



EDUCATIONAL SUMMARY: *THE WORLD TRI*

CONTENTS

PROGRAM OVERVIEW	3
THE WORLD TRI CURRICULUM	4
1. <u>INTRODUCTION</u>	4
2. <u>EDUCATIONAL ENVIRONMENTS</u>	4
3. <u>METHOD OF CURRICULUM DEVELOPMENT</u>	6
4. <u>OBJECTIVES OF CURRICULUM DEVELOPMENT</u>	8
5. <u>BENEFITS OF THE ADVENTURE INSTITUTE CURRICULUMS</u>	9
EXAMPLE OF PROGRAM IMPLEMENTATION	10
KEY PERSONNEL	12
REFERENCES AND CITATIONS	14

PROGRAM OVERVIEW

During the 2010-2011 academic year, The Adventure Institute will pilot an adventure-based educational program to students across the United States. The educational curriculum will be based on an expedition called “The World Tri.”

The World Tri is an unprecedented, 12,000-mile inter-continental triathlon that reaches from the icy waters of the English Channel to the snow-covered summit of Mount Everest. The triathlon begins on June 30, 2010 with a multi-stage swim down the River Thames in England to the North Sea, along the coast of England, and across the English Channel to France. From France, the adventure continues with a bicycle ride across some of the harshest mountains and deserts in the world, while passing through eleven countries in Europe and Asia to Nepal. The adventure concludes with an incredible 950-mile run into the Himalayas and a climb to the summit of Mount Everest.

The expedition is being undertaken by Charlie Wittmack, an explorer, attorney and educator from the Midwest. Charlie will be supported through Europe and much of Asia by his wife and son, and throughout the expedition by a team of journalists and teachers. Together the team will experience some of the most remarkable sites and extraordinary cultures the world has to offer. The team will share their challenges and successes every step of the way through numerous sources, including traditional and social media, and through the expedition’s state-of-the-art website which feature a wide variety of multimedia.

THE WORLD TRI CURRICULUM

1. INTRODUCTION

The World Tri curriculum is an adventure-based educational program based on The World Tri expedition. The educational program is a year long, inquiry-based and project-based curriculum that strategically links together students, educators, families and the general public in formal and informal educational communities through experiences in a variety of educational environments.

The curriculum modules developed for The World Tri Curriculum are designed to be positive and inspirational and are accordingly “solutions-based.” Each module will be specifically tailored to the regions explored during expedition, while confronting participants with a blend of contemporary earth science issues (such as alternative energy, water quality, water scarcity, and climate change), and traditional earth science issues (such as geology, meteorology, climatology and oceanography). While the core The World Tri Curriculum is STEM-based, the program also includes modules that are focused on economic and cultural issues.

2. EDUCATIONAL ENVIRONMENTS

The educational environments utilized during the program are state-of-the-art and packed with inspiration. Throughout the project, lesson plans will be disseminated through virtual environments accessed through The Adventure Institute website, physical labs in science and technology museums, traditional classrooms in participating schools, and informal environments that are created through the use of mainstream media.

The technological core of the project will be the virtual environments created at The Adventure Institute website which will track the expedition, deliver related educational content as the expedition progresses, and connect program participants to each other. The Adventure Institute website will be constantly updated

throughout the expedition and include every type of multimedia available. Examples of the elements that will be featured through the website include the following:

- Streaming video updates of expedition progress and real-time mapping of progress through GPS mapping on NASA imaging software and Google Earth;
- Digital labs and problem-solving exercises that allow students to develop and apply knowledge by solving actual problems that arise during the expedition and directing the team in a solution;
- Live and taped interviews with scientists, experts and educators keyed to the specific earth science and climate issues addressed by the expedition;
- Background information on the earth science and climate issues addressed by the project, including scholarly literature, media reports, and student-created content;
- Curriculum materials including lesson plans, discussion questions and related activities;
- Opportunities for interaction with other students around the world through live discussion groups organized around specific environmental issues, and through ongoing threaded discussions;
- Comprehensive teacher support materials designed to assist with the technological aspects of the project, including screen-capture tutorials, advice from educators experienced with integrating adventure-learning projects in their classrooms and online forums for teachers to share and help each other; and,
- Opportunity to subscribe to an RSS feed or list-serve containing daily expedition reports, and the opportunity to forward those reports to social media outlets including Facebook, Twitter, MySpace and others.

While much of The World Tri Curriculum will be available electronically, the curriculum will also include key face-to-face components that will be disseminated to partner organizations on international, national and local levels.

The Adventure Institute has developed a local network of partners that will disseminate The World Tri Curriculum and implement it in schools in Iowa. This network includes the Iowa Hall of Pride, the U.S. Center for Citizen Diplomacy, the Iowa Business Education Alliance, and World of Difference.

On the national and international tier, The Adventure Institute is working to develop new partnerships with science museums both in the U.S. and abroad, and has begun discussions with the Association of Science-Technology Centers (ASTC) and the National Science Teacher Association.

Finally, The Adventure Institute anticipates that it will receive significant exposure for its educational programming as a result of its partnership with The World Tri expedition. The Adventure Institute will leverage this media to draw in non-program participants through the excitement of the physical expedition, and leverage their interest into participation in The Adventure Institute educational programs. The involvement of traditional and contemporary media outlets will link formal and informal educational communities and encourage a process of continuing, unstructured, lifelong learning in program participants of all ages.

3. METHOD OF CURRICULUM DEVELOPMENT

The Adventure Institute develops educational programming based on the modern educational process referred to in pedagogical circles as Adventure Learning (AL). AL is a distance education approach that provides students with opportunities to explore real-world issues through authentic learning experiences within collaborative learning environments. The Adventure Institute programs combines face-to-face interaction with technologically mediated content and interaction, while connecting the learning experience to a real-world, real-time event in which students follow and participate as new knowledge is constructed. The educational process occurs in a collaborative environment where teachers, students, and other participants (including parents, families, and the expedition members themselves) socially construct knowledge, design projects, and solve problems.

In an effort to provide strong pedagogical underpinnings for every program developed by The Adventure Institute, the curriculum development team has identified the following six principals and guidelines for development of all adventure-based educational programming, including The World Tri Curriculum:

- **The project will begin with a researched curriculum grounded in problem-solving.** Educational objectives and desired learning outcomes will guide the development of the project from the beginning, and the expedition will be designed to maximize educational opportunities. However, while knowledge creation will be a significant benefit of the program, the primary purpose of the program will be to assist students in developing a process and appreciation for life-long learning, whereby students will develop the skills necessary to identify, evaluate and resolve significant issues in contemporary culture and in the future. Therefore each lesson plan will present a problem that, to solve, requires the participants to engage in a problem-solving process, while interacting and collaborating with their peers, experts and teachers, as well as within the program's online environment.
- **The curriculum will provide opportunities for collaboration and interaction between and among students, experts, expedition members and the public.** In contrast to classroom instruction that encourages students to work and learn independently, *The World Tri Curriculum* will provide participants with a collaborative learning environment that will be structured in such a way to encourage each student to become a reflective practitioner rather than a passive recipient of knowledge. The curriculum will therefore echo the collaborative and team-oriented approach of the expedition in many ways. During program, students will interact online with peers, experts and expedition members; teachers will collaborate with other teachers and outside experts; experts will interact with other experts; family members will interact with participating students; and all participants will interact through the AL content. This type of collaborative environment, populated by diverse perspectives and backgrounds, provides a more meaningful experience for students and more closely resembles the way our society collectively solves problems than does education that isolates individual learners.
- **The curriculum will utilize emerging and existing technologies for delivering educational programming.** The curriculum will employ technologies that will maximize opportunities for timely interaction and collaboration with students and expedition members in distant places, and that will maximize connections to real-world and real-time events. The curriculum and the expedition will be developed to maximize opportunities for direct student interaction through emerging and existing technologies. Technology will be utilized so that students are actively aware that they are key participants in the expedition and that the expedition is relying on them for their educational contributions.
- **The partner expedition will deliver media from the field in real time when possible, and always in a timely manner.** Continuous updates from the field will excite students by making them feel connected to actual and current events in an authentic real-time environment, and will foster a spirit of team-work and

collaboration among all program participants. When this media combines with pedagogically-solid curriculum in a collaborative and team-oriented environment, it provides motivation for learning and builds self-confidence among participants.

- **The curriculum will provide synched learning opportunities.** The subjects and themes of media updates and web offerings will precisely coordinate with the curriculum, and the use of collaborative environments will support these subjects and themes simultaneously. The online learning environment and the media offerings will be deliberately designed to mesh with the curriculum.
- **The program will have comprehensive pedagogical guidelines for the curriculum and online learning environment.** The project will consider and provide for its instructional uses, implementation strategies, and teacher needs. The program will provide teachers with the information they need to plan their class' participation by providing curriculum guides with integration techniques, calendars with schedules for expedition updates and other features, curriculums published well-in-advance of the project, and information on standards alignment.

4. OBJECTIVES OF CURRICULUM DEVELOPMENT

In addition to the specific applications of the learning environments discussed in paragraph 2 above, and the conceptual objectives discussed in paragraph 3 above, The Adventure Institute has adopted the following specific objectives for deployment and dissemination of The World Tri Curriculum:

- *The World Tri Curriculum* will develop a comprehensive curriculum, composed of a variety of new and existing scalable educational environments that link together students, educators, families and the general public in formal and informal educational communities.
- *The World Tri Curriculum* will develop one curriculum module per week of school for each target age group and disseminate through formal educational channels in Iowa and through The Adventure Institute website to partner schools around the U.S. and world, which are geographically-targeted to the current location of expedition.
- *The World Tri Curriculum* will develop five curriculum modules or experiments for dissemination by the Science Center of Iowa and other ASTC partner museums during field visits to informal educational institutions (that are geographically neutral so they can be presented at any time during the year).

- The Adventure Institute will develop their website as a complete integration of formal educational channels, informal educational channels, and modern mainstream media (as discussed in greater detail in paragraph 2 above).
- The Adventure Institute will track the program's success as a catalyst to direct existing and newly attracted participants to informal educational institutions, including the Science Center of Iowa and other ASTC participants.
- The Adventure Institute will evidence their contribution to the development of the STEM workforce through the use of The World Tri Curriculum.

5. **BENEFITS OF THE ADVENTURE INSTITUTE CURRICULUMS**

The Adventure Institute's curriculums differ from traditional classroom and web-based curriculums in several ways. The most obvious differences are the program's connection to real-world, real-time events, and its emphasis on interactive, social, and collaborative learning. The Adventure Institute curriculums provide numerous additional advantages to traditional educational processes, including the following:

- The Adventure Institute curriculums will better prepare students for the dynamic nature of modern societies because knowledge will be developed from real time events, as opposed to traditional curricula where knowledge is based on published interpretations of past events;
- The Adventure Institute curriculums will emphasize development of high-level skills including critical thinking, problem-solving, and team work, rather than rote memorization;
- The Adventure Institute curriculums will actively and continuously connects the educational process to substantive, real-world issues and contemporary, cutting-edge technologies;
- The Adventure Institute curriculums will empower students to take control of knowledge creation, while allowing teachers to step down from the position of sole "expert;"
- The Adventure Institute curriculums will encourage continuous improvement because work will be evaluated by its strengths and weaknesses rather than whether or not the "correct" answer is found; and,
- The Adventure Institute curriculums will invite involvement from participants outside the classroom, including parents and family members, because it is based around an expedition that is not only educational, but also entertaining and inspiring.

EXAMPLE OF PROGRAM IMPLEMENTATION

A group of students huddle around a computer monitor as they receive a video message from their teammate, Charlie Wittmack, who is climbing at an elevation of 20,000 feet, around the world on Mount Everest. The students have grown accustomed to these messages over the past nine months, as they have responded to Charlie's weekly requests for help as he and his team have travelled around the world on a 12,000-mile expedition called *The World Tri*.

Today Charlie needs help determining where to pitch his tent in Camp One. Over the internet broadcast Charlie points out several hazards for the students to consider: the camp is surrounded by steep ridges that pose a significant avalanche danger; the camp is exposed to numerous cracks in the glacier, called crevasses; and there is a potential for strong winds in the camp during a storm. After describing these hazards, Charlie asks the students to advise him on the safest location for his tents. Because the glacier is constantly moving, the students will have to consider where the tent will be located today, as well as where it will move in the next two months as the expedition continues. The transmission ends, and the students get to work.

Earlier in the semester, the students built a scale model of the Western Cwm of Mount Everest in their science class using a topographical map. Applying their developing skills in geometry, the students now use the model to calculate where the avalanche zones will occur, where the crevasses are most likely to open, and where the wind tunnels are likely to form. After they identify these hazardous zones, the students calculate the distance that the tents will move down the glacier during the expedition and locate a position that will remain safe. Over the past nine months, the students have learned of the consequences of their calculations, and they double and triple-check their math because they know that their teammate's safety depends on them.

After the calculations are complete, the students draft an email to Charlie, with their advice on the placement of Camp One. Over the months that follow, the students

will watch the tents as they move slowly down the glacier and their estimates are tested.

In other schools, students in different age groups are performing similar support roles. A group of advanced-placement students are using the Ideal Gas Equation ($PV=nRT$) to calculate the flow rate of the team's compressed oxygen, while a group of elementary students are dividing the team's equipment into pack loads.

After the students return home from school, they see an update on *The World Tri* on the national news, and are filled with the pride of being part of the expedition. The students discuss their school work with their parents, who become interested, and after dinner the family logs-on to the expedition website where they listen to music captured by the expedition in Russia, watch a video about a family in Kyrgyzstan who lives in a yurt, and see a lecture by a top scientist in France who discusses the future of solar energy.

As each student goes to bed, they're thinking of their own dreams. On the nightstand is a small compass that each student received at the beginning of the The World Tri Curriculum program. On the back of the compass, each student has written down their dream, and the compass is a small reminder to each student about where they're heading. Over the last several months, they've worked with their parents and teachers to break down their dreams into smaller stepping stones, and as they go to sleep they can see the path laid out in front of them and they know – perhaps for the first time – that their world is filled with tremendous possibility.

KEY PERSONNEL

CHARLIE WITTMACK, J.D.

Executive Director, The Adventure Institute

Charlie Wittmack is a world-class explorer, lecturer, and attorney, who has been organizing major expeditions for nearly 15 years. As an adventurer, Charlie is perhaps best known for surviving a remarkable ascent of Mount Everest after making two back-to-back summit attempts without food or water during some of the worst weather in the recorded history of the mountain.

In addition to standing atop peaks during dozens of expeditions to the Andes, Alps, Africa, Alaska and Himalaya, Charlie has trekked across East Africa with the Masai, sailed the Indian Ocean in a handmade boat, and completed numerous bicycle tours including a 5400-mile ride across the United States. Charlie is an accomplished swimmer, completing marathon swims in Lake Michigan, Lake Superior, the Chesapeake Bay, and notching a first place finish in the notorious ultra-marathon ocean race, the 12.5-mile Swim Around Key West. In 2008, Charlie attempted to swim the English Channel without a wetsuit, but was pulled from the sea with severe hypothermia after 7 hours of swimming and after covering a distance of more than 15 miles. (Charlie plans to wear a wetsuit in 2010, pursuant to the rules of the USAT.)

Stories of Charlie's adventures have been covered in media outlets around the world including the International Herald Tribune, the Washington Post, the Chicago Tribune, the San Francisco Chronicle, CNN, Sports Illustrated, Outside Online, and many others.

Charlie has developed numerous educational programs based on his expeditions, including special programs for "at risk" youth and underrepresented groups, and is a frequent lecturer at science museums and schools in the Midwest and Washington, D.C. His work with students has been recognized with numerous awards including: the Iowa Executive Proclamation, Iowa Senate Resolution 45, the Key to the City of Des Moines, an honorary membership in the Kiwanis Club, and many others. Charlie has also presented hundreds of lectures based on his adventures to many of the largest corporations and associations in the United States.

When he is not exploring and speaking, Charlie is a practicing attorney in central Iowa, who regularly appears before judges and juries in state and federal courts, while representing plaintiffs and defendants. His recent trials have involved disputes related to the improper marketing of securities, intellectual property, construction defects and employment relationships.

Charlie is married to Catherine Wittmack from Charlotte, North Carolina, and they live in Des Moines with their son, James.

ELIZABETH ANDRE, PhD.

Assistant Professor of Outdoor Education, Northland College

Elizabeth is an Assistant Professor of Outdoor Education at Northland College in Ashland, Wisconsin. She earned her Doctor of Philosophy in Curriculum and Instruction with an emphasis in Environmental Education at the University of Minnesota in Minneapolis. Elizabeth's education includes a Master of Arts with Distinction in Outdoor Education from Griffith University in Brisbane, Queensland, Australia, December 2000, and a Bachelor of Arts with Honors and Distinction in Spanish and International Studies from Iowa State University, Ames, Iowa, in August 1998.

Prior to her work with Northland, Elizabeth worked as an Education Consultant and Curriculum Developer with the Will Steger Foundation where her responsibilities related primarily to development of Steger's Global Warming 101 website, and educational programs related to Steger's recent expeditions to Baffin Island. In these capacities, Elizabeth developed a k-12 interactive curriculum in partnership with various school districts, the Union of Concerned Scientists, and National Geographic; facilitated a 5-day teacher training workshop; submitted grant applications; wrote articles for various publications, including ABC news, and several scholarly publications; and planned a three-month long dogsled expedition to the Arctic.

The curriculum developed by Elizabeth for the WSF has been adopted by the Norwegian Ministry of Education, endorsed by the Union of Concerned Scientists and National Geographic, and distributed by the National Education Association and the World Wildlife Fund.

Elizabeth also served as an Education Content writer for National Geographic explorer Jon Bowermaster's *Oceans 8: Antarctica* project, 2007 – 2008, and has developed curriculums for the University of Minnesota, Outward Bound, and the Wild Rockies Field Institute at the University of Montana.

A limited selection of her published writing includes the following:

Andre, E. (2007). The Invisible Pollutant in the Canadian Arctic, ABCNews.com, April 6. <http://abcnews.go.com/Technology/GlobalWarming/story?id=3011564&page=1>

Andre, E. (2007). The Land that Never Melts is No More, ABCNews.com, April 3. <http://abcnews.go.com/Technology/story?id=3001261&page=1>

Andre, E. (2007). Tracing the Effects of Global Warming, ABCNews.com March 16. <http://abcnews.go.com/Technology/story?id=2957513&page=1>

Andre, E. (2007). Survival Tactics for the Arctic, ABCNews.com, March 8. <http://abcnews.go.com/International/story?id=2932299&page=1>

Andre, E. (2007). Dogsledding with the Inuit in a warming Arctic. Phi Kappa Phi Forum, 87(4), 2-7.

REFERENCES AND CITATIONS

The World Tri Curriculum is based on the modern educational process referred to in pedagogical circles as Adventure Learning (AL). Continued development of *The World Tri Curriculum* will be based on sound pedagogical underpinnings that have been researched and developed over decades.

The World Tri Curriculum's AL-based curriculum is inspired in part by twentieth century education gurus John Dewey, whose greatest contributions were to development of experimental learning, and Paulo Freire's observations on the importance of informal education and dialogue.

The Collected Works of John Dewey, Jo Ann Boydston, ed., 37 volumes (Carbondale: Southern Illinois University Press, 1967-1991).

The Correspondence of John Dewey, 3 vols., Larry Hickman, ed. (Charlottesville, Va: Intelelex Corporation).

The Essential Dewey, 2 vols., Larry Hickman and Thomas M. Alexander, eds. (Bloomington, IN: Indiana University Press, 1998).

Pedagogy of the Oppressed, Freire, P. (Harmondsworth: Penguin, 1972).

Pedagogy of Hope. Reliving Pedagogy of the Oppressed, Freire, P. (New York: Continuum 1995).

The World Tri Curriculum is also guided by contemporary pedagogical scholarship related to collaborative learning and adventure or expeditionary learning:

Campbell, James. *Understanding John Dewey: Nature and Cooperative Intelligence*. Chicago and La Salle: Open Court, 1995.

de Bruin, H. (2002). *Psychological risk in adventure-related experiential learning*. SPARC Risk 2002: New Zealand Conference on Outdoors Risk Management.

Doering, A. & Veletsianos, G. (in press). Hybrid Online Education in the K-12 Classroom: Identifying Integration Models using Adventure Learning. *Journal of Research of Technology in Education*.

Doering, A., Miller, C., and Veletsianos, G. (in press). Adventure Learning: Educational, social, and technological affordances for collaborative hybrid distance education. *Quarterly Review of Distance Education*.

Doering, A., & Veletsianos, G. (in press) An Investigation of the use of real-time, authentic geospatial data in the K-12 classroom. *Journal of Geography*.

Doering, A. (2007). Adventure learning: Situating learning in an authentic context. *Innovate* 3(6).

- Doering, A. (2006). Adventure learning: Transformative hybrid online education. *Distance Education* 27(2), 197-215.
- Eames, S. Morris. *Experience and Value: Essays on John Dewey and Pragmatic Naturalism*. Elizabeth R. Eames and Richard W. Field, eds. Carbondale: Southern Illinois University Press, 2003.
- Gass, Michael. Facilitating Experiential Learning: Co-Creating Stories With Better Endings for Clients. Vol. 20, No. 2. (Aug./Sept., 1997)
- Gass, Michael A. Enhancing Metaphor Development in Adventure Therapy Programs. Vol. 14, No. 2. (Aug., 1991)
- Gass, Michael; Gillis, H.L. "Lee". Focusing on the "Solution" Rather than the "Problem": Empowering Client Change in Adventure Experiences. Vol. 18, No. 2. (Aug. 1995)
- Gass, Michael A.; Kerr, Pamela J. Applying Group Development Theory to Adventure Education. Vol. 10, No. 3. (Fall, 1987) *Appears as "A Group Development Model for Adventure Education" in The Theory of Experiential Education, 3rd edition***
- Gass, Michael. The Longitudinal Effects of an Adventure Orientation Program. Vol. 14, No. 1. (May, 1991)
- Gass, Michael A. Programming the Transfer of Learning in Adventure Education. Vol. 8, No. 3. (Fall, 1985)**
- Gass, Michael. Theory and Practice. Vol. 15, No. 2. (Aug., 1992)
- Hollenhorst & Perna, F. (2003). An empirical comparison of the four channel flow model and adventure experience paradigm. *Leisure Sciences*, 25, 17-31.
- Johnson, RT & Johnson, DW (1994). An Overview of Cooperative Learning. *Creativity and Collaborative Learning*. Brookes Press, Baltimore, 1994.
- Johnson, RT, Johnson, DW, and Holubec, E. (2002). *Circles of Learning*, 5th ed.
- Kirkby, K., Finley, F., & Andre, E. Using Geological Concept Surveys to Gauge the Relative Effectiveness of Course Components and Instructional Methods in Geoscience Classes, *Geological Society of America Conference Proceedings*, Fall 2006.
- Martin, P., & Priest, S. (1986). Understanding the adventure experience. *Journal of Adventure Education*, 3, 18-21.
- McIntyre, N. (1999). Investigating adventure experiences: An experiential sampling approach. *Scisco Conscientia*, 1(1), 1-13.
- Mortlock, C. (1984). *The Adventure alternative*. Cicerone Press: Cumbria, UK.

Priest, S. (1990). The adventure experience paradigm. In J.C. Miles, & S. Priest (Eds.), *Adventure Recreation*. (pp.157-162). State College PA: Venture Publishing.

Priest, S. (1999). The adventure experience paradigm (2nd ed.). In J.C. Miles, & S. Priest (Eds.), *Adventure Recreation*. (pp.159-162). State College PA: Venture Publishing.

The World Tri Curriculum has drawn guidance and inspiration from other current and prior AL programs, and intends to build upon these strong foundations by fully integrating formal and informal networks as described above:

Elizabeth Donnelly's *Journey North*: <http://www.learner.org/jnorth>

Dan Buettner's *Africa Trek* (1992) (www.AfricaTrek.com) and *Mayaquest* (1995) (<http://www.teachervision.fen.com/tv/classroomconnect/maya/index.html>)

National Geographic's *Jason Project* <http://www.jason.org/public/home.aspx>

Qwest's *Blue Zones* (www.BlueZones.com)

The Center for Global Environmental Education's *Thousand Friends of Frogs* (www.hamline.edu/cgee/frogs)

The *The World Tri Curriculum* curriculum is developed in part by Elizabeth Andre:

Andre, E. (2007). The Invisible Pollutant in the Canadian Arctic, ABCNews.com, April 6. <http://abcnews.go.com/Technology/GlobalWarming/story?id=3011564&page=1>

Andre, E. (2007). The Land that Never Melts is No More, ABCNews.com, April 3. <http://abcnews.go.com/Technology/story?id=3001261&page=1>

Andre, E. (2007). Tracing the Effects of Global Warming, ABCNews.com March 16. <http://abcnews.go.com/Technology/story?id=2957513&page=1>

Andre, E. (2007). Survival Tactics for the Arctic, ABCNews.com, March 8. <http://abcnews.go.com/International/story?id=2932299&page=1>

Andre, E. (2007). Dogsledding with the Inuit in a warming Arctic. *Phi Kappa Phi Forum*, 87(4), 2-7.

Project Based Learning model is based on Markham's pedagogical studies which were summarized in:

Markham, T., Mergendoller, J. Larmer, J., and Ravitz, J. (2003). *Project Based Learning Handbook* (2nd Rev Spl ed.). Novato, CA: Buck Institute for Education

Buck Institute of Education Project Based Learning website: www.bie.org