Global & Cultural Issues in Computer Education
The "Ice-T" Project

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1. Background.

1.1. Use of Technology

The International Cross-Cultural Education through Technology (ICE-T) Project, initiated by Coastline Community College in Fountain Valley, California, includes the University of Yucatan, Mexico and North Island College (NIC). The Computer Science, Psychology and Business departments were involved in this project.

The principal goal was "to strengthen each institution's curriculum in internationally-oriented courses and cross-cultural studies"[1] by creating projects to be completed by student teams from all three institutions.

The students were encouraged to use computer technology to communicate. Two formal videoconferences ("ice-breaker" and "debrief") per discipline were planned, The students were to use internet technologies such as NetMeeting, MSN Group Chat, email, MSN Messenger, internet telephony – in short, anything to which their ingenuity extended. Each discipline was issued with a web cam.

We especially hoped that students who might not have the time or means to study at another institutions, would use these communications tools to build lasting relationships with students in other cultures.

This paper aims to share the insights gained from this project with other institutions that may be considering similar projects.

1.2. Students and Their Projects

The initial plan was to involve 10 students from each of the three institutions, who would meet regularly via the Internet to exchange the information required to complete their projects. These students would be graded on their projects and communication sessions.

[1] www.ccc.international.info

The NIC students from the CPS151 (Systems Analysis and Design) class were chosen for the project, as part of their curriculum aims to develop team-building and communication skills. It also stresses the impact that communications technology and globalization of businesses has had on the role of the systems analyst.

The thirteen NIC students were divided into two groups. In addition to the traditional systems team roles, each team had two spokespeople to handle international communications.

The teams' project was to analyze, design and develop a Training Information Management System prototype for an IT company. The "international" component of the project involved

- preparing a feasibility study for marketing the system in the USA and Mexico
- identifying cultural factors that would contribute to its successful marketing (interface design, language considerations, documentation, packaging etc)

A component of their team grade was based on this project, as well as 5% for individual "communications journals" logging their experiences.

Coastline College's web design class, which was due to participate, was cancelled. Instead, six volunteers prepared a selection of web-based projects. These included setting up a website for the Ice-T project, developing a website promoting College tours and developing a set of banner templates for displaying the other institutions' projects.

UADY's team of four business students examined whether a brand of coffee would sell in the USA and Canada.

The instructors from the three institutions agreed that a portion of the students' grades would be allocated from their work on the Ice-T project, and that they would be encouraged to participate in formal communications at least once a week.

1.3. Desired Outcomes

The desired outcomes for the students were:

- stronger interpersonal skills and "global team building"
- a better appreciation of cultural differences and the breakdown of stereotypical notions
- improved technical skills – each group had different skill sets, which we hoped would be shared as the students started to work together.

- The students will also gain first hand exposure to communications technology.

In addition, we hoped that the students would make friends and contacts abroad and that this would one day lead to actual visits between the campuses.

Detailed documentation prepared by the three instructors can be seen in Appendix A.

1.3.1. Outcome Assessment Mechanisms

Coastline College students developed an Ice-T website at www.cccinternational.info, and established a set of MSN student and faculty group chat pages. The student chat page linked to :

- a culturally-oriented pre-test and post-test (general questions about geography, demographics and customs, and additional questions specific to their discipline)
- an online journal into which students could enter logs of their formal weekly communications
- a formal project report page , to be completed by the students and critiqued by their international peers.

1.4. Anticipated Constraints

The following constraints were anticipated :

- scheduling : some students were fulltime in a rigorous program, others were working part-time while studying. In addition to meeting with their local groups, they have to find an appropriate time to liaise with their global groups
- time differences and differences in attitudes toward time
- language : the language of the project is in English, but this is a second language for the Mexican students and many of the Californian students as well
- technology : the two formal videoconferences required co-ordination of communications technology between 3 institutions, not to mention faith in long-distance media! Not all students had high-speed bandwidth at their homes.

2. Project Assessment

2.1. Project Benefits

New Relationships and Cultural Awareness
The strongest benefit to arise from this project was the forging of new relationships across international boundaries.

Despite the disparity of numbers, the NIC spokespeople developed a bond with their counterparts in California and Mexico. The NIC spokespeople forged a particularly strong relationship with the UADY spokesperson, who now plans to visit our campus, and, in turn, one of the NIC students is planning to visit UADY. The communications was not merely project-related; these students held discussions on a wide range of subjects and, I believe, learned a great deal about each other's cultures, educations and home lives.

The NIC students were keen to show their international peers how they lived, and consequently prepared a website of photographs and personal anecdotes about "life on the Island". Currently, one student is preparing a digital movie about life on campus for display on the common website.

For this reason alone, I think the project achieved its goal, although not on the scale to which we originally aspired.

2.2. Project Challenges

The project ran into a number of unforeseen challenges. These were :

- *number distribution* – initially, we had planned to balance the number of students at each institution. The numbers in California and Mexico, however, were substantially fewer than expected. Thus only a small core group of students handled the communications and experienced the benefits of the international exposure
- *semester differences* - the mid-February startup time for the Ice-T project was well into the NIC semester, but early for the Coastline and UADY students. The NIC students were well underway with their projects and anxious to get as much as possible completed before the end of semester "crunch", while the other student groups were just beginning to plan their projects. This lead to some frustration at the slow response times.
- *grading differences* – a significant portion of the NIC students' grade was initially allocated to the Ice-T project (subsequently adjusted in view of the circumstances). The Coastline student volunteers were not graded on their project, although were graded on their communications. I am unsure about

the grading of the UADY project. This also led to frustrations from students who were concerned about their grades and deadlines.

- *discipline differences* - although we represented the "Computer Group" of the Ice-T project, the UADY students were in the business program, the Coastline students were learning front-end website design and the NIC students were more "back-end" oriented. The technical nature of the NIC students questions' may have perplexed the Coastline/UADY students (the majority of whom were not native English speakers), while the non-technical nature of their questions were perceived as "irrelevant" to the NIC students.
- *technology differences* – while high-speed bandwidth was the norm in the homes of the Canadian and US students, most UADY students had dial-up or no Internet linkup at home. The web cam idea was abandoned in the early stages of the project, and the best medium was found to be email and MSN messenger.

3. Future Directives

At the conclusion of the project, I held a brainstorming session with the NIC students, and we held a subsequent one via videoconference with Coastline College. Unfortunately, due to technical difficulties, the UADY students did not participate in this videoconference, but have submitted their thoughts via the Internet.

The following future directives arose from this discussion:

- to achieve true international team-building, students from the three institutions should work on a common project, rather than diverse individual ones. For example, the UADY business students could prepare a business plan for an internationally-marketed product, the Coastline students could prepare the front end website to market it, and the NIC students could prepare the back-end database and integration. This would oblige the students to work as one large team towards a common goal. If possible, the product should be a REAL product, or provide a service to a non-profit organization, and the project should create a functional and active website.
- the project should be very clearly defined at the outset, and clearly explained to all parties involved, employing translations if necessary.
- a longer time should be spent getting to know each other informally , before commencement of the formal project.
- the project should be equally weighted grades-wise across all three institutions, so that all participants share a common degree of commitment.
- at the initial video conference, the spokespeople for each the group should clearly identify themselves, and prepare a short presentation.

The co-ordination for such a project would , of course, be immense, and would require a considerable time in the planning stages to resolve issues of time and

technology. However, I believe it can be achieved, and look forward to continued participation in this project.

APPENDIX A: Planned Ice-T Computer Group Project, October 2002

ICE-T COMPUTER GROUP REPORT

Sally Kurz
Juan Osorno Medina
Kim Chilton

24 October 2002

PART I

1. Projects

1.1. The three classes will each receive a sales/marketing-based project. Each class will need to gather data from the other classes in order to complete the project.

1.2. Kim's project will be a training management database, which may be marketed internationally.

1.3. Juan's students will build a website marketing a product over international boundaries

1.4. Sally's students will build a website marketing a product over international boundaries

2. Time frame

2.1. **February week of Feb 3rd**: pre-test – students will complete this prior to starting their project.

2.2. **February 13 or 20**: video-conference introduction of the student groups. Video-conference to be facilitated by instructors. Sally to host.

2.3. period of interaction and information gathering between the students via Chat rooms and MSN messenger. ChatRoom schedule to be established by each instructor. ChatRoom participation will be 10% of grade. The journal will be 10%.

2.4. **Late Feb/March/April:** each student group in the classes will develop a sales/marketing project for a specific product

2.5. **Late Feb/March/April:** each student will individually maintain an online journal documenting their "international experiences", based on structured questions.

2.6. **April 3rd :** at completion of the projects, students will complete a structured questionnaire regarding their product and marketing strategy. This will be uploaded on the website.

2.7. **March 27th and April 10th: APRIL 10th is MOST DESIRABLE.** Video conference. Students will formally present their final projects to each other via video-conference. One hour allotted per group.

2.8. **April 10th:** Projects criticized constructively by all groups in the form of a structured questionnaire. This can be discussed using the Chat Room/ Messenger

2.9. **Week of April 10th:** Post test

3. Use of Communications

3.1. student groups will elect a spokesperson to represent the group. This person will participate in the video-conference, as well as the NetMeeting or ChatRoom sessions.

3.2. students should make a plan to meet twice weekly with their counterparts, and will show the instructor a copy of the email schedule they have established with their counterparts.

3.3. In the journal each week they will record the date, time, group contacted, purpose and results of the conference. They will also have a section for informal comments regarding their experiences.

4. Deliverables to be posted on the web:

4.1. pre-test

4.2. formal reports on based on structured questionnaires

4.3. journal folder – individual students' online journal of cultural experiences

4.4. links to web-based products

4.5. critical project evaluation forms from each group

4.6. post-test

4.7. Kim's students to develop database and post on the web

4.8. Sally's students to develop the front-end for this database

4.9. Sally's students to develop web-based import/export project

4.10. Juan's students to develop web-based import/export project

4.11. Post test

5. Learning Goals for the Students:

5.1. **Knowledge** : Students will be able to observe and recognize cultural differences and constraints.

5.2. **Critical Thinking** : Students will be able to gather data from counterpart countries, assemble and analyze it and arrange it into a meaningful final product.

5.3. **Synthesis & Evaluation**: By comparison of their pre- and post-test, students will be able to identify their preconceived or

stereotypical notions, and as a result of this experience formulate new perceptions of their partner countries and institutions.

5.4. **Technical Skills :** Each group of students will benefit from the others' knowledge and skills, ie

5.4.1. Sally's web students will supply web development experience

5.4.2. Kim's students will supply database experience

5.4.3. Juan's students will supply international business knowledge and experience

PART II
STRUCTURED QUESTIONNAIRES

1. Pre- Test Questions:

1.1. what is our respective degree of technological sophistication. How do our respective classroom technologies differ?
1.2. what is your current knowledge about internet service providers available in US, Canada and Mexico.(ISDN, cable or dialup, computers in the home, I don't know)
1.3. how do you perceive the status of computer literacy in the other countries involved?
1.4. what percentage of their economies use the internet in their daily business?
1.5. any previous experience with video-conferenced interaction with people from different cultures?
1.6. how often do they use the internet for personal use, eg email.
1.7. how many people have the internet in their home?

2. Formal Report Questionnaire
As per the Cross Cultural Import Project

3. Project Critical Evaluation

3.1. Were there culturally sensitive/insensitive issues on the website
  3.1.1. Was the use of colour appealing
  3.1.2. Were the graphics appropriate?
  3.1.3. Was the use of animation tasteful?
3.2. Was the website easy to navigate?
3.3. Was the download speed acceptable/unacceptable?
  3.3.1. did it take more than 30 seconds to load?
3.4. Was the information logically laid-out?
3.5. Was it visually appealing?
3.6. Was the language simple, unambiguous and easy to understand?
3.7. Does the product have appeal in the other countries?
3.8. Based on what you see on the website, would you buy the product? Why/Why not?

4. Journal Questions

4.1. time & date
4.2. group contacted
4.3. purpose of meeting
4.4. outcome of meeting
4.5. informal comments

5. Technical Requirements

5.1. **January 24th** : Pre-test and post-test to be in web format by

5.2. **January 24th :** Online Journal Folders established. 30 links, 10 per institution, password-controlled.
5.3. **January 24th**:Video-conference equipment to be installed and ready for student use.
5.5. **February 13 or 20**: **20th most desirable.** video-conference introduction of the student groups
5.4. **March 28th**: Structured project questionnaire uploaded to website.
5.5. **March 28th:** Create Projects Folder and list links to project sites
5.6. **March 28th :** Create folder for Online Project Critical Evaluation form, upload the form.
5.7. **March 28th :** Post test uploaded
5.8. **April 10th :** most desirable video-conference date.

APPENDIX B – TO BE COMPLETED WHEN AVAILABLE: RESULTS FROM STUDENTS' INTERNATIONAL JOURNAL