AVAILANCHE EDUCATION IN THE UNITED STATES: THE GOOD, THE BAD, AND THE UGLY

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ABSTRACT: Avalanche education in the USA has a long and colorful history punctuated by many of the most notable and endearing personalities on our field. However in the last few decades, a new generation of avalanche instructors has emerged and avalanche education is becoming more geographically available and formatted in delivery. Debates over standards, curricular consistency and recommended practices are prolific, as are efforts by the American Avalanche Association (AAA) and American Institute for Avalanche Research and Education (AIARE) to credential both instructors and course providers. As a result, a certain amount of discordance has emerged. In this poster and companion paper, the author will describe and discuss the history and current state of avalanche education in the United States. An analysis of the benefits and liabilities of various certification schemes will result in a proposal of scenarios for moving forward in harmony with the greatest good for the greatest number of winter backcountry users being the guiding objective.

1. INTRODUCTION

The motive behind this poster and paper is to raise questions and concerns that have come to my attention through conversations with other avalanche educators, and with members of the American Avalanche Association Education Committee of which I am a new member. I have also reviewed the concerns highlighted in conclusions of a previous survey and study conducted by Luke Potter entitled Investigating the Effectiveness of Avalanche Education Programs: A report on the results of a survey of avalanche education professionalism, published in May, 2012. The intention of this study is to focus on four specific issues through the analysis of opinions expressed by avalanche educators who responded to a survey that I developed. This instrument asks some very direct questions with limited options for responses, but also allowed respondents to express creative solutions in narrative form. The four themes are expressed in the following questions:

1) Is there too much inconsistency and variation in standards in avalanche courses taught in the United States?

2) If so, how can we gain more consistency and still accommodate regional variability and changes as new research leads to improved teaching methods and field practices?

3) How should instructors and providers of avalanche education demonstrate their qualifications?

4) Is avalanche education effective in preventing avalanche accidents, and if so, how do we know it is?

2. HISTORICAL PERSPECTIVE

In the early days of avalanche education there were few avalanche instructors and even fewer institutional providers of theoretical and field-based learning. The National Avalanche School (NAC) provided training for avalanche professionals such as snow rangers and ski area snow safety personnel. Also, the National Ski Patrol (NSP) founded in 1938 developed ad hoc ski patrol training (including avalanche...
curriculum) starting in 1958. Other than these which focused on professional training, there were few commercial interests providing avalanche education for winter recreational users. A notable exception was the American Avalanche Institute (AAI) founded in 1974.

The quality of instruction in these early programs was based mainly on the reputations of the iconic personalities from the scientific community who developed and taught the curriculum. Times changed and winter recreation blossomed along with the opportunities available for acquiring knowledge and skills. The old guard has mostly retired and in their wake a variety of avalanche education providers have emerged, now numbering over 100 institutions. With this expansion, consistency in language, practices and qualifications of instructors surfaced as issues.

Conceptualized in 1993 and operational in 1995, the American Institute for Avalanche Research and Education (AIARE) was founded in an attempt to create standardization in both avalanche curriculum and instructor training, and intended on meeting the needs of ski guides. The guide training emphasis of AIARE’s historical mission has fostered a close alignment with the American Mountain Guides Association (AMGA), where their courses has been approved as part of the credentialing of aspiring AMGA ski guides seeking certification. In fact, the development of level 3 programs was designed to meet this need (Murphy, 2008).

The American Avalanche Association (AAA), originally using the corporate name American Association of Avalanche Professionals (AAAP), predated AIARE and was founded at the Squaw Valley ISSW in 1986. The Avalanche Review which dated back to 1983 became the journal of the AAAP. In 1999 AAA initiated its involvement in avalanche education. Responding to the same disparities that AIARE recognized, a group of AAA educators hammered out a set of guidelines distinguishing level 1 and level 2 courses for the benefit of all avalanche training providers in the United States. The guidelines set forth were fairly general, specifying topics covered at each level, course duration and balance of field verses classroom instruction. In 2003, AAA initiated the certified avalanche instructor designation, a peer review process based on demonstrated commitment and excellence to teaching avalanche courses for at least 10 seasons. This is a controversial issue since this lifetime certification lacks documentation of an instructor’s up-to-date practices and methods.

Between 2006-07 a revamped AAA Education Committee revised and updated avalanche course guidelines, created some schematics of progressions from level to level, and developed learning targets for each course category clarifying how these would be met. They also approved guidelines for a number of new course types such as Avalanche Awareness, Introduction to Avalanches, Level 2 Refreshers and others. In 2006, AAA inherited Westwide Avalanche Network. Prior to this, any avalanche course provider that supplied contact information was eligible for listing on the www.avalanche.org website. One of the outcomes of adopting the website was the Course Provider Listing and Compliance Program. Under this program, the AAA Education Committee became responsible for screening course providers to ensure adherence to AAA course guidelines and instructor qualifications prior to listing. A review based on an application and course syllabi is now used to evaluate avalanche course providers using specific criteria.

A recent development in avalanche education has been professional level courses. Many of the early educational venues were geared towards aspiring professionals, however, recreational users now dominate the lower level courses, and avalanche education and snow science are becoming more complex. AIARE developed the level 3 course in 2000 as a professional level course to meet the needs of AMGA ski guides. The American Avalanche Association developed the AVPro curriculum to respond not only to the needs of guides, but also
to a myriad of other professional avalanche workers.

3. INSTRUCTOR QUALIFICATIONS AND CURRICULAR STANDARDS

Unlike Canada and many European countries, in the United States the federal government has not set official standards in avalanche education. No government agency oversees avalanche training standards. We have the National Avalanche Center (NAC) that serves in an advisory capacity to both agency-affiliated and unaffiliated centers. However, in characteristically "Yankee" fashion when it comes to educational standards, our non-profit professional organization (AAA) has provided broad leadership, but has maintained the typically free market approach of laissez faire oversight. Compliance to curricular guideline has been voluntary. In contrast, another non-profit, American Institute for Avalanche Research and Education (AIARE) has created a robust curriculum encompassing a self propelling business model that has dominated avalanche education in recent years. Rivalry between these two models has created tension and some lively discourse within the ranks of avalanche educators in the United States.

When it comes to instructor certification AAA’s requirement that certified instructors have a decade or more of demonstrated excellence in teaching is viewed by many as overly exclusive; critics claims that by the time one meets the years of experience criteria retirement is looming just around the corner. AIARE by contrast, bases certification on successful completion of instructor training courses designed specifically for aspiring instructors and qualitative performance reviews by more senior instructors. Naturally the AIARE scheme is attractive to newcomers to the field, simply trying to find a professional niche. However, for seasoned avalanche educators who feel they have paid their dues, paying more to be able to teach AIARE courses also seems overly burdensome, expensive and therefore unattractive. The result has been divisive, creating two camps of avalanche instructors and avalanche courses. Obviously both groups are on the same mission and no doubt agree that good instructor training; well formatted courses and experience are the ingredients of high quality avalanche education.

4. PROGRAM EFFECTIVENESS

Historically Colorado Avalanche Information Center (CAIC) has collected and archived data on avalanche accidents. This has been a great service to the industry. Unfortunately, information on the level of avalanche training undertaken by those who are involved in accidents has not been consistently recorded. Research shows that participating in avalanche training does change the behavior of winter recreational users. In her study on effectiveness of level 1 courses, Nancy Pfeiffer (ISSW 2006) illustrates clear competency in many of the practices covered. Still, it seems that now that avalanche education is so pervasive, most backcountry skiers and boarders (and a growing number of snow machine users) have received at least rudimentary avalanche education. Additionally, research seems to indicate the area of greatest uncertainty relates to users’ capacity to make prudent decisions no matter what level of training. Can we really teach folks to make good decisions when there is so much “push” to make bad decisions? As avalanche education becomes more available we might hope to see avalanche fatality rates fall, but so far, this is not true. The question must be asked; are there better ways of teaching judgment than we are currently practicing? Perhaps identifying human factors is not enough.

5. METHODS

A simple questionnaire was used to survey opinions regarding the four essential questions presented in the introduction. The survey was constructed on Survey Monkey and sent out by email to AIARE instructors, certified AAA instructors, avalanche center directors, and other colleagues who fall under the category of independent avalanche instructors. I was unable to solicit instructors from the National Ski Patrol
due to matters of confidentiality of personal information; however, a number of NSP instructors are also members on one or more of the other groups. The survey consisted of 21 multiple choice and 2 essay questions. It was sent to a total of 439 individuals with 139 responding (though only 122 finished it completely), resulting in a 32 percent response. All percentages used in the discussion below were rounded up, except on the three figures shown.

6. DISCUSSION

Ninety-five percent of respondents declared affiliation with AAA, 17% as general members and 78% as professional members. AAA certified instructors constituted 18% and AIARE instructors 45 percent. Nineteen percent declared NSP membership, of which 8% claimed NSP avalanche instructor status. Twenty percent declared affiliation with colleges or universities (see figure 1). Obviously, many respondents have multiple affiliations.

In response to a question on levels of avalanche courses taught, 71% professed to teach level 1, 47% level 2, and 9% level 3 courses. Only 7% instruct for the National Avalanche School and 3% for NSP. Eighty-five percent claimed to have taught avalanche courses within the last year.

A majority of respondents (57%) view inconsistency in avalanche curricula as unavoidable, whereas, 24% view inconsistency as a problem that needs to be reduced. On the other hand, 18% view inconsistency as rarely or never a problem (see figure 2). The elements of courses considered most variable were evenly distributed across response options, registering between 30% and 53%. At the high end, emphasis on snow science principles verses decision making and opportunities for student to practice skills taught were identified as areas with the greatest discrepancy.

In terms of measuring student competency as most important, demonstrated ability to use field assessment methods was 79%, followed by route finding and travel rituals at 75 percent. Decision making ability was also selected as an important criterion by 73 percent.

Forty-five percent identified the AAA Education Committee as the most appropriate body to review and recommend changes in course practices, standards and curricula; though, 33% considers oversight unnecessary. No other group received an outstanding level of support for this task, and there was no consensus on how often changes in the curricula or practices should be reviewed or modified.
Some form of course provider accreditation or stamp of approval related to staying up-to-date was supported by 100% of respondents, and 47% viewed the AAA Education Committee as the best body to undertake this, followed by 24% supporting AIARE. A majority of respondents (63%) favors accreditation renewal for course providers.

Most respondents (79%) thought avalanche education is effective in preventing accidents, but 28% declared not to know for sure. Sixty-eight percent thought that AAA should take greater responsibility for analyzing the effectiveness of avalanche education in reducing avalanche accidents, but 54% support a private entity doing the analysis.

There was no consensus on whether or not standards for the listing criteria on www.avalanche.org are adequate in their current form; with 21% responding yes, 22% no and 58% I don’t know.

An overwhelming majority of respondents (92%) view instructors certification as beneficial, but 38% regard mandatory certification as unnecessary to instruct avalanche courses. About half of respondents (54%) view the requirement of a decade or more of teaching experience for AAA instructor certification as too lengthy, however, the rest of the respondents favored leaving the criteria as it currently stands (see figure 3). A vast majority of respondents (86%) favor requiring AAA certified instructors to demonstrate currency by attending ISSW or regional snow conferences. Also, 81% considers documenting active teaching important, and 77% see advanced training as important for renewal.

![Figure 3: Should avalanche educators be certified?]({})

#### 7. CONCLUSIONS AND RECOMMENDATIONS

Although inconsistency in standards was acknowledged, it is evident from the comments that this is not the paramount issue it was in the past. Many consider disparity desirable, justified by the need to respond to variability in regional conditions. Nevertheless, adopting more uniform field practices, such as specific stability tests and interpretation of results is seen as beneficial. The following is a series of recommendations based on respondent’s views:

1. The AAA Education Committee should develop periodic (peer reviewed) updates of practices for all U.S. avalanche course providers.
2. The AAA course provider listing program should continue, and consideration should be given to establishing a term and renewal process.
3. Colorado Avalanche Information Center (CAIC) should continue collecting data on avalanche accidents, but information on level of training of those involved in accidents should be added to the database. The AAA should engage in analysis of avalanche accidents by level of victim and companion training to verify the effectiveness of training.
4. Eligibility criteria for AAA certified instructor (years of expert teaching) should either be retained or reduced to perhaps 8 years, but this seems to be a valued criteria.

5. Active and inactive status should be added to the AAA certified instructor designation with clear criteria for retaining active status.

6. Consideration should be given to creating a bridge between AIARE instructor designation and AAA certified instructor to give the latter an efficient path toward AIARE affiliation, bypassing redundant courses.

7. AAA should consider adopting a series of avalanche course tracks, adapted to meet the needs of various constituencies, such as recreational users (level 1 and 2), ski guides (level 3), ski patrollers and rescue personnel (NSP level 1 and 2) and avalanche forecasters (AVPro).

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