

Fuchs Foundation Arctic Expedition 2009 Final Report

A Virtual Journey Across Greenland

April 26th – June 1st 2009

In conjunction with:

Bull Precision Expeditions Ltd

<http://www.bullexpeditions.com/>

Abstract

The Fuchs Foundation Arctic Expedition was a 20 day crossing of the Greenland Ice Cap, East to West, in May 2009. The purpose of the expedition was to send four teachers of different disciplines to carry out scientific experiments in the harshest of polar conditions with the aim of encouraging and inspiring their students by creating material and resources that meets the needs of the National Curriculum. The team was supported by a native dog sled team and two expedition leaders. A daily blog was written for the website and schools were given the opportunity to set up satellite phone links; plus the team satellite-linked to BBC radio Wiltshire for a weekly broadcast. The two main objectives of this study were; 1) to engage students with ICT in geography through GIS and 2) allow a greater cultural awareness of Greenland. This was achieved by creating a virtual fieldtrip. The journey taken has been marked out in pictures in GoogleEarth through Panaramino and corresponds to factsheets and lesson resources including video clips, video diaries and sound bytes, that have been loaded up on the Fuchs Foundation website. The factsheets can be used independently of each other or together in order to tell the story of the journey taken. All factsheets meet the need of the Geography National Curriculum. The resources have been reviewed as relevant to the curriculum and accessible for all. The expedition and resources created have had a positive impact on teaching and engagement in lessons.

1.0 The project

The aims of the project were to:

- Inspire and create a sense of curiosity in geography students by demonstrating live science while crossing the Greenland Icecap with dog teams.
- Use the research to create projects that engage students by making polar science accessible and real in a classroom.
- Create a unique opportunity to explore cultural diversities and the interrelationship between culture and environment.

In order to achieve these aims 2 objectives were set:

Objective 1: To engage students with ICT in Geography by allowing them to interact with the expedition through GIS.

Objective 2: To allow students to interact with the expedition by an exchange of cultural video diaries. This gave students the opportunity to communicate with their peer group in Greenland and bring live to the classroom the differences and similarities between different cultures, places and environments. (This communication will be on going after the expedition benefitting students in both countries.)

The expedition was set up by The Fuchs Foundations, an educational charity whose aim is to 'create science and geography teachers as leaders in education through carrying out science projects in the harshest of conditions in the Polar Regions. This inspires their own teaching, that of their colleagues, and encourages their students to study Science and Geography; leading to the publication of teaching resources that meet the needs of the National curriculum.'

1.1 Planning

The expedition was planned and managed by Bull Precisions Expeditions (BPE). The team consisted of four teachers of different disciplines, 2 expedition leaders, and a dog team. The structure of the expedition was shaped by the science and education projects that were to take place; it was considered that a journey across the ice cap would produce the best results. Hence, a route of 350miles running from East to West was established and was to be completed predominantly by cross country ski with a rotation to drive the third dog sled.

1.2 Preparation

The preparation for this expedition was extensive and was included in the budget. The team had three 3 day training weekends in the UK to cover aspects such as rope work, camp equipment and routines and discuss the logistics of our education and science projects. This was followed by two week long trips to Norway. The first trip was in August 2008, to the Jostedsbreen Glacier, giving the team an opportunity to familiarise themselves with living on ice and practise routines and science projects. The second trip was in February

2009 to Finse, with the aim to introduce the team to cross country skiing and test all skiing equipment. The conditions in Finse were the closest to those that would be experienced on the Greenland Ice Cap in May.

1.3 The expedition

Prior to flying to Greenland the team had a build up day at BPE base to finalise the plans, check equipment and pack. The Team flew to Kulusuk, Greenland via Reykjavik and then took a helicopter transfer to Ammassalik. For acclimatisation purposes the dog team journeyed up onto the Ice cap a week in advance. The team experienced a 3 day delay at this point due to bad weather and poor visibility on the Ice Cap which meant that a helicopter transfer to the drop off point was impossible. During this time I carried out a social study in the town of Ammassalik. On May 8th the team was flown up to the drop off point to join the dog sled teams and from this point the journey across the ice cap commenced. It took 20 days to complete the crossing.

2.0 Educational Resources

In order to achieve the two objectives set, I have used the data and information collected during the expedition to create a Virtual Fieldtrip. The journey has been marked out on GoogleEarth. At each camp Panoramino have uploaded a picture that best represents the experience had on that day. The comment box of each photograph will tell a student where to find the corresponding factsheet. The factsheets (PDFs) can be accessed on the Fuchs Foundation website (<http://www.fuchsfoundation.org/page/20/lesson-plans--work-sheet.htm>). Each factsheet has a diary entry and some additional factual information. This information ranges from information about navigation to Arctic winds and surviving a storm. Some of the factsheets suggest tasks that students can either try at home or at school. Some of the factsheets have corresponding sound bytes of interviews with local residents or radio broadcast live from the Ice Cap or video clips and video diaries. Additional resources and activities are available from the website, these include card sorts and games that can be used in conjunction with a factsheet. Each factsheet can be used independently to match the needs of individual lessons or they can be used to tell the story of the expedition.

2.1 Objective 1: Using ICT and GIS

Throughout the expedition the students followed the team blog and watched the progress on a map that was on the Fuchs Foundation website. Now, they can go into GoogleEarth, type in the coordinates provided and find our journey that has been marked out by pictures. The Instructions have been provided on the factsheets. The students are encouraged to use other functions in GoogleEarth, such as measuring distance and creating their own journey through pictures. Other appropriate programmes, like Map My Run, are also used to calculate distances and calories used during such activities.

2.2 Objective 2

Setting up a cultural exchange has been more difficult due to the link teacher going on maternity leave but is planned to continue in 2010. However, the objective has been met in different ways. During our delay in Ammassalik I visited the local school. Here I was given the opportunity to talk to a class answering the questions that my students had asked, plus I interviewed the teacher. For comparison purposes I then repeated the process by interviewing a police officer. I have used these interviews and my general observations to create factsheet about the social and environmental aspects of Ammassalik. These factsheets are supported by sound bytes and pictures.

3.0 Details of presentations and publications:

The expedition has been presented at The Princes Teaching Trust annual conference where Geography teachers from present and past Fuchs Foundation Expeditions talked about the resources that they have created for practical use within the classroom.

4.0 Budget

The expedition was heavily subsidised by The Fuchs Foundation through corporate sponsorship, Charitable Trusts and Fundraising events. Each participant provided funds for their own equipment in terms of clothing. The cost of the equipment was £2000. The expedition in total cost £20,000 per person. Each participant had to raise £8,000 as a contribution to the total costs. I made a personal contribution of £2000 as I recognised that the expedition would contribute greatly to my personal professional development. A breakdown of the budget has been given in the table below.

Source of funding	Amount	Contribution towards
The Fuchs Foundation	£12,000	3x3day pre expedition training in UK and two visits to Norway for special snow acclimatisation, testing of science projects and ski training.
Ray Y Gildea Jr Award	£2,750	
Corporate sponsorship	£1,480	
Fundraising events		Flights to Reykjavik, Iceland from UK Flight to Kulusuk, Greenland from Reykjavik Helicopter transfer to Ammassalik Accommodation in Ammassalik Cost of Bull Precision expedition, including two expedition leaders, husky dog teams, food, tents, sledges, cross country skis.
- Art exhibition	£200	
- Student Auction	£300	
- Busking	£50	
- School enterprise Scheme	£70	
- Sponsored events	£100	
- Fetes	£50	
- Film night	£50	
- Others	£200	
	£800	
Total	£1,770	
Personal Contribution	£2,000	
Total Contribution	£20,000	

5.0 Conclusion

In conclusion the Expedition was highly successful. Not only did the Fuchs Foundation team complete a crossing of the Greenland Ice Cap but also collected valuable material to create educational resources that meet the needs of the curriculum. The resources are unique, engaging and accessible for all. The factsheets are easy to use and teachers can either use the suggested activities or use them as resource in their own planning. Over time more activities and ideas will be added to this bank of resources.