A collection of historical artifacts is displayed on a light-colored surface. In the top left, a portion of a chessboard with a checkered pattern and several chess pieces is visible. Below it, a blue ribbon with a circular emblem is attached to a large, ornate silver star-shaped medal. To the right, another similar silver star-shaped medal is shown. In the bottom left, a round silver compass with a needle and cardinal directions is visible. A pair of thin, gold-rimmed glasses with a bridge over the nose and temples extending outwards is positioned in the center. A red ribbon with a circular emblem is also visible at the top left.

Promoting Health & Science Knowledge for ELLs

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Boyd Davis
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Overview of Presentation

Oral narratives are used to create materials that support content-area goals in health and science.

We present:

- The theory of using oral narratives to support the instruction of ELLs.
- Examples and strategies that incorporate narratives into science-based lessons promoting:
 - Content knowledge: *DUO* and *TRIO* activities
 - Fluency through reading: *ReadNow*
 - Grammar awareness: *The Language of War*
 - Vocabulary building: *A Close Call with Death*



What is Project MORE?

- ◆ Project MORE is a Training-All-Teachers initiative funded by the U.S. Department of Education.
- ◆ The project is housed in the Applied Linguistics Program at UNC-Charlotte.



What is Project MORE?

Project MORE:

- ◆ Develops teacher-training and classroom materials for content-area instructors of ELLs.
- ◆ Sponsors content-area and ESL teachers in the creation of classroom materials for use with ELLs.
- ◆ Funds mini-grants for university faculty who model Project MORE narratives and materials.

How does Project MORE create materials?

Project MORE develops materials from stories in the Charlotte Narrative and Conversation Collection (CNCC).



What is the CNCC?

The CNCC

- ◆ Is a digital corpus that includes approximately 700 oral narratives, interviews and conversations.
- ◆ Represents speakers from greater Mecklenburg County, North Carolina.
- ◆ Contains materials in multiple varieties of English, Spanish, Chinese, Arabic, and other languages spoken in the region.





Why are oral narratives important?

- ◆ Mastery of spoken language is crucial to language development.
- ◆ Oral language can be used to promote:
 - Cultural understanding.
 - Student retention.
 - Literacy for new language learners and low-achieving students.

(Fenner 2003; Fine 1987; Heath 1982; Saracho 1993)



Why are oral narratives important?

According to Piper (2003: 213):

“Whatever their previous cultural experience of narrative, when they get to school, children will face the task of linking oral and written language...Narrative is the principal link between the two.”

Piper, T. (2003). *Language and Learning: The Home and School Years*, Third Edition. N.J.: Merrill/Prentice Hall.



Why are oral narratives important?

Piper adds (2003: 213):

- ◆ “...children with moderate to severe reading problems frequently have deficient narrative skills.”
- ◆ “... in kindergarten children, there is a significant and positive correlation between the ability to name letters and to write and the ability to understand stories.”

Piper, T. (2003). *Language and Learning: The Home and School Years*, Third Edition. N.J.: Merrill/Prentice Hall.



What can oral narratives offer?

Using oral narratives and interviews in a classroom environment provides a:

- ◆ Source of information.
- ◆ Familiar strategy for communicating and understanding ideas.
- ◆ Validation of students' cultural traditions.
- ◆ Conduit to facilitate language learning in all facets.

(cf. Freeman and Freeman 2003; Piper 2003)

Project MORE's Galleries



Children's
Gallery



Cinderella
Gallery



Diversity
Gallery



Intergenerational
Gallery



Inside the Intergenerational Gallery

Introduction:

- ◆ When they hear echoes of their own community's language and culture, learners at every age and at every educational level are motivated to engage in
 - Service learning.
 - Intergenerational learning.
 - Professional certification.



Inside the Intergenerational Gallery

DUO & TRIO Lessons:

- ◆ Feature oral narratives from the CNCC
 - To spark student interest.
 - To help bridge the gap between basic interpersonal communication skills (BICS) and cognitive academic language proficiency skills (CALPS) (cf. Cummins 1980).
- ◆ Link health, aging and civics.
- ◆ Promote critical thinking and foster reading and writing development.



Inside DUO and TRIO Lessons

DUO

- ◆ These lessons are designed for students in two different contexts:
 - High school science and health courses.
 - College-level health and gerontology.



Inside DUO and TRIO Lessons

TRIO

- ◆ These lessons are designed for students in three different contexts:
 - High school ESL classes.
 - High school science and health courses.
 - College-level health and gerontology.



Inside DUO and TRIO Lessons

TRIO

- ◆ TRIO ESL lessons present subject matter and techniques at different levels in order to accommodate newcomer ELLs who may have limited or interrupted schooling.
- ◆ TRIO ESL lessons are designed for high school ELLs who need additional work with more basic middle-school skills.



Focus: TRIO lessons

- ◆ Address middle and high school standards in
 - Math
 - Science
 - Economics
 - Health
 - ESL
 - Language arts
 - Social studies
- ◆ Introduce students to the concept of aging.
- ◆ Help students to understand the social and life events that shape each generation.



Example of a TRIO Lesson

Life Expectancy is a TRIO lesson keyed to an oral narrative by Janie Bell Mills.

- ◆ *Life Expectancy 1*: Advanced and college students*
- ◆ *Life Expectancy 2*: High school students
- ◆ *Life Expectancy 3*: ELL learners

*Original design by Louise M. Murray, instructor in UNC-Charlotte's Gerontology Program and Project MORE consultant.



Excerpt from an ESL TRIO Lesson

Part One: Ms. Mills' Story

Pre-Listening:

How long do you think you will live? _____

Why? _____

Do you think you will live longer than your grandparents? Yes No

Why?

Soon, you will listen to a story by Janie Bell Mills. Ms. Mills was born in the 1920s. How has health care improved since the 1920s?



Excerpt from an ESL TRIO Lesson

Part One: Ms. Mills' Story

Listening:

Listen to Ms. Mills' story. Then, answer the questions below.

Ms. Mills' mother died when Ms. Mills was 35 years old. True False

Ms. Mills thought that she herself would die young. True False

Why would Ms. Mills think that she would be like her mother?



Excerpt from an ESL TRIO Lesson

Part Two: Life Expectancy and Longevity

Life expectancy is the predicted length of life. The Center for Disease Control and Prevention says that the average life expectancy increased by almost 30 years between 1900 and 2001. Why has life expectancy increased since 1900?

Longevity is the length of life and the quality of life.

List 4 things that can affect longevity:

1.

2.

3.

4.

Check your answers with your teacher.



Excerpt from an ESL TRIO Lesson

TEACHER RESOURCES:

Life Expectancy:

Center for Disease Control and Prevention

<http://www.cdc.gov/nchs/data/agingtrends/01death.pdf>

Life expectancy is a statistical measure giving the average (median) length of life anticipated for any given age cohort (all persons born in the same calendar year).

Longevity:

Administration on Aging, Department of Health and Human Services

http://www.aoa.gov/prof/notes/notes_longevity.asp

Longevity embraces both the concept of the length of life and the quality of life. Factors that affect longevity include one's occupation, living environment, exercise, nutrition, attention to preventive medical care and other lifestyle choices. Recent research has also focused on the role of genetic codes.

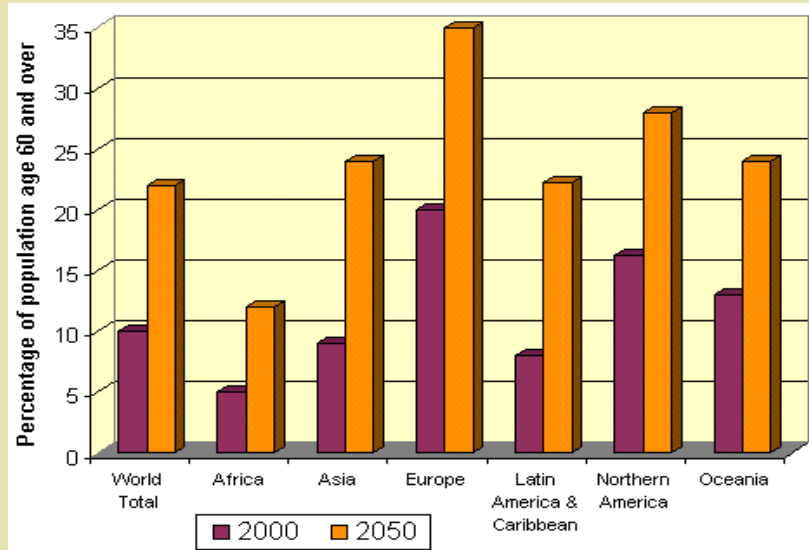


Excerpt from an ESL TRIO Lesson

Part Three: Aging Around the World

1. Life expectancy is different for each country. Why do you think there are differences?

Excerpt from an ESL TRIO Lesson: Aging around the world

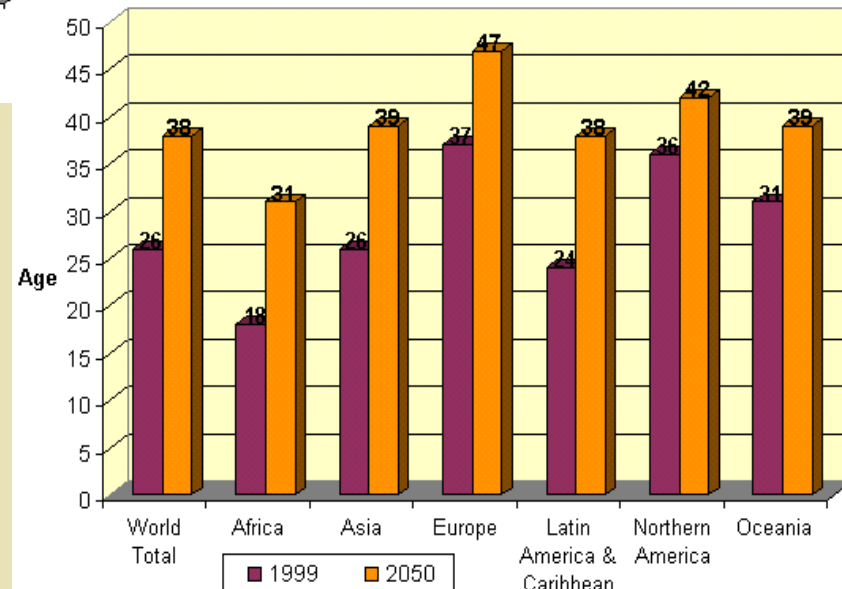


The next questions are keyed to this pair of graphs. To the left: *Percentage increase by age 60 and over*

To the right:

Median age by region

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Excerpt from an ESL TRIO Lesson

Part Three: Aging Around the World

2. Study the U. N. charts and then answer the questions.

1. Which region has the greatest increase in people aged 60+?

2. Which region has the smallest increase in people aged 60+?

3. How does Northern America compare to these two regions?

4. Which region has the oldest median age? _____
Age in 1999 _____ Age in 2050 _____
5. Which region has the youngest median age?
_____ Age in 1999 _____ Age in
2050 _____
6. Compare these regions. Why are the median ages so different?



The Grammar of Science

Scientists use grammatical forms in ways particular to their discipline:

simple present

simple past

imperative



The Grammar of Science: Verbs

◆ **Simple present**

- To indicate that a finding is a fact.
- To make generalizations.
- To define a concept.
- To closely link their research to past research.

◆ **Simple past**

- To discuss the methodology of their study.
- To distance their own research from previous studies.
- To review past research.
- To write about the history of science.

◆ **Imperative**

- To record the procedures that were used in their research.

(Lackstrom et al. 1972; Malcolm 1987; Russell-Pinson 2002; Salager-Meyer 1992)



The Grammar of Science

Lemke (1990: 173) remarks:

“Teachers should explicitly discuss with students the fact that scientific language tends to use certain forms of grammar.”

Lemke, J. (1990). *Talking Science: Language, Learning and Values*.
Norwood, N.J.: Ablex Publishing Corporation.



The Language of War

- ◆ Such explicit grammar instruction is at the heart of several Project MORE activities, including *The Language of War*.
- ◆ This set of activities draws on an oral narrative by Clem Francis, who recalls his days as a military trainer during WWII.



The Language of War

- ◆ Activities in this lesson include:
 - *Preparing to Write about Science*, focusing on a review of the past and present tenses.
 - *Writing about Science*, highlighting extended definitions and descriptions.
 - *Writing in Science*, featuring imperative verb forms.



The Language of War

Excerpt from *Preparing to Write about Science*

Introduction

When we speak and write, we often use two main tenses: the past tense and the present tense. Clem Francis uses these two tenses in his story. He uses the *past tense* to talk about past events:

...If you *started* to run it back to the elevator, why it *would turn* the aircraft upside down, so it *would* if we *had* trouble ...



The Language of War

Excerpt from *Preparing to Write about Science*

We can use the past tense to write about people or events in science. You have probably read about well-known scientists and historical events in your science class. Here are some examples of scientists from the past and where you can find more information about them:

- **George Washington Carver** http://encarta.msn.com/encyclopedia_761574196/Carver_George_Washington.html
- **Rachel Carson** http://encarta.msn.com/encyclopedia_761553040/Carson_Rachel_Louise.html

Some important historical events in science include the:

- **Discovery of penicillin**
http://encarta.msn.com/encyclopedia_761577894/Antibiotics.html#p2
- **Invention of the microchip**
http://encarta.msn.com/encyclopedia_761586029/Chip.html



The Language of War

Excerpt from *Preparing to Write about Science*

Activity One

Think of five people or events that you have studied about in your science class. Write a sentence about each of the people or events. Underline the historical person or event and circle the past tense verb in each sentence. Below is an example.

Example: *the development of the theory of gravity*

Sir Isaac Newton wrote about his theory of gravity in the *Principia* in the late 1600s.



The Language of War

Excerpt from *Preparing to Write about Science*

Activity Two

Clem uses the *present tense* to define what a nuclear weapons trigger does:

...on a nuclear weapons trigger to, uh, which **detonates** the atomic bomb...

We can use the present tense to define many ideas in science. You have probably studied and defined concepts in your science classes, like temperature, volume and circulation.



The Language of War

Excerpt from *Preparing to Write about Science*

Activity Two

- Think of five concepts from your science class. Write a sentence definition for each of these words. Underline the concepts and circle the present tense verb(s) in each sentence. Below is an example.

Example: *precipitation*

Precipitation is water that falls as rain, snow or sleet.

The Language of War

Excerpt from *Writing about Science*

Activity Three

- Reread your descriptions and definitions from above.
- Choose either one of your descriptions of an historical person or event or one of your science definitions.
- Read more about that topic.



The Language of War

Excerpt from *Writing about Science*

- Write a paragraph about the historical description or definition.
- Your paragraph should include specific details:
 - If you write a paragraph about an historical person or event, it could include a timeline (important events in Marie Curie's life)
 - If you write a definition paragraph, it could include information about the steps in a process (how rust occurs).
- Remember to pay attention to the verb tenses that you use.





A Close Call with Death

- **The oral narratives in the CNCC can also provide a rich source of content-area vocabulary.**
- **Jeff Gavin's story about his bout with meningitis introduces learners to health-related vocabulary and medical situations.**

A Close Call with Death

- ◆ Several new textbook series are intended for less-advanced native-speaker students and ELL readers. CMS currently uses one of these textbooks, *Bridges to Literature*, which works hard to include high-interest stories for their target age groups. *Bridges to Literature* includes stories about the mysterious and about the ‘danger of death’, topics which delight middle-school students.
- ◆ The **Charlotte Narrative and Conversation Collection** has many stories that can be used to supplement and support the readings from *Bridges to Literature*. The next slides contain an example from the collection



Pre-reading, pre-listening

Goal: To expand vocabulary for health-related and medical situations

Activity: Ask the students to look at the picture. Point to the objects in the picture and have the students tell you what they are and what they do/are used for.

Words that you may want to review:
hospital, doctor, nurse, surgeon, emergency, surgical gloves, stretcher, IV, scrubs, sterile, needle, straps, chart.



Key words: story and picture

Key words from the story:

aching, sick, pounding headache, mallet, thud, in bad shape, half-conscious, pain

Key words from the picture:

doctor, X-ray, ID card, chart, radiology radiologist

JEFF: I was aching all over and it just hit me like that. Within five or 10 minutes. I just felt terrible. So then I called my mother to pick me up. I had driven there but she had to come pick me up; that's how bad I was.

MICHAEL: You couldn't drive.

JEFF: I couldn't even drive. I was that sick but within a half an hour, I would say that was. So she took me home. And, uh, while she was taking me home I got this pounding headache. I felt like somebody was hitting me in the head with a rubber mallet. You know, just a thud like this thud, thud, thud, maybe a little slower than that. [laugh]

But it hurt. So she took me home. I went to the doctor, the next day was Sunday morning and I was in bad shape. I was terrible. I was just like half-conscious, just in a lot of pain.



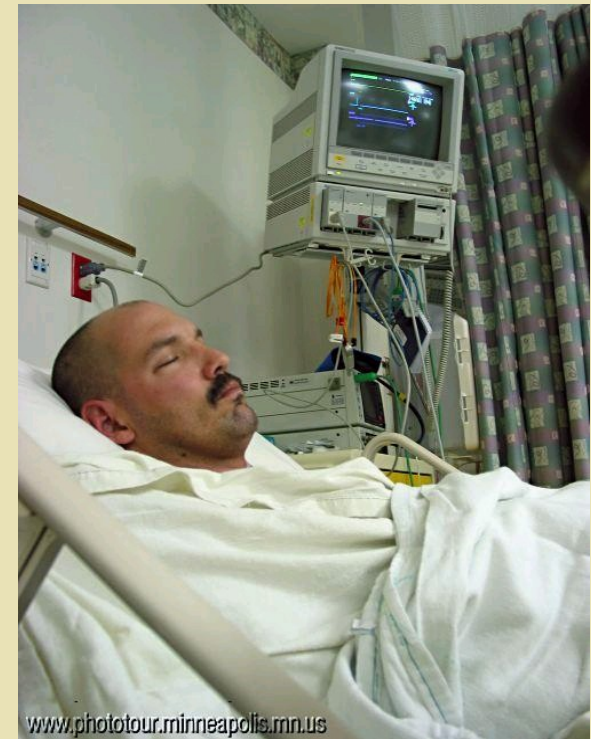
Preview text and decide what to use

- ◆ **Key words from the picture:** *monitor, tubing, IV*
- ◆ **Key words from the story:** *drugs, O.D., examine, instructions, pass out*


JEFF: So I looked really weird. So I go into the doctor's office. You know, back in high school days I thought it was cool, I had the black leather jacket and all that. [laugh] The long hair...

MICHAEL: Fonzie.

JEFF: No, I had long hair, didn't look exactly like Fonzie. It was the heavy metal thing. Uh, so he asked what drugs I'm on, you know, what I had O.D.'d on? Nothing, nothing -- trying to tell him I was just sick. So he examines me, and all that, sends me home with my mother, and he had given her instructions on what to do if anything happened to me. So as it turns out something happened to me. I -- lying in bed I passed out while I was lying in bed, I fell out of bed, or something.



I think my parents heard me hit the floor. So they come in, so my father and my sister take me to the hospital.



Call attention to dialogue as well as vocabulary

Key words from the story: *panic, bang*
Comprehension check: *What two things made Jeff's head hurt?*

- ◆ MICHAEL: So did the doctor know what was wrong with you?
- ◆ JEFF: He had an idea what was wrong with me but he didn't want to tell my parents because he didn't want to get them in a total panic.
- ◆ MICHAEL: Oh, OK.
- ◆ JEFF: Ah. So they take me to the hospital and I bang my head a couple of times on the way there. I bang my head on the car door. [Laugh] I don't remember any of this.
- ◆ MICHAEL: No wonder, no wonder you felt like a mallet was hitting you. [Laugh]




Review story elements

Key words from the story: *scream, bump, meningitis*

How do you know that Jeff is winding up his story?

- ◆ **JEFF:** Yes. And I don't remember any of this. The last thing I remember was, you know, being sick Sunday morning. After I got home from the doctor's I don't really remember anything after that. So, you know, I hit my head on the car door. My sister told me that, at the time, that I let out a huge [laugh] scream which I don't remember. And I remember while my mother was driving me around, every time she would hit a bump, you know, that was like the mallet would, ah, increase the pain level about four times. It was a fun trip.
- ◆ **MICHAEL:** I'm sure it was a real fun for your family.
- ◆ **JEFF:** Yeah, oh it was horrible for them. So I wake up three days later. And it turns out that I had meningitis.



Follow-up activities to reinforce vocabulary

- ◆ Ask your students to draw a story map of the events in Jeff Gavin's narrative.
- ◆ Tell your students that they are creating a TV show and that they are screenwriters. Divide your students into groups and have them write a script of the dialogue between Jeff, his family and the doctor.
- ◆ Ask your students to write about a time when they have visited a hospital.



Contact Project MORE

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