

NOTE--This was a booklet produced by the Park University Internationalization Task force, and distributed to faculty in the spring of 2007. It gives examples of how different classes have been internationalized at Park.

PARK UNIVERSITY
INTERNATIONALIZATION TASKFORCE

Course Internationalization Strategies & Techniques

Instructor: Wen Hsin

Course: CS208/MA208: Discrete Mathematics **Year & Semester:** Spring 2007

Specific Internationalization Purpose:

During spring 2007 semester, new units were developed to add to CS208/MA208. The purpose of these additions is to introduce the students to multi-cultural ideas in the field of Discrete Mathematics and have the students begin to explore the mathematical thinking in different cultures.

Project Description:

The following content were developed.

- (1) Ethnomathematics which is a study of mathematical ideas of ethnic groups.
- (2) Mathematics knowledge and the transfer of the ideas between east and west.

The following describes some of the new additions.

The topic of “Graph Theory”, a western mathematical term, started around 1730 when Leonhard Euler solved the Konigsberg Bridges problem. While many non-western cultures do not call “Graph Theory”, they also have the idea of Graph Theory. This includes Figure-Tracing as a children’s game in Bushoong Africa, Sand-Tracing as a story-telling tradition in Tshokwe Africa, Sand-Tracing tied to myth and ritual in the republic of Vanuatu in the South Pacific.

The earliest use of “Recursion”, an important topic in Computer Science and Mathematics, that the developer found is Chinese 9-ring puzzle (also known as Baguenaudier in French – meaning time waster). It was invented by a Chinese general Hung Ming in 2nd century AD (around 101 to 200 AD). Surprisingly, modern scientists found that the solution to this puzzle is the same as “Gray code” used in computer networking.

Other interesting histories of various mathematic symbols such as 0 and facts such as the use of different colors for different kinds of numbers (e.g., color red for negative number and black for positive number) across different cultures are also introduced.

Describe elements of Internationalization you introduced:

This project begins to introduce the students to the following elements.

- (1) An appreciation of the mathematical/computer science contributions by various cultures. In particular, the concepts of various mathematical/computer science topics do not always start from the west.
- (2) An understanding the interconnectedness of mathematical and social systems.

How are the learning outcomes assessed?

In order to assess the students' understanding the above mentioned internationalization elements (i.e., appreciation of cultural contributions, and interconnectedness), students are to research a Computer Science or Mathematical topic or concept that crosses cultures or countries. Of particular interest are the history, meaning, and interesting facts about the chosen topic/concept. Each student is required to write a 3 to 5 page report and make a 10-minute presentation in class to share his/her discovery.

PARK UNIVERSITY
INTERNATIONALIZATION TASKFORCE
Course Internationalization Strategies & Techniques

Instructor: Kay Dennis

Course: HA577, Nursing Dimensions of Healthcare Leadership

Year & Semester: Spring II 2007

Course Description - Nursing care is a major force in healthcare delivery and leadership. The course will focus on how nursing systems are organized and the leadership roles that nurses play in healthcare delivery systems. Current and evolving leadership roles of the nursing profession will be explored within the context of healthcare systems.

Specific Internationalization Purpose:

Course Objective #9: Compare and contrast healthcare systems in the United States and other developed nations with respect to nursing leadership and nursing roles.

Project/Assignment Description:

1. Students were assigned several readings on healthcare in 5 other nations. Example - Eggenberger, S., Grassley, J., Restrepo, E. (July 19, 2006) "**Culturally Competent Nursing Care for Families: Listening to the Voices of Mexican-American Women**" *OJIN: The Online Journal of Issues in Nursing*. Vol.#11 No.3 Available: www.nursingworld.org/ojin/topic20/tpc20_5.htm
2. Discussion threads required analysis and comparison as well as some synthesis and evaluation (How might US healthcare systems implement "best of the best" ideas from other countries?)

Describe elements of Internationalization you introduced:

1. Students were expected to acknowledge (& discuss reasons) that the US does NOT lead the world in all aspects of technology, communications, healthcare systems, etc. What can US healthcare leaders take from other countries in improving our systems?
2. We discussed problems that arise when healthcare providers are expected to provide care for patients in ways that conflict with their religious, cultural or familial practices. Example: a resident must complete a detailed history and physical exam on a woman without her husband present; a virginal girl needs a gynecological examination and no female nurse practitioner or physician is available to perform it; patients with extended families (20-30 members) want to camp out in the waiting room and "be with" their loved one, despite lack of space, privacy, or concern for other patients' family members. Class explored implications for health care leader/ administrators - and nurses, who are positioned at the forefront of interventions.

Desired Outcomes:

1. Students were to fulfill this course objective: Compare and contrast healthcare systems in the United States and other developed nations with respect to nursing leadership and nursing roles.

2. Students were to increase their self- and other-awareness with respect to the influence of culture on healthcare. This is especially important because illness places families at their most vulnerable and needy point.

How were the learning outcomes assessed?

I had some ideas in mind as to “revelations” that might occur for the students; chiefly they were expected to discuss the issues and ramifications in depth.

Describe outcomes:

Statements by students such as-

“ can you believe that some countries still don't allow women to vote, or to get a loan. I can not imagine, but I guess it was really not long ago in this country. I agree that it is a cultural issue for many countries - that has caused interprofessional conflict for nurses and physicians probably more so because nurses are usually women and physicians are usually men. Cultural changes for countries do not happen overnight. This could take centuries. However, as I mentioned in my post, the nurse shortage may gain the nursing profession years in this advancement because they will be so needed, that countries will have to change their cultures or they will not be able to meet the health care demands. Wouldn't it be interesting to jump ahead 30 years and see how the nursing profession has evolved and adapted to the world-wide need.”

“I can't imagine not being independent and not having a say in issues. As Julie mentioned, this cultural change could be a slow process. It will change many aspects of their culture. What other changes besides the nursing shortage will trigger these countries to make the cultural changes?”

“It is not just other countries, it is this country too. The nurse shortage and the aging population who will require more nursing care will be contributors to the increase in the status of the nurse profession world-wide. What triggers do you think will cause cultural changes?”

“Nurses, who are primarily women, have long held a subservient role to physicians, who are primarily men. This is not so much about nurse versus physician, this is men versus women. As it relates to the nursing field, countries are first realizing that due to the growing older population in all countries, nurses are the key to their ability to provide any kind of health care. Nurses are in demand, which will elevate their stature within all countries. Second, nurses are better and more highly trained now. This is true in most countries and is helping to elevate their stature as well. These two cultural changes will aid in reducing interprofessional conflicts between nurses and physicians.”

“Just to point out again that I believe the world-wide nurse shortage phenomenon will likely be the catalyst that changes the face of nursing forever. Nurse will be in demand, highly paid, valuable contributors to the health care system in all countries. This will be such a strong cultural shift for some countries that it will probably alleviate much of the interprofessional conflict between nurses and physicians - they will need each other too much to argue.”

“Ultimately, the problem results from the culture. I do not believe some cultures realize the importance of collaboration between the nurse and physician. Women need to be respected for their opinion concerning patient care. I believe that this interpersonal conflicts will not be reduced until the culture accepts the capability of women. Education may help in this case, but again it will not be accepted until the culture is ready.”

“Culture is a very big factor. I wonder how much our culture influences us when we think about other cultures. For example, in Mexican culture the male and female roles are totally different. However, do they view the female role as less critical than the male role? Or is it American culture that says the characteristics of their (Mexican) expectations for women makes it a less respected role?”

“In order for an organization to make this change, first, I believe it takes the whole organization, not just nursing to develop the organization into a culturally competent one. Suggested enhancements to

the organization included Spanish language collaterals, patient education materials, TV stations, food menus and staff. Note that Spanish speaking staff is critical to overcoming many communication barriers and to the comfort level and cultural comfort of the patient. This includes Spanish speaking physicians as well.... Second, an organization must be able to adjust to the needs of the patient based on their culture, religion, beliefs or background. This means finding way to provide care that works for the patient. As a health care leader, I think focused care teams, comprised of all the disciplines (dietary, nursing, physicians, ancillary services, etc.) ought to come together to discuss the care plan and the philosophy behind the care plan, to ensure it works for the patient based on their specific cultural or other needs.”

“I think education is the key to being culturally competent. I would promote programs on diversity and cultural acceptance. In regards to Mexican immigrants, I think teaching nurses the values such as the male authority, importance of family, and external locus of control will help everyone. Having an understanding and respect for other cultures is key.”

How can this experience be improved?

Next time I would require students to find a “pen pal” from another nation and carry on a dialogue for the term – structured according to course objectives and specific goals. Email would enable this nicely.

PARK UNIVERSITY
INTERNATIONALIZATION TASKFORCE
Course Internationalization Strategies & Techniques

Instructor: Masoom Khawaja _____

Course: AR418

Year & Semester: Fall 2005

Specific Internationalization Purpose:

To use international subject matter in the course to help teach American students and each other about other nations and cultures, while they are learning about the United States.

Project/Assignment Description:

Seven students were given design an advertising campaign. They had to select any restaurant out of the United States that represent a totally different cultural background. That could be from Europe, Asia, Africa or any other country which they thought would inspire them because of any reason. Students were given the following advertising pieces to design:

All of these elements need to be characteristic of the restaurant objective.

1. Famous Recipe Booklet
2. Restaurant Menu Brochure
3. Two 3D displays for the Restaurant
4. A Promotional Poster

Describe elements of Internationalization you introduced:

Through the designing of this campaign they had to research about the country, their special events, if that country was popular for some specific reason like sports etc. They had to create a new identity for that business which will be reflected in their future marketing collateral and advertising efforts.

Desired Outcomes:

First, to make sure that students knew well about each other and to know if any student in their class is from a different cultural background. Second, to learn about the country they researched and to get first hand knowledge about the taste and eating habits as well as about the architecture and other cultural highlight of that country. And then for all students to be exposed to advertising-related issues from a variety of nations, when the oral presentations were made.

How were the learning outcomes assessed?

Students were required to submit the rationale for every design decisions they made and an evaluation report detailing their experiences with the assignment, the topic and their research done.

Describe outcomes:

The students used internet, tourism magazines and discussed their project with each other. The students enjoyed the project and the fact that they learned a lot about a different country's recipes, food habits, architecture etc.

How can this experience be improved?

Maybe to provide more written guidelines for the whole project. Adding couple of small projects on International topics before starting an advertising campaign. And to have a more formal presentations by comparing their design with the local design companies.

PARK UNIVERSITY
INTERNATIONALIZATION TASKFORCE

Course Internationalization Strategies & Techniques

Instructor: Ron Miriani and Wen Hsin

Course: HI378: Special Topic in History - History and Culture of China

Year & Semester: Spring 2007

Specific Internationalization Purpose:

Culture exchanges among American and Chinese students.

Project/Assignment Description:

During 2006-2007 academic year, there are 4 exchange students from Taiwan. These 4 students were invited to come to one of HI378 classes to have a culture exchange dialog. It just happened that the students in HI378 in Spring 2007 are all Americans.

For preparation of this exchange dialog, HI378 students compiled a list of questions that they wish to ask the Chinese students and sent the list to them. These questions included the taste of music/movies, culture shocks, Chinese's views on Americans, education preparedness, etc. The Chinese students were also asked to compile a list of their questions to ask American students.

Describe elements of Internationalization you introduced:

From the International Learning Outcomes recommended by the Park University Internationalization Task Force, this project begins to introduce the students to the following elements.

- (1) Students will demonstrate an ability to communicate with people of other cultures, backgrounds, and countries.
- (2) Students will demonstrate an understanding the interconnectedness of political, economics, and social systems.
- (3) Students will distinguish among the different perspectives of world history, intercultural issues, and world viewpoints. An understanding of geography will be critical to successfully undertaking this analysis.

Desired Outcomes:

During the culture exchange, students communicate with each other, making comparative study across different aspects such as family and society expectation, family structure, cultural background, economic systems, political viewpoints, etc.

How were the learning outcomes assessed?

Both American and Chinese students are required to think of the topics to discuss ahead of time to make meaningful and smooth dialog exchange.

How can this experience be improved?

Three out of four Chinese students are Stylus reporters. They were asked to write about this culture exchange experience to be published in Stylus newspapers. The students in HI378 were not asked to write a report. It would be good to require the students to write a paper to report on the experience gained from the exchange.

PARK UNIVERSITY
INTERNATIONALIZATION TASKFORCE

Course Internationalization Strategies & Techniques

Instructor: Sapna Gupta

Course: CH301

Year & Semester: to be implemented

Specific Internationalization Purpose:

Chemistry is a global science. A number of environmental issues are not local issues anymore. It is imperative that we include global and international cause and impact in the course.

Project/Assignment Description:

My goal was to incorporate internationalization in the following topics:

Topic	Proposed Addition
History and Background of Chemistry	Add contribution of various countries in the development of chemistry as a field
Nuclear Chemistry	The current nuclear arms situation and the debate over use of radioactive isotopes as energy source vs. weapons.
Energy	Global impact of the diverse energy sources. Use of the different energy sources in different countries and the justification behind them.
Air Pollution Global Warming Ozone Chemistry	The international laws governing air pollution and the countries abiding by it. Impact of one country's air pollution over another and the global consequences of it.
Water Pollution	International waters and transportation hazards. Who is responsible for keeping our oceans clean?

Describe elements of Internationalization you introduced:

I have been able to find new teaching material for four of the five topics I proposed to work on. I have found reading material for students assignments and DVDs that I can show in class to enhance understanding of some of material. I have also been able to buy books in the topic of energy to give the students a broader understanding of the sustainability, conservation and internationalization in this topic.

Nuclear Chemistry

The current nuclear arms situation and the debate over use of radioactive isotopes as energy source vs. weapons.

Web Resources to be included:

- 1) International Atomic Energy Association: <http://www.iaea.org/>
- 2) Greenpeace: <http://www.greenpeace.org/international/campaigns/nuclear>
- 3) Google search: <http://www.google.com/Top/Science/Technology/Energy/Nuclear/>
- 4) Nuclear energy fact sheet: http://www.wagingpeace.org/menu/issues/nuclear-energy-&-waste/start/fact-sheet_ne&w.htm
- 5) President Bush's energy plan: <http://www.whitehouse.gov/infocus/energy/>

In addition I have acquired a DVD on nuclear plants. It is nearly impossible to get a tour of a nuclear plant, so it remains a mystery as to what one looks like. This DVD looks at the working and the safety features of a nuclear plant and includes a segment on nuclear waste.

Energy

Global impact of the diverse energy sources. Use of the different energy sources in different countries and the justification behind them.

Some web sites I have selected to incorporate are:

- 1) Energy sources: <http://www.energy.gov/energysources/index.htm>
- 2) Diverse energy sources assure security: http://www.bridge-mag.com/magazine/index.php?option=com_content&task=view&id=99&Itemid=31
- 3) Clean energy: http://www.ucsusa.org/clean_energy/renewable_energy_basics/
- 4) IEA Greenhouse Gas R&D Programme: <http://www.ieagreen.org.uk/>

Some good additions to the library for a good assignment are the following books:

- 1) Renewable Energy Policy (Paperback) by Paul Komor (Author)
- 2) Renewable Energy (Paperback) by Godfrey Boyle (Editor)
- 3) Green Remodeling : Changing the World One Room at a Time (Paperback) by David R. Johnston (Author), Kim Master (Author)

Air Pollution, Global Warming, Ozone Chemistry

The international laws governing air pollution and the countries abiding by it. Impact of one country's air pollution over another and the global consequences of it.

Two DVDs I have bought for student viewing are:

- 1) An inconvenient truth: by Al Gore.
- 2) Who killed the electric car

Both are relevant to learn about a point of view in global warming. Ozone chemistry is not so much in hot seat anymore because of the enforcement of Montreal Protocol.

Water Pollution

International waters and transportation hazards. Who is responsible for keeping our oceans clean?

I have added the following websites for research and reading.

- 1) <http://www.unu.edu/env/water/transboundary-water.html>
- 2) International Rivers and Lake Basins Management:
<http://www.unu.edu/env/water/transboundary-water.html>
- 3) Technological and Policy Dimensions of the Arsenic Contamination in the Asian Region

: <http://www.unu.edu/env/Arsenic/Index.htm>

- 4) books on water pollution: <http://www.unu.edu/wwf/UNUwater-publications.html>
- 5) EPA's initiative: <http://www.epa.gov/oia/water/marine/leadership.html>
- 6) Freshwater Ecosystems in West Africa: Problems and Overlooked Potentials by Christopher Gordon: <http://www.aaas.org/international/africa/ewmi/gordon.htm>
- 7) World water monitoring: <http://www.worldwatermonitoringday.org/>

Desired Outcomes:

It is expected that both students and instructor will be able to have a good discussion of the above mentioned topics in both a local and global context. By the time the students finish the class, they will appreciate the complexities of some of these issues.

How were the learning outcomes assessed?

It is expected that the assignments designed will help with the assessment. Written reports, class discussion and incorporation of some of these discussions in the final exam as a question.

Describe outcomes:

This course has yet to be offered as the new internationalized curriculum course.

How can this experience be improved?

This will be decided once the course is taught once,

PARK UNIVERSITY
INTERNATIONALIZATION TASKFORCE
Course Internationalization Strategies & Techniques

Instructor: Charlie Smith

Course: MA 350 **Year & Semester:** Spring 2007

Specific Internationalization Purpose: To develop a new unit on the period 1550-1800, with emphasis on the history of the calculus and special attention on Leonhard Euler. I also expressed the desire to replace my world history maps.

Describe outcomes: I have decided to purchase high quality world history maps manufactured by Universal. They are markable with a dry erase or water soluble marker. I can custom design my own set of 12-16 maps for about \$600-\$700. This will exhaust most or all of the grant money. I will be placing the order on Friday, May 4, 2007 with the Geography Store in Boulder, CO.

PARK UNIVERSITY
INTERNATIONALIZATION TASKFORCE
Course Internationalization Strategies & Techniques

Instructor: Beverly South, RN, MSN

Course: proposed for NU210, Adult Medical- Surgical Nursing

Year & Semester: proposed for Fall semester, 2007

Specific Internationalization Purpose:

To assist the student in

- Realizing how a person's health care decision making is guided by the culture of their society
- Realizing that increasing the health care provider's awareness of cultural diversity improves the possibility of providing culturally competent health care
- Understanding the link between providing culturally competent health care and meeting the *Healthy People 2010* goal of decreasing disparity in health care

Project/Assignment Description:

Group Oral/Written/Visual Presentations – groups of 4 students are to decide on a specific culture to study, research the culture, and make an oral and a visual presentation to the whole class with a written paper to the instructor

Describe elements of Internationalization you introduced:

- There are typically 40 nursing students enrolled in the class with approximately 10-15% being international students.
- The assignment is presented to the students in the very first week of class so that they have plenty of time to choose who they want to work with and which culture they want to study. They are given very specific guidelines for completion of the assignment and also with the grading rubric.
- I post a listing of the various cultural groups they may choose to study. I study the demographics of this region and try to choose groups the students will most likely be providing health care for in the future. These groups include Russians (there are many people of Russian decent who live in the Strawberry Hill area), Vietnamese, Amish, African –Americans, Filipino-Americans, Jewish –Americans, Chinese, and Hispanic including those mainly from Mexico and Puerto Rico.
- I allow one group of students to study the main culture of Brazil as we typically have 6-7 nursing students complete their spring semester service learning projects in Brazil.
- The international students may present on their own culture if they so choose or they may study the American culture and present their findings on it.
- The students may study a cultural group not on the listing but only after upfront approval of the instructor. They must present a reasonable rationale for their request.
- The students form their groups and sign up for the cultural group they will be studying and presenting on.
 - The students are to form into groups of 4 (10 groups with 4 students in each group). They are to decide who they would like to work with. If they can not decide (sometimes they don't know anyone or are shy about asking others to work with them) I help assign them to a group.
- In past classes I have had the students explore the relationship between a specific culture and its members' food choices and nutrition. The plan is to expand this to include a more in-depth study including the study of communication patterns, family roles and organization, biocultural ecology, nutrition, death rituals, pregnancy and child-bearing practices, and health care practices. They also must address how the study of culture and increasing cultural competency can meet the goal of decreasing health care disparity.

- The students are given a list of resources to use for their studies. They may, of course, also use appropriate resources of their choosing. They are encouraged to use not only peer-reviewed resources but also cookbooks, personal interviews, etc.
- The grant money is to be used to purchase resources (books, journals, etc.) to be kept on reserve in our resource lab. The students may then check- these out to study for their projects.
- The students are typically given 10-12 weeks to complete their project and ready it for class presentation.
- The students choose one person from their group to present a highlighting of their findings to the class (oral presentation) while the other members do a visual presentation (usually they bring a food dish with recipe and nutritional listing to share with the class). The written paper is turned in to the instructor the same day the group does their oral and visual presentation.

Desired Outcomes:

- The student will recognize the link between a person's cultural practices and their health.
- The student will realize how becoming more culturally competent in their health care practices can influence their client's health.
- The student will realize how culture, health care, and Healthy People 2010 are linked.

How were the learning outcomes assessed?

Outcomes are assessed according to the grading rubric provided with the assignment. The rubric typically assesses the thoroughness to which the various components of the assignment are addressed (communication patterns, family roles and organization, biocultural ecology, nutrition, death rituals, pregnancy and child-bearing practices, and health care practices) in the written paper, the professionalism of the oral presentation and the interest and thoughtfulness of the visual presentation.

Describe Achieved Outcomes:

Past students have described the assignment as being very positive, very helpful, "and fun". I have never received a negative comment about the assignment.

How can this experience be improved?

The past presentations have all been completed in one class; because the future assignment is more complex and detailed the presentations will need to be spread out over several class periods.

The written part of the assignment should be submitted for grading prior to the class presentations so that the instructor can ensure the thoroughness and accuracy of the findings. The relationship between the *Healthy People 2010* goal of decreasing disparity in health care and the study of cultures needs to more specifically stressed in the assignment. The students seem to love studying the various components of a culture; they seem to enjoy the presentations but they fail to appreciate the overall picture.

PARK UNIVERSITY
INTERNATIONALIZATION TASKFORCE

Course Internationalization Strategies & Techniques

Instructor: Dr. Bruce Strom, Ft. Bliss Campus

Course: MG 496 – Business Policy

Year & Semester: Fall 2, 2006

Specific Internationalization Purpose:

To create a case study and use it as a discussion tool in class to reinforce a textbook chapter on international aspects of business policy.

Project/Assignment Description:

Five groups of students in the class were given a three-paragraph case study handout called 'Increasing sales in the Mexican McDonalds market.' Using the textbook chapter on international business policy in the textbook, the groups were required to follow textbook phases of business policy planning towards increasing market sales in the international marketplace. The result of the group project was a group presentation with feedback from me (the instructor) and classmates.

Describe elements of Internationalization you introduced:

I had the students use textbook material/models, plus added the STEP (social, technological, economic, and political) method of analysis to analyze the international market.

Desired Outcomes:

Using the internet, and student familiarity with the nearby market, students used the STEP method and text material/models to create an international model for business growth.

How were the learning outcomes assessed?

One of the class core learning outcomes was 'list the five stages of international development.' The five stages were used in the case study as part of the international model of development, and were used in an international context. Lectures and textbook material were used in the group case study, and were demonstrated via a case study application.

Describe outcomes:

The students used text and lecture materials in a case study assignment. The students enjoyed the real-world application of class materials.

How can this experience be improved?

I want to create a more formal critique guide to hand out to students before the presentations. The guide would improve questions and answers after the presentations.

Park University Literacies

Introduction

In a world characterized by constant changes in society, politics, science, and technology, Park University reaffirms its heritage of education students to be effectively functioning individuals in their personal lives, professions, and **local and global communities**.

1. Analytical and Critical Thinking

- A. Understanding and mastery of the basic skills in communication, technology, and information management.
- B. Recognition of the diversity in the processes and methods of critical thinking and problem-solving, and recognition of standards of excellence.
- C. Appreciation of the history and variety of approaches for examining and using information, and their technological applications in contemporary life.
- D. Acquisition of tools for gathering, retrieving, evaluating, and communicating information and data for various purposes. These tools should include the basic skills in writing, speaking, listening, computing and the use of computers, and problem solving.
- E. *Analyzing and integrating knowledge gathered from different cultures.***

2. Community and Civic Responsibility

- A. Understanding of the working of American social, political, and economic systems.
- B. Recognition of the existence of diverse alternative systems and their necessary global relationships.
- C. Appreciation of the geographical and historical roots which are shaping these systems.
- D. Acquisition of tools for responsible citizenship involvement and for participation in economic and social endeavors.
- E. *Analyzing and integrating the diversity found globally, including values, beliefs, ideas, and worldviews.***

3. Scientific Inquiry

- A. Understanding of the nature and role of scientific evidence in the pursuit of knowledge.
- B. Recognition of the importance of the scientific method of argument and modeling process.
- C. Appreciation of the origins of scientific inquiry and method and seeing their continuing presence in the mutual interaction between human society and its physical environment.
- D. Acquisition of tools for successful involvement in scientific pursuits of the scientific community.

Understanding the contributions of multiple civilizations to what we hold to be scientific knowledge.

4. Ethics and Values

- A. Understanding of the importance of value concerns in human life, and the ability to distinguish them from factual matters.
- B. Recognition of the major ways proposed for resolving value questions, and the ability to evaluate them and use them where appropriate.
- C. Appreciation of the diversity of value systems and their interconnection with the cultures in which they are found, yet openness to the possibility that there may be common goals and principles that can serve as the basis for inter-cultural judgments.

- D. Acquisition of tools for analyzing value questions, and acquisition of a set of personal values that are continually held up for review even as one tries to live by them.

5. Literary and Artistic Expression

- A. Understanding of the great themes and metaphors of human experience in various forms of aesthetic expressions, and ability to use them to enhance the understanding of life.
- B. Recognition of diversities in the visual, verbal, and performing arts and the origins and reconciliation of such diversities.
- C. Appreciation of the history of aesthetics as records and shapers of languages and cultures.
- D. Acquisition of tools for perceptive and open-minded enjoyment of aesthetic experiences, and tools for creation of aesthetic works that reflect awareness of self and social contexts.

Conclusion; (last sentence)

Students with these Literacies should be able to succeed in communication cross-culturally, computing and problem solving, clarifying values, using the arts, function within social institutions, **function in a global society**, and use the sciences and technology