

# Analyzing Classroom Uses of an Online Adventure Learning Curriculum

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**Abstract:** This paper analyzes the classroom use of an adventure learning site in K-12 classrooms. Surveys of 228 respondents who used the online curriculum in 300 separate courses, 21 interviews, and three classroom observations were analyzed. Who integrated the online curriculum and learning environment, how it was integrated, and the features of the online classroom that were integrated most frequently and why are reported. Results illustrate the adventure learning project appeared to have a special appeal and applicability to elementary and exceptional classrooms. The majority of classes either used it as an enrichment opportunity for students (47.3% of classes) or a supplement to current course material (37.0% of classes) and the majority of the classes (56.7%) used it at least once or twice per week. Media and text about the polarhuskies and weekly updates were utilized most frequently with at least 48.5% of the classes reporting doing each four or more times per week.

## Introduction

E-learning is changing the landscape of K-12 classroom as it provides numerous opportunities for ready access to curriculum and online learning environments for teachers and students alike. E-learning is supported by the high percentage of Internet access in the K-12 classroom; ninety-two percent of public schools have Internet access in instructional rooms and the ratio of students to instructional computers with Internet access in public schools is 4.8 to 1 (NCES, 2004). Ninety percent of children ages 5-17 use computers as well as seventy-five percent of 14-17 year olds use the Internet (NTIA, 2002). Furthermore, more than 50 percent of high schools in the United States are either offering or working to offer online courses (CyberAtlas, 2002).

Given these statistics, instructional designers are embracing the opportunity to design quality, online learning environments that aid K-12 teachers in their teaching practices. It also creates the possibility for K-12 teachers and students to use online learning environments that bring authentic learning experiences into the classroom without the need to leave the school walls. An example of an educational approach that embraces this opportunity and challenge is adventure learning.

Adventure learning is an educational approach that provides learners with opportunities to explore real-world issues through authentic learning experiences within collaborative online learning environments (Doering, 2003). According to Johnson (2004) the adventure learning project, "PolarHusky," located at <http://www.polarhusky.com>, is a "leader in online learning environments." Joseph Szadkowski (2004) of the

Washington Times newspaper gave the Polarhusky website an “A” stating, “Visitors can almost feel the sting of the below-zero temperatures encountered by the team as a snowy map paints on the site's opening screen, highlighting the current status and route of the adventurers, notes on their daily travails and weekly journal entries as they continue on a 3,000-mile, seven-month investigation of Arctic climate changes.” The E-Learning Advocate commented, “This is what online learning is all about. Transporting students to the Arctic where they can experience a learning adventure in real time” (Hall, J., 2004).

The 2004 PolarHusky expedition consisted of a 3,000 mile dog sled expedition across the Canadian Arctic. The program provided a free eighteen-week K-12 curriculum and online learning environment that began in February, 2004 and concluded in June, 2004. The website had two main portals, a public audience portal and a student and teacher portal or “The Online Classroom.” The Online Classroom was a collaborative learning environment developed concomitant with the development of the online curriculum to create a seamless learning experience. Various multimedia tools within the online classroom enabled students and teachers to interact live with explorers, educators, scientists, Inuit and fellow users. This gated online community included customized web offerings (thematically-based virtual tours and educational animated movies), multi-media (access to images, audio, video and data from the field is central to the learning experience), and integration of geographic information systems technology, collaboration zones and moderated chats.

## **Purpose**

The purpose of this study was to investigate the educators who used the PolarHusky online learning program (the program included the curriculum on online learning environment) in 2004. Specifically, the researchers were interested in answering three questions:

- Who integrated the adventure learning curriculum into the classroom?
- How did educators integrate it within their classrooms?
- What features of the online learning environment (The Online Classroom) were most frequently used by educators and why?

## **Methods**

Educators who registered to use the learning environment were asked to complete a pre- and post-implementation survey or a single, post-implementation survey. A sample of 109 users that had registered in December 2003 and January 2004 completed a pre-implementation survey. Of these users, 41 responded to a request to complete a post-implementation survey in April and May 2004 and described how they implemented polarhusky.com in at least one course. A second sample of 339 users was recruited to respond to a one-time survey in April and May 2004 from lists of registered users who had not completed the pre-implementation survey. Of these, 187 users either provided detailed information on how they implemented polarhusky.com. A common set of questions made up both the panel and post-implementation only survey with the panel sample designed to test causal hypotheses generated from the larger combined survey sample. A combined data set was constructed from the two surveys yielding 228 respondents who described implementation activities in 300 separate courses.

The survey data were supplemented with two qualitative data sources. First, of the 109 users who responded to the initial pre-implementation online survey, 21 users took part in a 15-minute telephone interview in April 2004 on their use of and opinions toward polarhusky.com. This set of interviews included four teachers who taught special education students, one teacher who taught gifted students, five teachers who taught elementary students (K-5), seven teachers who taught junior high students (6-8), one high school teacher (9-12), two teachers who taught a combination of grade levels, and one multi-district curriculum coordinator. Second, three observations were conducted on classrooms in the Twin Cities metropolitan area using the polarhusky.com curriculum which were paired with in-depth interviews of the teaching staff in those classrooms.

The phone interview and observation data were analyzed using a constant comparative method (Glaser & Strauss, 1967) to develop the salient categories and patterns. First, compiling the data that pertained to each interview developed an individual data set for each participant. Then, the data was read noting emerging patterns across individuals. The patterns were compiled and reread searching for confirming and disconfirming evidence for the patterns. A consensus on the salient patterns that emerged from the data was identified.

## Results

### Integration Overview

The adventure learning (AL) project had a special appeal and applicability to elementary classrooms. Over two-thirds of the course sites were taught at the sixth grade level or below. Less than ten percent of the course sites were directed at secondary school students. When describing the content of the course, social studies accounted for over a third of the courses (34.9%), followed by general elementary curriculum (25.7%), and science (18.2%). A significant minority (8.2%) were special education classrooms.

The two main sources for initially learning about the PolarHusky AL program were online sources (e.g. National Geographic website) and personal contact from a friend or project member. Both sources were cited by approximately one-third of respondents.

When teachers were asked about how the AL project was used in their course(s), the majority of teachers either used it as an enrichment opportunity for students (47.3% of classes) or a supplement to current course material (37.0% of classes). Only 6% of classes that teachers reported using the AL project with used it as a replacement for their current curriculum. Interviews with respondents revealed that they did not feel that there was a lack of material to apply to their course within the website or curriculum guide but rather felt a need to cover other prescribed curriculum. Still, when asked about the frequency of using the AL program, the majority of teachers reported using it at minimum once or twice per week (56.7% of classes).

Respondents were asked in both open- and close-ended formats about what features of the website they used in their courses. Reading about the polarhuskies themselves topped the list, with only 3.7% reporting that they never did this and nearly two-thirds of the classes doing this four or more times. Other activities in which the user followed along with the adventure were also popular. These activities included reading the weekly updates, looking at the photo journal, and accessing videos and audios – with at least 48.5% of the classes reporting doing each four or more times. Activities such as reading about the environment and Inuit and using the curriculum guide were also frequently undertaken. Interviews with educators revealed that the multimedia aspects of the website made it particularly accessible to elementary age students and special education students with early literacy skills. Other aspects that proved attractive were the focus on the dogs (e.g. a regular trail update from the perspective of on the dogs proved highly popular) and the real-time nature of the expedition.

### Strengths

The AL program was used as a learning tool to allow their students to interact and experience a different culture by 40% of the teachers. Sue said,

The strength is that the children get to be in contact with the people with the greatest knowledge on the topic. That's not something that they would ordinarily experience in a regular social studies curriculum. It's presented in an exciting way, they feel more invested in it, because they are more of a part of it. I think I'd give it the highest ratings for an educational experience." She continued explaining that for the grade level she teaches she does not have a social studies text and just a "giant book" that "is not real." She explained her experience, "...you know [the AL program] is where they are really getting to discuss things and talk about it.

The in-depth curriculum and its adaptability were identified as major strengths for successful integration by over 50 percent of the teachers. Sue shared her thoughts on the curriculum:

...the ideas in the [curriculum guide] are amazing, the activities are wonderful, the background information made me feel like I wasn't going into these lessons blind. That I knew what I was talking about, or had enough sense inn what I was talking about to lead the group.

Mary described her enjoyment with the AL program as it reinforced what she believed was most important in education – inquiry. Mary said, "I love this type of playful, hands-on, investigative approach with kids. I am standing back and not doing a thing while they are discovering. It is a program that kids can literally get their hands into." She continued, "I have such a diverse classroom and every single one of the children is capable of working with the program." Marcy echoed what Mary stated in the ability to differentiate the curriculum. Marcy said, "I

mean there are so many different ways you can connect. You know you can look at the dogs and see what is going on with the dogs, and you can get the feedback where the people are talking about their experiences.”

Teachers described their approach to teaching with the AL program and the district-wide technology specialist commented on what he had observed. Marcy said, “...it is just a different type of teaching. I am totally in favor of the approach that [PolarHusky] are using. It is the constructivist approach, as opposed to what is sort of the classical education. This is what the textbooks says, let’s try to read it, memorize it, and regurgitate it.” Another teacher, Sue, described how the technology infused directly into the curriculum made a difference in her teaching. Six of the teachers said their pedagogy hasn’t changed, but that the AL program supported their approach to teaching. Twelve teachers stated their teaching has changed and that they feel their students are more engaged than before. Bill, the district-wide technology specialist commented,

...for the two teachers who are most involved, it certainly has not only changed their teaching style, it has changed their lives. It revitalized them and gave them an understanding of the fact that there can be more to this whole education process than what we let ourselves believe.

He went on to describe how one of the teachers he works with said the AL project came along at just the right time as she wanted “to find something different.” He said the project is “infectious” and that teachers are working nights and weekends to differentiate the curriculum. He continued by sharing his insights on how one teacher in particular has responded to the program, “She tells her colleagues that this is something you don’t need any special background for, all you need is to be interested in doing something different and finding your niche. It has opened up ideas for professional development and personal development as well. They have been on fire with this whole project.”

### ***Weaknesses***

When the AL program could not be integrated at a level teachers wanted, they most often cited technology access and technological problems. Ten of the 21 teachers described struggles to obtain access to the computer labs, problems downloading software, and basic “server problems.” To remedy this problem, teachers would have students work in pairs when computers were limited, would project the computer on a screen in front of the classroom, and would print parts of the website to share with their students.

Another issue that arose was the comprehensiveness of the curriculum -- it seemed to overwhelm teachers. A district curriculum specialist and five teachers described the magnitude of the curriculum and how it was “overwhelming” at times. They struggled to see how they could integrate it to the fullest, and still meet the state and federal standards requirements. Many teachers referred to the No Child Left Behind Act (NCLB), commenting that they were able to use the program until testing began in the spring.

### **Conclusion**

K-6 teachers, teachers of exceptional students such as gifted and talented or learning disabled, and teachers who used a “constructivist” pedagogy integrated the AL program most frequently. Integration occurred through enrichment activities or as a supplement to course materials with only six percent stating they used it as a curriculum replacement. Frequent integrators stated that the AL program aligned well with their curriculum, they had frequent access to the Internet, and they were enthusiastic about modifying the curriculum to meet the needs of their existing curricula and students. Teachers most frequently integrated the curriculum because they felt it motivated their students and they believed that this inquiry approach to learning was best for their students. Teachers also felt the project “invigorated” them to try new approaches in their classroom and that this self-motivation was shared throughout the class as their students learned about cultures in a new interactive approach.

Over 96 percent of the teachers said their students accessed the online environment to learn about the polarhuskies and 48.5 percent of the classes reported reading the weekly updates, viewing the photos, and accessing videos and audio at least four or more times per week. Thus, the multimedia features of the website were most frequently visited as they provided an interactive, real-time experience for the students. Furthermore, teachers praised the problem-based curriculum as they saw it as the correct approach to learning, especially as it is reinforced with real-world experiences.

Weaknesses of the program were related to environmental contexts such as time to consider alternative integration approaches, access to technology within their schools, and requirements to meet the NCLB standards within their district.

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