a CCBI unit. Again, the advice is to start slow and small, and look for opportunities in the syllabus to integrate content and community learning. Each syllabus has a few topics that readily lend themselves to local community issues. Start with these syllabus topics. Also, explore the use of CCBI during academic club meetings and extracurricular activities, which many teachers find is a good time to provide additional interesting and relevant learning opportunities for students.

SOME STUDENTS AND TEACHERS FEEL THAT CCBI DOESN'T PREPARE STUDENTS FOR THEIR NATIONAL EXAMS. HOW CAN THIS BE ADDRESSED?

In some countries success in the educational system depends on passing national exams. Thus, many students, teachers, and administrators feel an incredible pressure to prepare students for these exams. As teachers within these systems, Volunteers also have a responsibility to prepare students for these exams, regardless of their beliefs about that type of academic advancement.

Because of the importance of exam results to a student's future, many may be wary of any activities that don't seem directly related to the exams. This is especially true in exam classes. In many countries students and educators acknowledge that the current methods don't prepare students well, as evidenced by high failure rates. However, they do know that some students will pass the exam using traditional methods, which is more than they know about CCBI.

Some teachers have found that it helps if they can demonstrate to the students, as well as other teachers, how their CCBI methods are directly related to the national exam. Volunteers should review past exams to find links between exam problems and real life, or community issues. Also, when doing a CCBI lesson, explicitly indicate to students which syllabus topic will be covered in the process. This may relieve some of their anxiety about preparing for the exam and make them more open to trying a new way of learning.

Other teachers may decide not to use CCBI much in exam classes, but rather start by integrating CCBI into classes that are not yet feeling intense exam stress and pressure, so that students might be more open to new methods of teaching. Even in exam classes, however, incorporation of community examples into presentations and problem sets should be possible.

In actuality, the teaching methodologies used with CCBI will prepare students to be better thinkers and problem solvers, and, thus, CCBI will better prepare them to solve national exam questions. They can't memorize every question, so don't give up too easily.

IS CCBI TRYING TO CHANGE THE NATIONAL CURRICULUM?

CCBI is not trying to change the content of the national curriculum. Rather, CCBI helps link the existing curriculum content with the lives of students, enabling them to see that classroom learning is related to the "real" world. They then can apply what they learn at school to solve problems in their families and communities, something they will be expected to do as adults.

HOW IS CCBI DIFFERENT FROM CONTENT-BASED INSTRUCTION?

In language instruction, content-based refers to the method of using relevant content to teach language skills. For example, instead of teaching students how to form a question in a foreign language by asking, How old are you? a teacher might ask such questions as, Who collects water in the community? Where do they get the water? How much water do you use at home?, thus linking the grammar lesson to the community identified issue of water supply.

CCBI turbo-charges CBI by adding a community focus and gender-sensitive, experiential, problem-posing methodologies. This turbo-charged CBI, known as CCBI, then becomes an effective tool in supporting the goals of education for sustainable development.

ARE THERE ENOUGH MATERIALS AND RESOURCES TO DO CCBI?

One of the great things about CCBI is that it addresses the problem of lack of materials by using the surrounding community and environment for lesson resources and materials. Students and teachers can use PACA techniques to collect a great deal of information for use in lessons. During practice and application of their learning, students can create materials and resources for use by the school and community, thereby linking classroom learning to community issues.

There may be times when information is difficult to obtain or only available in a city. This is where it may be useful to begin to develop, and make available through the in-country resource center at the Peace Corps office, a bank of information on common community issues. Work with Peace Corps staff to develop a strategy and process for developing a pool of resources, ideas, and lessons that can be shared by Volunteers and their counterparts. A resource bank also makes it easier to use CCBI because building on others' ideas and experiences saves time.

IF CCBI ISN'T AN ACCEPTED METHODOLOGY BY THE MINISTRY OF EDUCATION, HOW CAN IT BE USED?

Many ministries of education are embracing more student-centered, gender-sensitive methodologies and are acknowledging that current educational practices are not adequately preparing students for their futures. The good news is that governments are aware that something needs to change. However, moving from awareness to changes in teaching methods at individual schools is a long, slow process, especially in centralized educational systems.

Ethiopia's Ministry of Education recently embraced the CCBI approach and now offers national training seminars on CCBI for its teachers. Volunteers reported feeling very frustrated for a long time when they first introduced CCBI into their schools and communities; but with perseverance, time, and hard work, local teachers and ministry officials have begun to appreciate fully what CCBI has to offer.

Peace Corps staff can help pave the way for the acceptance of CCBI as a teaching methodology by meeting with ministry and school officials, including them in CCBI training events, and working with officials to identify how CCBI can assist in achieving national and local educational goals. If officials understand how CCBI can assist in achieving educational goals, they will be more willing to accept and support its use. It also is important to identify and discuss opportunities and constraints for using CCBI and to come to an agreement on how to explore this educational framework further.

Volunteer educators and counterparts also have a role in this dialogue at the local school level. Talk with school administrators about CCBI to enlist their support. When Peace Corps staff visit ask them to speak to the administration about CCBI. If a firm groundwork is laid, most teachers have found that officials are open to, and often supportive of, the introduction of CCBI.

WILL CCBI TAKE A LOT OF PREPARATION TIME?

Preparing lessons in a new manner always will take more time than reusing old lessons. CCBI offers a meaningful and practical framework for teachers to use to save time, as they are always looking for different kinds of lessons to keep their students interested and learning..

Working with colleagues can reduce preparation time by distributing the workload and providing support. The establishment of a CCBI resource bank, where teachers send their lessons and ideas to be shared with others, also saves time. And don't forget to use students as resources. Finally, remember to start slow and small, trying one lesson and activity at a time. Many teachers are motivated to spend the extra time preparing the lessons once they see the positive changes in their students.

STUDENTS DON'T APPEAR TO BE VERY INTERESTED IN CCBI TECHNIQUES. MANY ARE USED TO LECTURES AND PREFER THAT TEACHERS MAINTAIN THAT FORMAT. HOW SHOULD THIS SITUATION BE APPROACHED?

Most students have spent many years in school learning by a certain method, often lecture and rote memorization. This method is familiar and comfortable to them, if not always enjoyable. When a Peace Corps Volunteer comes into the class, speaking with a funny accent, using unusual classroom management practices, and teaching with "bizarre" methods, it is no wonder that students become a little suspicious.

It may be useful to take class time with students to discuss their educational goals, their thoughts on their future roles, their opinions about how well the present system of education prepares them to achieve their educational goals, and their ideas for changing the education system if they could. First, separate students by gender to illuminate any gender differences and to ensure that all voices are heard. Use the discussion to explore what role CCBI might have in assisting them to achieve their goals. Although this could take some class time, it will be class time well spent.

And, again, start small and go slowly. Many teachers find it helpful to begin with familiar methods and practices. As students begin to know and trust the teacher, she or he introduces new methods of learning. Most teachers have found that after initial resistance students really enjoy learning with CCBI because it is fun and interesting, and it allows them to talk about things that are important to them.

HOW CAN VOLUNTEERS OR PEACE CORPS STAFF GET LOCAL TEACHERS INTERESTED IN LEARNING ABOUT CCBI?

As most people know, trying something new takes extra time, especially in the beginning stages. Taking the extra time can be especially difficult for teachers who have many demands on their time and who must support their families on meager teachers' wages. Finding the time and energy to devote to learning something new may not be an option for them. But try not to get discouraged.

Volunteers need to look for a motivated teacher who may have the time to devote to CCBI. Ask the school administration if it is acceptable to post information about CCBI, and teaching in general, in the staff room. Observe who reads it. Try to engage them in informal discussions about teaching. Invite this teacher to an upcoming training. Get to know this teacher and the demands on his or her time. Explore possible ways of working together.

THIS PROBLEM-POSING APPROACH SEEMS TO GO AGAINST THE WHOLE AUTHORITARIAN CULTURE IN SOME COUNTRIES. HOW CAN CCBI BE USED IN SUCH AN EDUCATIONAL ENVIRONMENT?

This is an excellent question and one that requires great sensitivity. The problem-posing approach to education is not a neutral pedagogy. Its aim is to empower people to explore and address problems important to them. Empowered people may decide to attempt change in their lives. This can be very threatening and disruptive to authoritarian administrations, governments, and family structures. If it is likely that a discussion topic may disrupt the status quo, talk with colleagues, friends, Peace Corps staff, or Volunteers for advice on how to proceed. Remember, change takes time.

RESOURCE LIST

The following resources, although not specifically about community content-based instruction, promote community entry, participatory education, and development practices that can be used to enhance links between schools and communities using the CCBI approach.

Additional resources for specific subject areas also are available through ICE. Use the most recent digital ICE to find what you need.

CROSS-CULTURE

Culture Matters: The Peace Corps Cross-Cultural Workbook. Peace Corps ICE, 1997. (ICE No. T0087)

Practical, interactive workbook for Volunteers in all programs. Guides the reader through the cross-cultural experience and the major concepts in the intercultural field. Presents exercises, stories, quotations, and descriptive text designed to aid the Volunteer in successfully adapting to the new culture. Examines the behaviors and values of people in other countries and offers ways to compare their behavior to that of Americans. An excellent resource for trainers, trainees, and Volunteers. Illustrated.

COMMUNITY ENTRY/PARTICIPATION

Building Communities From the Inside Out: A Path Toward Finding and Mobilizing a Community's Assets. John P. Kretzmann and John L. McKnight. ACTA Publications. 1993. 376 pp. [ICE Class. No.CD051]

This is a guide to asset-based community development, summarizing lessons learned by studying successful community-building initiatives in hundreds of U.S. neighborhoods. The guide outlines what local communities can do to start their own asset-based development, including how to rediscover their local assets; how to combine and mobilize these strengths; and how "outsiders" in government can effectively contribute to the process of asset-based development.

Learning Local Environmental Knowledge. The Peace Corps. 2002. 68 pp. [ICE No M0071]

This handbook provides Volunteers in any sector with a structured way to learn about the biophysical, economic, and social aspects of a host community during PST and the initial months of service. They explore and discover how community members perceive and relate to their local natural resource base. Over time, Volunteers increase their understanding of local practices and livelihood strategies to become valuable assets for community development. This is an excellent tool for Volunteers to use in their role as learners (see related publication, *The Roles of the Volunteer in Development*).

Participatory Analysis for Community Action (PACA). The Peace Corps, 2003. (ICE No. M0053)

Techniques for working with all sectors of a community (women and men, girls and boys, minority and majority groups, different age groups) to analyze situations and develop ideas for projects. Training sessions and field insights. Being revised in 2000.

Promoting Powerful People: A Process for Change. The Peace Corps, 2000. (ICE No. T0104)

Introduces a three-step process for change: listen and observe, discuss and decide, try something. For each step, a number of skills are taught and practiced, in the classroom and/or in the community. Nutrition is the basic content, but suggestions for use with other content are given.

Project Design and Management: Training Manual for Volunteers and Counterparts. The Peace Corps, 2000. (ICE No. T0050)

A training manual that develops skills in all steps of project planning and design, aimed at Volunteers and counterparts working with communities to develop local capacity.

Tools for Community Participation. Lyra Srinivasan. PROWWESS/UNDP, 1990. (ICE No. WD084)

Easy-to-read manual for training trainers in participatory techniques. Although focused on involving women in water and sanitation projects, it also is useful for training community workers in general.

Roles of the Volunteer in Development: Toolkits for Capacity-Building. The Peace Corps. 2002. 277 pp. [ICE No.T0005]

The publication contains seven booklets, all of which help maximize Peace Corps Volunteers' effectiveness by addressing a different aspect of the capacity-building roles that Volunteers play. Each booklet has a chart delineating the knowledge, skills, and attitudes needed for the role; background readings; and activities designed to increase Volunteers'' competence in that capacity. The booklets can be used in self-study or in conjunction with a trainer or other training material.

EDUCATION

About Teaching: 4MAT in the Classroom. Bernice McCarthy. EXCEL, Inc., 1987. (ICE No. ED187)

Presents research on a system that seeks to adapt educators' attitudes and teaching styles to the different ways people learn. Describes four different models according to how people perceive information (feeling vs. thinking) and how they process it (watching vs. doing). The research examines the relevance of different learning styles to right and left-brain dominance. It includes graphics and sample lesson plans to demonstrate how the system works.

Adapting Environmental Education Materials. Peace Corps ICE, 1999. (ICE No. M00059)

Provides guidance on evaluating materials for adaptation, adapting and testing materials, as well as examples of adapting for simpler and fewer materials, local realities, environmental topics to traditional classroom subjects, and so on. Contains sessions for training educators about adaptation.

Alternative Techniques for Teaching About HIV/AIDS in the Classroom. Peace Corps Thailand/STD and AIDS Center, Korat Thailand, 1993. (ICE No. R0086)

Presents a collection of interactive games and activities created to supplement existing curricula on AIDS. The publication also includes some basic information about the disease and guidelines for teachers to use at different grade levels.

Beyond the Classroom: Empowering Girls. Idea Book. Peace Corps, 2000. (ICE No. M0080)

Provides specific activities from the field that empower young women, including mentors, clubs, camps and conferences, sports, contests, and life skills education.

DPM: Integrating Disaster Preparedness and Mitigation in Your Work. Idea Book. Peace Corps, 2001. (ICE No. M0084)

The root causes of most disasters in developing countries include poverty and inappropriate development. This booklet provides activities for building disaster prevention into many aspects of Volunteer work, regardless of project assignment.

Environmental Education in the Schools: Creating a Program that Works! Judy Braus and David Wood. Peace Corps, 1993. (ICE No. M0044)

Offers useful information on introducing environmental issues into the academic curriculum.

HIV/AIDS: Integrating Prevention and Care Into Your Sector. Idea Book. The Peace Corps, 2000. (ICE No. M0081)

Offers practical strategies for assessing and responding to the effects of HIV on each of the Peace Corps' project areas, including agriculture and environment, small enterprise development, health, youth, and education. It also offers examples of creative and effective strategies used by Volunteers to integrate the issue of HIV into their activities through collaboration with other sectors or by designing activities targeting those most affected by AIDS.

In the Classroom: Empowering Girls. Idea Book. The Peace Corps, 2002. (ICE No.M0083

Provides classroom and co-curricular ideas for both boys and girls.

Just Stir Gently: The Way to Mix Hygiene Education with Water Supply and Sanitation. Marieke T. Boot. IRC International Water and Sanitation Centre, 1991. (ICE No. WS113)

Promotes hygiene education by relaying information on conditions and practices that help prevent water and sanitation diseases. It is directed toward integrating hygiene education with water supply and sanitation projects, and offers strategies on decision making in hygiene education; negotiation and cooperation among government agencies, donor agencies, and health institutions; and better planning and management of hygiene education programs. It provides examples of integrating traditional beliefs with "germ theory of disease," and also includes sample lesson plans.

Life Skills Manual. Peace Corps/Malawi and the Peace Corps, 2000. (ICE No. M0061)

A comprehensive behavior change approach that concentrates on the development of the skills needed for life, such as communication, decision making, thinking, managing emotions, assertiveness, self-esteem building, resisting peer pressure, and relationship skills. It also includes ten specific sessions of basic information on HIV/AIDS.

Nonformal Education Manual. Peace Corps ICE, 2003. (ICE No. M0042)

Demonstrates how the techniques of nonformal education can be used by virtually all Peace Corps Volunteers. Emphasizes full-scale community participation at all stages of development.

Teaching English as a Foreign Language to Large, Multilevel Classes. Peace Corps ICE, 1992. (ICE No. M0046)

Provides strategies for teaching difficult classes, including practical tips for student needs assessment, classroom management, lesson planning, cooperative learning, resource development, and assessment.

YOUTH

Working With Youth: Approaches for Volunteers. The Peace Corps. 2002. 234 pp. [ICE Class. No. M0067]

This comprehensive publication for Volunteers addresses the different needs and circumstances of orphans, in- or out-of-school youth, refugees, and working youth. Discusses the role of Volunteers' in working directly with youth, and enhancing the effectiveness of youth-focused NGOs. Chapters lead the reader through planning, implementing, and evaluating youth activities; using appropriate tools, techniques, and games; and applying the health, education, and leadership activities for youth used by Volunteers working around the world.

NON-ICE RESOURCES

There are many resources available from sources other than ICE, a few of which are listed here. To locate additional resources, make use of Internet search engines (use key words: service learning, participatory learning, education, nonformal education).

A Cognitive Academic Language Learning Approach: An ESL Content-Based Curriculum. Anna Chamot and J. Micael O'Malley. National Clearinghouse for Bilingual Education, 1986.

Guide to the CALLA Approach, which uses learning strategies to help teach content topics in ESL classrooms.

Adapting Materials for Content-Based Language Instruction. Deborah J. Short. ERIC Clearinghouse on Languages and Linguistics, 1989.

Article describes methods for adapting mainstream materials for ESL classes. Students learn language through instruction in specific subject areas rather than through language instruction alone.

Children's Participation: From Tokenism to Citizenship. Roger A. Hart. UNICEF International Child Development Centre, 1992.

Describes the experiences of British children who participated in community research and community action through the schools. Includes a bibliography.

Cooperative Language Learning: A Teacher's Resource Book. Carolyn Keller, Ed. Prentice Hall Regents, 1992.

Collection of readings on cooperative learning written by well-known names in the field. Explores curriculum concerns, small group work, integration of language and content (mathematics, science, social studies), the role of the teacher, and teacher training.

Enriching the Curriculum Through Service Learning. Carol W. Kinsley and Kate McPherson, Eds. Association for Supervision and Curriculum Development (ASCD), 1995.

Introduces service learning concepts integrated within and across the curriculum.

ESL Through Content-Area Instruction. JoAnn Crandall, Ed. Center for Applied Linguistics, 1995.

Introduces integrated language and content instruction to content and ESL teachers. Chapters identify the need for teacher collaboration across disciplines. Sample transcripts of students engaging in language/content learning activities and sample lesson plans with math, science, and social studies content are included.

Health Into Mathematics. Peter Gibbs and William Mutunga. Longman Publishing Company, 1991.

Provides sample mathematics lessons that integrate health topics.

How to Integrate Language and Content Instruction: A Training Manual. Deborah J. Short. Center for Applied Linguistics, 1991.

Manual for teachers and teacher trainers who want to integrate language and content into their lessons. Topics include strategies and techniques, assessment issues, lesson planning, materials adaptation, program design, and training. Examples are drawn from several content areas: science, mathematics, social studies, and health.

Integrating Language and Content Instruction: Strategies and Techniques. Deborah J. Short. National Clearinghouse for Bilingual Education, 1991.

Discusses the approach to integrating language and content instruction at the school and classroom level. Specific activities are described, including developing student background knowledge, meeting students' cognitive needs, and adapting ESL techniques to the content lessons. Includes sample lesson plans.

Language and Culture in Conflict: Problem-Posing the ESL Classroom. Nina Wallerstein. Addison-Wesley, 1983.

The Learner-Centered Curriculum. David Nunan. Cambridge University Press, 1988.

Useful guide shows how teachers plan, implement, and evaluate language courses. Promotes the concept of a negotiated mode. Stresses the value of collaboration between teachers and learners.

Life Planning Education. The Center for Population Options, 1992.

Comprehensive manual to prepare teenagers for the world of work and parenthood.

Math Matters Plus, Books A and B. Gerry Price, Joyce Chester, and Eon Harper. Longman, 1991.

Aims to enhance the mathematical knowledge of 14- to 16-year-olds by applying mathematics to real-world situations. The learning material is based on real-world situations, with scenarios that offer opportunities for discussion, problem solving, and developing process skills. (Teachers' books and copy masters available.)

The New Circles of Learning: Cooperation in the Classroom and School. David W. Johnson, Roger T. Johnson, Edythe Johnson Holubec, and Patricia Roy. Association for Supervision and Curriculum Development, 1984.

Discusses the importance of cooperative learning and provides guidelines for implementing cooperative skills. Addresses basic questions and myths about cooperative learning.

Pedagogy of Hope. Paulo Freire. The Continuum Publishing Co., 1994.

Pay special attention to Chapter 4.

Performance and Portfolio Assessment for Language Minority Students. Lorraine Valdez Pierce and J. Michael O'Malley. National Clearinghouse for Bilingual Education, 1992.

Describes performance assessment procedures and a portfolio assessment framework for monitoring language development. Provides examples of performance and assessment tools and procedures.

Rainwater Harvesting: The Collection of Rainfall and Runoff in Rural Areas. Arnold Pacey and Adrian Cullis. Intermediate Technology Publications, 1986.

Rapid and Participatory Rural Appraisal Notes, No. 21 – Special Issue on Participatory Tools and Methods in Urban Areas. Sustainable Agriculture Programme-IIED, 1994.

Describes practitioners' experiences using participatory methodology in the urban context. Provides urban-based projects with a framework for participatory project work. Brings Volunteers up to date on development methodology in the urban environment.

Tools for the Field: Methodologies Handbook for Gender Analysis in Agriculture. Hilary Sims Feldstein and Janice Jiggins, Eds. Kumarian Press, 1994.

A collection of field examples of gender-related research focusing on agricultural projects. Provides concrete examples of important ways gender can be taken into account in project design, implementation, and evaluation.

Tools of Gender Analysis: A Guide to Field Methods for Bringing Gender Into Sustainable Resource Management. Barbara Thomas-Slayter, Andrea Lee Esser, and M. Dale Shields. Clark University, 1993.

Presents methods for gathering data and examining men's and women's roles in natural resource management. Information illustrated with brief examples of projects in different developing countries. Useful materials for pre-service training of Volunteers.

For posts that wish to order non-PC publications, write to:

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