Online Adventure Programs: 
Three Cases from the Web

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Note: Due to the unpredictable nature of qualitative research, this paper is still in process. We have not yet “left the field” and are still gathering data on these three programs. Thus this paper represents preliminary results of our research. Results are subject to change as key stakeholders in these programs review the cases and provide corrective feedback. Our goal is to present the clearest possible portrayal of these programs and the emerging field of formal/informal online education they represent.

In the past decade various types of Internet-based adventure programs have emerged that purport to promote K-12 student learning. However the experiences provided by different online “adventures” can vary dramatically. What are the essential characteristics of an online adventure program? This paper attempts to begin answering that question by describing three such programs in case study format. The purpose of this study was to describe three exemplary cases, therefore the online programs included in this paper were selected on the basis of the following criteria:

• The program is well established (it has conducted at least 3 adventures).
• The program is accepted by teachers in the field (it has at least a national following in the United States).
• The program is serious about facilitating student learning (it has a formal curriculum).
• The program is serious about using interaction to promote knowledge construction in P-12 students (it sends a team of individuals in the field during the adventure that interacts with students via a Website).

On the basis of these criteria, three programs were selected for case production: the Jason Project, the Quest Program, and Intel-ebration Expeditions. Each case study begins with a general description of the online
adventure program. This introduction is followed by an in-depth look at the program’s curriculum, adventure team, and Website.

Future papers and/or articles will develop a cross-case analysis to identify common features shared by the three programs and features that are unique to each program. Future plans also include the development of additional cases to provide for a richer pool for cross-case analysis and theory induction.

The Jason Project
(www.jasonproject.org)

The Jason Project is a multi-disciplinary, interactive distance-learning program that engages students in grades 4-9 in scientific research. Each year Dr. Robert Ballard, program founder, leads a team of scientists, students, and teachers as they study and conduct research to answer three basic questions:

“What are earth’s physical systems?”

“How do these systems affect life?” and

“What technologies do we use to study these systems?”

The teacher and student adventure team members, called Argonauts, are selected through the Jason Project’s Primary Interactive Network Services. The Jason Project has received multiple rewards including the Association of Educational Publishers 2001 Distinguished Achievement Award for Educational Tools, Curriculum Administrator’s 2001 Districts’ Choice Awards Top 100 Educational Products Award, The Educational Source Top 100 Educational Web Sites of 1999, the Family Choice Award from YourSchoolShop.com, the Computerworld Smithsonian Award, and the American Geophysical Union Award for Excellence in Geophysical Education.
**Essential Program Components**

In addition to its live team conducting research in the field, the Jason Project relies on five essential components to reach children in classrooms:

a) *A multimedia, standards-based curriculum.* Designed for grades 5-8, the curriculum is correlated with both state and national standards. Each Jason expedition curriculum integrates a variety of subjects, including Mathematics, life and earth sciences, geography, history, language arts, and art.

b) *Team Jason Online.* This is a communication system for teachers and students that includes online chat sessions with researchers. Team Jason Online also provides online components of the curriculum including interactive classroom activities and digital lab exercises.

c) *Live Expedition Telepresence Broadcasts.* The broadcasts are made available to viewers via KU band satellite, the National Geographic Channel on cable television, and videotapes distributed through [http://eds.com](http://eds.com). The broadcasts feature experienced student Argonauts. Students from a variety of countries involved in the Jason project view the broadcasts and participate in the expedition from their classrooms.

d) *Supplemental Videos.* These videotapes focus on the current expedition and are sent to teachers for classroom use.
e) Professional development training. These intensive training sessions introduce the Jason Project and the current year’s expedition theme to new and returning teachers. The professional development sessions give the teachers practical experience in working with the curriculum, the online exercises, and the technologies used in the project.

Supporters/Sponsors of the Program

Sponsors of the Jason Project are divided into four categories: national corporate sponsors, national content sponsors, institutional partners and project donors, including Argonaut donors. National corporate sponsors include EDS, National Geographic Society, Honeywell, Exxon, Mobil, Sun, Bechtel Foundation, Oracle, National Science Center Foundation Inc. The national content sponsors include the National Oceanic and Atmospheric Administration (NOAA), National Marine Sanctuaries, National Aeronautic and Space Administration (NASA), Office of National Research (ONR), Mathemagician, the University of Wisconsin-Milwaukee, Star Schools, and the United States Department of Education. Funding has been provided through the US congress to increase the number of students in the program.

The institutional partners include the United States Fish and Wildlife Service, the United States Forest Service, the United States Geological Survey, and the United States National Park Service. Project donors consist of GCI, Downstream, Dr. Scholl Foundation, E-Funds Corporation, ESRI, Helen M. Galvin Charitable Trust, Grass Valley Group, John Crow Productions (a division
of National Mobile Television), and Carolina Biological Supply Company. Others donors include National Instruments Corporation, Tektronix, and Verizon. In addition to being a national sponsor, EDS manages the Web site and works in cooperation with the Jason Foundation for Education to ensure that a "telepresence is provided. Therefore, EDS sets up the online curriculum components and provides online digital labs. Furthermore Jason solicits assistance from a variety of organizations to provide resources for teleconferencing activities at the local school level.

**Participants**

Each year 30 students and 6 teachers are selected as Argonauts to assist in conducting the field research during the two-week expedition. Afterwards these Argonauts serve as ambassadors in promoting the Jason Project to other students and teachers. In some expeditions, Jason uses host country student scientists to assist in the research.

By the year 2003, 331 student Argonauts and 76 teacher Argonauts had participated in the program. One hundred thirty-two countries including Australia, the United States, the United Kingdom, Bermuda, Sweden, Mexico, Canada, Germany, Japan, Taiwan, Italy and Singapore have joined the Jason Project. Approximately 25,000 teachers are involved in the Jason project in the USA. In 1996 the program reached over two million children – the highest number reached in a single year through this program.
The Curriculum

The Jason Project curriculum, which is truly multimedia in nature, is at its heart an inquiry-based program of study utilizing a project-based approach focused on scientific themes. Participating teachers have access to an award-winning, print-based curriculum that fills more than 200 pages. The Web-based elements of the curriculum include an interactive, gated Web community with chats, message boards and digital labs. Together, the printed curriculum and the Web-based resources are designed for a full year of student learning which both precedes and follows the two-week expedition by researchers and Argonauts in the field.

The printed Teacher's Guide presents a brief overview of the expedition, a description of the multimedia curriculum, print-based learning activities (Research Stories), guidelines for using the print-based activities, guidelines for using the online learning activities, and guidelines for using the Live Expedition Telepresence Broadcast, assessment tools, information on curricular integration of multiple disciplines, and the curriculum's alignment with standards.

The essential content of the Jason curriculum materials is presented through Research Stories, which cover a variety of topics. Inquiry-based activities for these topics are arranged according to the skills to be acquired by students. Students explore the topics through a multi-disciplinary approach. In addition to the printed curriculum, three videotapes – prologue, updates, and highlights of the broadcast – are provided to classrooms to enhance students'
understanding of the topics. Maps, atlases, and expedition novels (books) are used to strengthen reading skills.

For the students, the Research Story begins with Focus Questions, which are followed by a research article. At the end of each article is a list of new vocabulary for students to master. Focus questions also introduce students’ exercises and descriptions of the procedures to follow for project and laboratory activities. Step-by-step instructions and a list of appropriate materials are given. Answers to the exercise questions are provided at the end of the topic. All exercises end with concluding prompts and/or summaries that encourage further exploration and discussion.

Scaffolding for Teachers

Perhaps the most important support provided teachers in the Jason Project is formal professional development opportunities. All teachers must receive formal training before they are allowed to join the Jason Project team. Teachers may join the five-week online course developed for each expedition or attend local training courses conducted by the Jason Educational Foundation. Jason course credits can go towards degree courses in some of the Universities participating in Jason project. The Jason Educational Foundation and its partners host several conferences each year. The Jason Project encourages regional educational service centers, states, and countries to organize chapters of the Jason project. This provides teachers in these regions the opportunity for professional development and involvement in the local professional community.
The printed curriculum also provides several teacher support features. The overview materials for each Research Story topic present instructions and procedures to aid teachers in their class preparation. They provide the teachers a brief overview of the student exercises and activities for the Research Story. The teacher materials also describe what evidence the students will produce to document learning. The overview of the student exercises also illustrates the cross-subject links.

For example, the exercise that accompanies the Mystery of the Pygmy Mammoth in Story 1 requires students to build a three-dimensional model (Jason Educational Foundation, 2003b). Later students use their model to determine geological evidence of mammoth movement patterns and modes. This exercise page is followed by the “Standards and Assessment” form, which spells out the standards addressed by this exercise. It also lists the knowledge and skills for each subject area that are incorporated in the Story and includes a rubric to assess student mastery of important learnings relative to this activity. Teachers can duplicate the rubric for each participating student. New concepts and Jason specific words that may be new to teachers are discussed.

The format for all teacher overview materials is the same. They quickly alert the teacher to the time required for the activity, complexity of the activity, additional preparation needed, answers to questions, and suggestions for adapting the activity for elementary school and high school. Since the Jason Project curriculum is designed for a full year, a list of suggestions is provided to ensure that teachers do not miss important events. Other pertinent teacher
information in the printed curriculum includes a section that lists books, Web
sites, and other materials for each Research Story (Jason Educational
Foundation, 2003b).

Although the curriculum has specific guidelines for the teachers, it is not
overly prescriptive. Teachers are at liberty to adapt and or integrate sections of
the Jason curriculum into their own class plans. Teachers can vary their
methodology according to their own creativity and the time they set aside for
Jason projects. Most of the activities are inquiry-based and project-based,
making both individual work and teamwork appropriate.

Assessment

The Jason Project uses a variety of assessment tools to obtain evidence
that students have acquired knowledge and skills, to measure students’
understanding of the materials, and to promote student self-reflection. These
assessment tools include portfolios, journals, science poster sessions, research
papers, and research projects. Some of the tools such as the Journal Question
are meant to promote reflection. Other tools include Fact and Fallacy items,
statements that test students’ knowledge. Appropriate responses to the facts
and Fallacy items are immediately made available to teachers. In addition to
tests supplied in the print curriculum, teachers can build their own examinations
and student directed exercises from the standards-based, online multiple-choice
test generator provided by Jason. Assessment rubrics are based on three levels
of performance indicators: Researcher (Advanced/Exceeding), Apprentice
(Proficient), and Novice (Basic). The student self-assessment instrument has
four categories: “Skills,” “Your Challenges” (questions to students), “Assess your Work” (rubrics for students), and “Conclusion” (questions that promote reflection). Situation analysis exercises are also part of the self-analysis assessment.

**Expedition Team**

The Jason Project expedition team consists of researchers, students, and teachers. Students and teachers are given the title “Argonauts.” A variety of scientists from different disciplines are selected each year according to the nature of the expedition. Researchers come from diverse educational backgrounds and disciplines. For example, Biologists, Geoscientists, Rain forest naturalists, Ichthyologists, Archeologists, Climatologists, Anthropologists, Mammologists, Paleobotanists, Ethnobotanists, Physicists, and Astronomers.

The first Student Argonaut participated in 1989. The selection process of students Argonauts begins with students submitting application forms at various Primary Interactive Network Sites (PINS), such as research centers, libraries and universities that host Jason Expedition broadcasts. The complete application includes “two essays, a summary of past Jason classroom experience, two teacher recommendations and a list of extracurricular materials” (Jason Educational Foundation, 2003a). Student Argonauts are required to choose a sponsor teacher in their school who can implement the curriculum and provide support to local students at the school level.

The Teacher Argonaut program was established in 1990. Teachers who apply must have 5 years teaching experience. Jason requires that the teachers provide proof of their management skills. Teacher Argonauts are part of the
PINS committee and they assist in selecting the final Student Argonauts. They also help prepare the students for their on-camera roles during the expedition. Teacher Argonauts are responsible for supervising 4 to 8 Student Argonauts and their on-site interaction with researchers.

Training Argonauts for effectiveness and role modeling is the responsibility of the PINS. The training includes “reading books, conducting experiments, completing assignments and chatting online with other members of the research team.” After the expedition, the teacher and student Argonauts participate in Jason programming and act as ambassadors for Jason during fund raising, conferences and other public functions.

**Interactive Website**

In fall 2003, the Jason Website had 8 main components that provide the viewer a guide to the Jason Project:

- The Jason Expedition (an overview of the project)
- How to participate
- Teacher Center
- Expedition (current and past research and expeditions)
- The Jason Academy (teacher development opportunities)
- Mathemagica, (a pilot project for developing teachers’ instructional capabilities)
- Online Store (resources for teachers), and
- Media Store (for media components of the program and the latest news).

A Team Jason Online Account enables students and teachers to participate in the research and to discuss the experiments with scientists in a virtual environment (Jason Educational Foundation, 2003a).

The Team Jason Online (TJO) Community Features provide an avenue for participants to share information, for students and teachers to network with
scientists and for teachers to interact with their students through the following web features: ‘Message Board,’ ‘Jason’s Chat Program,’ ‘What’s Happening,’ ‘Talk to My Student/Teacher.’ The “My Project” feature offers templates for students’ and teachers’ creativity and an avenue for teachers to give feedback to their students.

Information on curriculum content is posted on the TJO Content Features. Within the 5 content web pages, students can rehearse knowledge and skills from the curriculum. ‘Expedition Story Pages’ presents the thematic expedition stories. Through these pages participants can find online resources such as curriculum exercises, video clips and digital labs. Students are supplied with real data to replicate research work using the ‘Digital Lab.’ Electronic Data Systems Corporation (EDS) provides a variety of interactive features for these digital labs. Live broadcasts of the expeditions are made available on the Internet to students in their classrooms or for home school students. QuickTime Virtual Reality (VR) movies show students what it looks like in the locations where research is conducted. Sometimes Web cameras are placed on location to allow students to see the research being conducted.

Expedition photos and research findings are found on the ‘Expedition Journals and Galleries’ page. Participants wanting to investigate past themes go to ‘The Exploration Zone.’ Teachers can find assessment tools and documentation of the alignment of the curriculum with state and national standards on the “Teachers’ Center” web page.
When implementing the Jason Project in their classroom, managing students’ accounts is one of the important tasks teachers have to perform. Membership to Team Jason Online, access to the gated Web community, and access codes are provided to participating classroom teachers. The teachers are then responsible for approving and setting up their students’ online accounts.

The “Netiquette Online Conduct and Safety” feature on the Web site presents guidelines for maintaining safety and privacy for both teachers and students on the Web. All students and teachers are expected to understand and follow the Netiquette guidelines. In addition, teachers and students are advised to adhere to local school district acceptable use policies for the Internet. Teachers are advised to seek parental permission prior to activating student online accounts. Another strategy for online privacy includes the use of volunteers to moderate student information.

**Evaluation**

Formal external evaluation of the Jason Project has been conducted to establish the effectiveness of project for both students and teacher. A three-year evaluation exercise was undertaken by Center for Children and Technology (www2.edc.org). The first year of the evaluation focused on students’ learning while the second year dealt with teaching methodology and teachers’ use of Jason curriculum. The third year evaluation investigated the inquiry-based learning assessments used in the Jason Project. These include self-assessments, teacher assessments, and state assessments.
The first year evaluation findings indicate students were able to use skills, such as problem solving, gained from the Jason project in other subjects. The curriculum promotes a variety of learning styles and the learning activities capture students’ attention, resulting in the acquisition of analytical skills (Martin, Ba, & Diaz, 2003a; Martin, Ba, & Diaz, 2003b). The evaluation also pointed out the importance of the teacher role in guiding students’ involvement in the Jason curriculum.

The second year evaluation findings show several critical areas (Martin, Ba, & Diaz, 2003c). Teachers gained skills in classroom management and in the use of technology. Teachers using the Jason Project are encouraged to vary their teaching methodology and assessment techniques in order to implement project-based learning. The multi-disciplinary curriculum also reinforces team teaching and collaboration between teachers.

Other findings point out that most of the teachers use the curriculum during a 6-week period and often reuse the materials later. Since the science curriculum is correlated to the state science standards, teachers find it easy to integrate the Jason materials to school curriculum. The evaluation findings indicate that both urban and rural schools benefit from this program (Martin, Ba, & Diaz, 2003d). However most of the teachers in the Jason program and 70% of the students come from a Caucasian background, raising concerns about the continuing effect of the digital divide on students’ learning opportunities and outcomes.
The SRI evaluation conducted in 2002, indicated that the Jason Project teacher development program is very successful in increasing teachers’ skills and effectiveness in curriculum application. Of teachers receiving professional development, 55% reported they acquired skills in teaching science and had gained more knowledge in other subjects. Forty-six percent of the participants stated that they had an understanding of probeware, a Jason-specific technology resource (Martin, Ba, & Diaz, 2003e).

Resources

The Jason Project Web presence provides a large number of resources for participants. In addition to the resources for participants that were described earlier, links are provided Web sites developed by different Jason chapters around the world. Jason Project participants and visitors can access monthly newsletters and published articles about the Jason Project through links to other organization’s Web sites.

The Quest Program
(Website currently deactivated, October 2003)

The Quest online adventure program, which began with the almost legendary MayaQuest, is perhaps the best marketed of all online adventures on the Web. The Quest Program found commercial success after being purchased by Classroom Connect. Additional corporate sponsors helped fuel the Quest success as well. For example, LifeTouch, School Portraits promoted AmericaQuest as one of the year’s important news events using center spread
inserts in school yearbooks they published for schools (Ruth Murdoch Elementary School, 2002).

The Quest Program “was officially founded by Dan Buettner, who sometime after college started riding his bike. And riding. And riding. He began setting world records by his amazing feats on his bicycle - from Alaska to Patagonia, across Russia, and more. These rides must have continued to foster the adventurer in Dan, because he didn't just ride his bike, he explored the people and history of the places he traveled through. And he wanted to share that with kids. He got the idea at some point to start sending email updates of what he was seeing and who he was talking to, back in the day when listservs were just beginning. He started doing this from the Maya region in Central America, the place that became the perennial Quest region. . . . Eventually, Classroom Connect bought Dan and his idea and started beefing up the curriculum and structure.” (Email communication, 2003)

Since purchasing the rights to Dan Buettner’s idea, Classroom Connect has launched, through the Quest Program, expeditions in ten different locations around the world. These range from the first, AfricaQuest (October 5-November 12, 1998), to the most recent, ColumbusQuest (October 7- November 1, 2002). Quests usually run between 20-30 days long with the exception of IslandQuest, which was only one week.

**Essential Program Components**

Human fascination with mystery is the central design feature of the quest program. Each quest expedition is connected to a historical or cultural mystery
that has fascinated scholars over the years. The location of this mystery then becomes the location for the expedition itinerary. While the location for the expedition is clearly delimited, the actual movements of the expedition team from location to location are flexible, awaiting the input of students during the course of the expedition. The students help determine the itinerary of the expedition. Students are drawn into the adventure through their active involvement in solving the mystery. Although each of the Quest programs shares some common characteristics, each program has a unique twist that keeps even the most frequent Quest adventurer interested.

One essential component included in all quest programs is the quest website. The quest website is the focal point of interaction and learning in the program. The web site is the one stop location for teachers and students to gain information about the adventure and learning activities for the classroom. Teachers who are thinking about participating in the quest program have the option of looking at the web site on a trial basis before subscribing to it.

A second component of the quest program is the curriculum guide created to go along with each adventure. The curriculum guide includes instructions on how to activate your subscription to the program, background material to help teachers understand the upcoming quest, classroom teaching tips, and lessons for use throughout the program.

The Quest Poster is the third major component of each quest adventure program. This poster is bound into the back of the curriculum guide. The poster
is designed to generate student interest as a motivational tool. The poster is also
designed to help organize the events of the expedition into a time line.

The fourth component is a newsletter that is emailed to teachers and
students. This provides useful information and updates on program events and
resources that have been added to the web site.

A final component of the quest program is the Quest Channel. Through
the quest Channel, teachers have access not only to the current live expedition
but also previous quests. The purpose of the quest Channel is to combine “live
and previous Quests to create a year of adventure learning that connects core
curriculum to the best of the Web.”

Supporters/Sponsors of the Program

The American Museum of Natural History was listed on the
ColumbusQuest website as a continuing partner in the quest program. During
their participation in Columbus quest, students, were able to connect with the
museum's world-class scientists. ColumbusQuest educators were given the
option of participating in a day of professional development at the museum.

Remote Satellite Systems International has helped fund many different
Quest programs. The ColumbusQuest web site describes the company as a
“technology provider with satellite video conferencing solutions. They have
provided equipment and engineering support in Quest technology planning and
implementation.”

The Quest Program website lists many sponsors and partners for its
expeditions including Deerfield.com, Victory World Records, Life Touch School
The curriculum, which is provided to participating teachers, is based on the integration of subject area content. The relevance or connectedness of specific subject-area content to the Quest program being developed determines whether or not it will be included in the Quest curriculum.

The multidisciplinary curriculum is aligned with specific state and national standards. It also acts as a support to many teaching practices in the classroom. For example, it supports inquiry-based learning built around the central mystery and a series of related mysteries or sub-questions. It supports the used of cooperative learning by structuring activities around students working in cooperative groups. While in these groups, the curriculum supports hands-on-learning by having students conduct research. Student teams also develop their oral and logic skills through debate and use role-play to explore different scenarios. The curriculum includes instruction ideas to deliver over 100 different lessons that address diverse student learning styles.

The curriculum integrates content from language arts, mathematics, social studies, and science. The math content includes problem solving, collecting data, analyzing and studying data, and measurement. Social studies content includes activities that investigate cultures, traditions, archaeology, communities and civic practices, as well as places and regions. Science is integrated by studying the nature of scientific inquiry, the life sciences (plants and animals),
earth science, ecology, and the environment.

**Expedition Team**

The team out in the field is composed of a number of different people usually consisting of an expedition leader, anthropologist, archeologist, science writer, expedition producer/technologist, photographer, videographer, video editor, new media specialist, and sometimes a cultural interpreter. The leader of ten Quests, John Fox, has a PhD in anthropology from Harvard University. Like John, other participants selected for the team are highly qualified in their field of expertise.

**Interactive Website**

The Quest Program web-page design is creative, attractive, and easy to use. Using detailed images and attractive color the website captures the attention of students. In addition to daily activities, the website has other features that add to the program. One feature is guidelines for keeping the students safe while browsing the website. For example, no child under the age of 18 is allowed to post personal information on the Quest website.

Another Quest Program website feature is the Help menu. The help menu is designed to help a new user get started using the program. It provides detailed instruction for preparing your computer for the Quest and activating your program subscription. It also explains how to set your password, navigate the website, and use the resources that are available to teachers and students.

The Quest Program website includes several interactive elements that are posted by the expedition team members. One of these is "Dan’s Dilemma." This
is a situation is posted by the team to the students. Students are given the opportunity to select one of the offered choices or e-mail in their own suggestions.

Another feature that promotes interaction between the team and the students is the Team Update. The team update appears at least every second day, and in some Quests it is posted daily. The purpose of this update is to provide and inform the students of what’s happening with the team out in the field. It talks about things such as biking across the desert and popping their bike tires and how the local people feel about a specific event.

Opportunities also exist for students to initiate interaction with the team and each other. The students are expected to post ideas about where they want the team to go next in their travel for the expedition. Students can also post their ideas about what the team should do in a specific situation. Students also can show their creativity. The website has places for students to post a variety of types of art work so that other students and teachers can see what they have created.

Many photos are posted to the website to help the students visualize where the expedition team is working. These photos help students imagine they are on the journey with the team. In addition to the photos that appear throughout the web site, one of the daily activities is called “Mystery Photo.” The mystery photo is typically a cropped or enlarged photo of an animal or common object. The students are to guess what the mystery photo depicts. They may ask for clues and visit the library on the website for help. After the student makes
his/her final guess, the correct answer will be displayed, as well as a short summery about the object. The term “mystery” also helps keep the students reminded that the whole purpose of the expedition is to solve a mystery. Another activity which uses visual images on the website is titled “Gross and Disgusting.” By using detailed photographs and written reports, “Gross and Disgusting” shows nature at its worst. Different types of plants and animals are examined and new disgusting facts are revealed.

The daily movie provides insight into some aspect of the location that is being studied. For example, in the most recent expedition, Columbus Quest, one of the Daily Movies showed how transportation had evolved since the days of Columbus in 1492. The movie began with a short written introduction that gave a brief overview of what would be shown. A 2-3 minute video clip followed this written description. During the video clip, a narrator explains the setting. After the video there are a few questions that the students can answer to help them connect the information from the video with the rest of the expedition.

Not only do the students get to watch these videos but they also get their turn at directing them. “You’re the Director” gives the students a chance to have input about the content of the next daily movie. Students are given three options for video content, one of which is to submit an original idea. This encourages the students to discuss video possibilities as a class to generate creative ideas of their own.

All of the Quest Programs have nature integrated into their mystery. “Nature Notes” is one way this is done. Nature Notes is a report focused on the
diverse natural environment the team is encountering. Whether it is shifting winds and the type of sand where Columbus landed or the animals found in Belize, each Nature Note has an interesting story to tell. “Creature Feature” is another tool for integrating nature into the Quest Program website. Creature Features teach students about a specific animal whether on the land, in the sea, or in the air. It shows the animal and provides highlights about the habitat in which they live.

The Intel-ebration Expeditions Program
(www.inex.andrews.edu)

A Snapshot

The Trail of Tears Expedition (2001) began in a blaze of springtime heat. The Intel-ebration Expedition team of six cyclists started a 900-mile journey into the experience of displaced persons at the Red Clay State Historic Site in southeastern Tennessee. On that first morning, students from Lester Coon-Apison SDA School joined the expedition team members for the first 8 miles of the expedition. The team first stopped in mid-morning occurred at Spalding Elementary School in Collegedale, Tennessee. The lower elementary students gathered in the media center to hear Native American storyteller, Beverly Bliss, while the older students gathered in the gymnasium to participate in an hour-long simulation of the Cherokee Trail of Tears.

Upon leaving Spalding, the team pedaled their way toward Blythe-Bower Middle School in Cleveland, Tennessee. After leading the Blythe-Bower students through the simulation, the team left to finish their first day’s ride with temperatures around 95°F. Ending at the Tennessee River Bridge, the team was
greeted by representatives of the Tennessee Chapter of the Trail of Tears Association, one of the partnering organizations for the Expedition.

After interviews and photo opportunities with local reporters, the team left for their first campground, dinner, and three hours of journal writing, photo editing, video editing, and uploading to the Expedition web site.

**Essential Program Components**

The Intel-ebration Expeditions program is organized around five core components: a trans-national issue that focuses the expedition, a specialized curriculum, an expedition team that follows a set itinerary, students and teachers from K-12 schools, and an interactive Website to connect all participants.

The development of the core components for an Intel-ebration Expedition is guided by a curriculum definition that identifies seven design guidelines for shaping a proposed expedition and its curriculum. The first guideline is “focus on a transnational issue.” This guideline shapes all aspects of an expedition as it is developed. A transnational issue is one that is important across several cultural and/or national boundaries. For example, the Trail of Tears Expedition focused on the issue of “displaced persons,” a current concern in many countries.

The next six guidelines primarily impact the shape of the expedition curriculum, but they have implications for other aspects of the program. The second design guideline builds on the first. Each expedition curriculum includes explicit values education activities that are connected to the issue under study. This then leads to service learning activities connected to the issue, the third design guideline. Using the example of the Trail of Tears curriculum again,
students studied the value, “compassion.” Their service learning focused on participation with local, regional, national, or international agencies that serve displaced persons.

While the first three guidelines impact primarily the content of the curriculum, the fourth through sixth guidelines impact the learning processes promoted by the curriculum. These guidelines include active learning strategies, multiple intelligence instruction, connection to national content area standards, and the instructional use of technology. These guidelines are used in scripting lessons for the programs curriculum.

**Supporters/sponsors of the program**

The Intel-ebration Expeditions program is different from the other programs in this study in that is formally associated with a university. The primary funding and sponsors of the program from its inception through 2003 were various division of Andrews University and other supporters of the university. University funding for the first four expeditions came from the Office of Scholarly Research, Physics Enterprises, the School of Education, and the College of Technology. Friends of the university who have supported the program include the Upton Foundation of Benton Harbor, Michigan, with a grant to support service learning.

As a program that is operated as the research agenda of three university faculty members, a perpetual challenge with the Intel-ebration Expedition program is that the day-to-day jobs of the faculty compete with the creative and research aspects of the Expedition program. The program almost foundered
when Burton was named chair of the Department of Teaching and Learning. During his tenure as chair, only one expedition was executed.

The Intel-ebration Expeditions developers consider their first four expeditions to be the development phase of their project. As a result they have marketed primarily through word of mouth and personal contacts. Each expedition has reached a relatively small number of schools and students. Fifty-six teachers in 33 schools with approximately 1000 students registered for the first Expedition to Kenya. These classrooms included public, private, and home schools in 10 states from California to West Virginia. However, as the expedition unfolded, only about half of the teachers actually followed through with active participation.

By the time of the Trail of Tears Expedition in 2001, 42 schools serving 1256 students were listed as official participants. These schools were spread across 18 states and 2 countries. In addition to the officially registered online participants, the Expedition Team visited approximately the same number of students through face-to-face contacts while biking the Trail of Tears. Unlike the first Expedition however, almost all of the registered classrooms actively participated in the Trail of Tears Expedition.

The Curriculum

Several teaching and learning paradigms have shaped the InEx curriculum design. The “Intel” half of “Intel-ebration” refers to Intelligence. The program interprets human intelligence through the lens of Gardner’s (1985) work on multiple intelligences. The “ebration” half of “Intel-ebration” refers to
“celebration,” to communicate the idea that learning should include joy and enjoyment. This perspective of “joy in learning” has been shaped by several sources, including the literature from gifted education, religious education (Habenicht & Burton, 2004; White, 1952), cooperative learning (Johnson & Johnson, 1981; Kagan, 1997), and Integrated Thematic Instruction© (Kovalik, 1997). The InEx curriculum design has also included focus on a theme or issue, inclusion of cooperative learning, project-based learning, and integration of instructional technology. To synthesize these potentially competing paradigms, the curriculum developers in the InEx program use Dimensions of Learning (Marzano, Pickering, Arredondo, Blackburn, Brandt, & Moffett, 1997) as the organizing framework for the curriculum.

In many ways 2001 was a watershed year for the Intel-ebration Expeditions program. After conducting three expeditions from 1996 through 1998 that were connected to academic tours sponsored by Andrews University, in 2001 InEx personnel created their own itinerary for the Trail of Tears Expedition. Changes were also evident in the program’s curriculum design. The curricula for the first three Intel-ebration Expeditions presented theme-based lessons for students. In 2001 the idea of “theme” was refined to focus on an issue.

Originally one term used to describe the InEx curriculum was “project-based.” Students in the first three expeditions were asked to self-select a project that was connected to the theme of the expedition. Since the InEx program is based in part on Gardner's multiple intelligence theory, the projects were
expected to demonstrate the students’ intelligence in several ways and in multiple subjects. These projects were then to be presented at a class (or whole school) open-house event. With the Trail of Tears Expedition in 2001, the “project” element of the InEx curriculum was redesigned to focus on service learning. Specific learning activities were developed in the curriculum to lead students into active participation in a class service project connected to the focus of the expedition. Character education activities were included in the curriculum to help prepare students for active involvement in service related to the focus issue.

A hallmark of the InEx curriculum is it’s inclusion of specific teaching strategies as part of the learning activities. These are primarily cooperative in nature, but also include visual thinking, creative thinking, and critical thinking approaches (Bellanca, 1990; Bellanca, 1992; Joyce, Weil, & Calhoun, 2000; Taba, 1966).

With the exception of the first InEx Expedition, each curriculum has been correlated to national content area standards. The national standards correlation for both the Inca Expedition (1997-98) and the Ecuador Eco Expedition (1998-99) was based on Content Knowledge, 2nd Edition (Marzano and Kendall, 1998). This changed in 2001 with the Trail of Tears Expedition curriculum, which was correlated with national standards language as originally set by the standards issuing organizations. The InEx curriculum typically integrates standards from social studies, English/language arts, science, mathematics, information literacy, educational technology, and life skills.
The first two InEx curricula were designed as generic “elementary school” curricula, which were intended to meet the needs of students in grades three through eight. The third expedition, to Ecuador, featured two versions of the curriculum – one for middle schools and another for high schools. After experimenting with single levels and dual levels of curricula, the curriculum development team for the Trail of Tears Expedition (2001) developed a single curriculum for all grade levels. Within the guidelines for each learning activity were suggestions for adapting the activity to make it more appropriate for younger or older students.

The InEx curriculum includes several components designed to support teachers using the program. Scaffolding components for teachers include an overview of the program, a scope and sequence of the curriculum, lesson outlines, an instructional appendix, and an appendix listing the full text of related national standards & benchmarks across multiple grade levels. The instructional appendix includes step-by-step instructions for each of the teaching processes included in the lesson outlines.

Teacher support within each lesson plan includes an overview of the lesson purpose and goals, a listing of standards the lesson addresses, a listing of resources needed to teach the lesson, semi-scripted lesson plans that includes an estimated timeline for the lesson, assessment suggestions, student handouts for the lesson, and any assessment tools needed for the lesson.

The InEx curriculum includes tools for process assessment, product assessment, and knowledge assessment. These assessment tools include
questions to promote reflective self-assessment, online quizzes, rubrics, graphic organizers, and task guidelines. Most of these tools are included as handouts attached to lesson outlines where they are used. Others are available online.

**Expedition Team**

As a university-based program it is not surprising that the InEx expedition teams are composed of university faculty and students. A core of three faculty members has been on most expeditions. But only Sharon Prest has been a team member on all four expeditions. With the first three expeditions the number of students varied according to the size of the academic tour. Most students were willing to write journal entries for posting to the expedition web site. However, the size of the “true” expedition team has varied from three to seven. The Trail of Tears Expedition was the first to include a high school student, the daughter of the program director.

The three core faculty members in the program have specific responsibilities based on their qualifications. Larry Burton is in charge of curriculum development and interaction with schools on the expeditions. Prest is in charge of web development. On expeditions she is responsible for videography and regular uploads to the site. Marc Ullom is the technical and nature photographer for the team. His photographs provide the primary visual interface with students in schools. University and high school students are selected for the expeditions based on the roles they will fulfill. Some are responsible for photography, some for journaling, others for videography.
The expedition team usually forms at least one semester prior to the expedition. Members of the team visit participating schools in their local area during the month before the expedition begins. During the expedition team members visit schools along the itinerary, as opportunities are available. If schools are still in session after the expedition concludes, team members visit local schools again. The team disbands shortly after the completion of the expedition.

**Expedition Websites**

The InEx websites serve as the primary link between the expedition team and students in classrooms. The websites have been designed by team member Prest and developed by students at Andrews University or Walla Walla College. The websites have stressed quality visual images, interactive elements, and resources related to the expedition.

Because two of the core InEx team members are photography professor, photography has always been an important aspect of the expedition Web sites. The challenge faced by the InEx team has been acquiring adequate funding to finance equipment that would allow the team’s photographers to produce quality, digital work. With proper equipment, Ullom and Prest have been able to capture frigate birds in full flight, tiny animals in the rainforest, and authentic wagon ruts from the 1840s Trail of Tears.

With the advent of higher speed (and lighter weight) satellite telephones and affordable digital video cameras, the InEx team began incorporating video clips with the Trail of Tears Expedition Website. The team worked to keep these
video clips short to facilitate downloading by students in class or at home. The inclusion of video clips allows students to see the team in action and to hear their voices.

Using specialized software, the team photographers stitched together multiple photographs to create virtual reality (VR) panoramic shots. Visitors to the Web site could then manipulate these VR items to simulate standing in one place and turning to view the surroundings. Team photographers created VR items both inside historic buildings and outside at historic sites.

Interactivity

As with other online adventures, InEx promotes interaction with the expedition team as one method of bringing the adventure “into” the classroom. Interaction has been promoted via email, teleconferencing, online quizzes, and Web postings. Expedition team members regularly post visual images of their daily activities, journals describing experiences and their reactions to them, and emails answering questions posed by students. Students submit questions or photo requests to team members via email, read journal entries, take online quizzes, and download photos or video clips of the adventure. Classroom teachers post student assignments and projects to the Web site for viewing by other classes and by the expedition team.

The Intelebration Expedition program web sites include several types of resources for participants. On the front page of each expedition Web site you typically find interesting facts and/or quotes connected to the current expedition. Other resources include hotlists of Web sites directly connected to the content of
the expedition, related Web sites of interest, and links to the Web sites of
sponsors, supporters, and expedition team members. The InEx Web sites also
include links for downloads of software needed for participation, such as Adobe
Acrobat Reader.

Evaluation

The evaluation data for the Intel-ebrration Expedition program is partial and
incomplete. No formal evaluation reports or articles based on program
evaluation data have been published. This is partially due to the relative
“smallness” of the program. Budget is limited, personnel are few, and through
2001, the number of participants in the program was small when compared with
the other programs in this paper. The program has a formal program evaluation
plan, but participants have not always provided the data requested. However,
the general response to the program has been positive, with some teachers
enrolling their classes in multiple expeditions.

References

Bellanca, James. (1990). The Cooperative Think Tank. IRI/Skylight Publishing,
Inc. Palatine, Illinois.

Bellanca, James. (1992). The Cooperative Think Tank II. IRI/Skylight Publishing,
Inc. Palatine, Illinois 60067.

Email communication with Brian, Quest Channel representative, October 22,
2003.

Books.


