

Assessing the impact of avalanche safety training courses in Andorra (2009 – 2012)

Aina Margalef¹ and Pere Esteban¹

¹ Snow and Mountain Research Centre of Andorra (CENMA – IEA), Sant Julià de Lòria, Andorra

ABSTRACT: Since 2009, the EDNA has been performing courses about safety on avalanche terrain in Andorra. After 4 years, we carried out a survey asking the attendants about different issues, such as the equipment they use, how they plan a trip or their risk perception. In this paper we show the results of the survey and we reflect about how to improve the contents of the forthcoming courses.

KEYWORDS: Avalanche safety course, transceiver training, risk perception

1 INTRODUCTION

The EDNA (Espai de Neu i Allaus – *Snow and Avalanches Space*) is a spreading initiative focused on snow and avalanches created in Andorra in 2009. It includes the EFPEM (Andorran School on Sport and Mountain Professions), the GRM (Mountain Rescue Group – Fire Brigade) and the CENMA (Snow and Mountain Research Centre of Andorra).

The aim of EDNA is to transmit to the population, whether they are recreationists or professionals, knowledge about snow and avalanches especially useful to improve their security in non controlled areas.

The tools to achieve this goal are mainly the courses “Snow, avalanches and winter mountain safety”. The level 1 course started in March 2009, while the level 2 started in March 2010. From March 2009 to March 2012, 136 people have attended to level one, while 61 people have also attended to level 2.

At the end of the 2011-2012 season it was decided to carry out a survey with the aim of knowing the impact of the courses on those presents until today.

2 THE SURVEY

The survey was divided into different sections: description of the population, risk perception, knowledge on snow, trip preparation, material and training. It was answered by 66 or 70 people depending on the section.

2.1 The sample

The sample consists of 73% of men and 27% of women, which fits with the attendees to the courses (74% of men, 26% of women). 75% of the sample lies in the age group between 25 and 45 years old (Figure 1). The most practiced activity is the ski mountaineering (57 people) followed by alpin ski and snowboarding (42 people) and snowshoeing (41 people) (Figure 2).

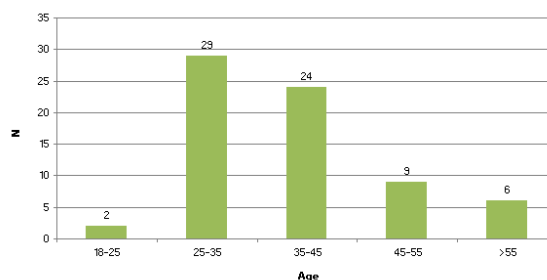


Figure 1. Age of respondents. N=70.

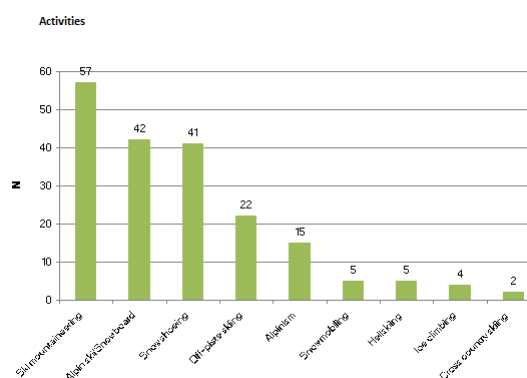


Figure 2. Activities carried out by respondents. N=70.

The frequency with which the respondents practice snow activities is quite variable, most of them doing activities between 1 and 4 days a week (62%). It's remarkable that 10% of the respondents practice snow activities more than 4 days a week.

Corresponding author address: Aina Margalef, Snow and Mountain Research Centre of Andorra, Sant Julià de Lòria, Andorra. tel: +376 742 630; fax: +376 843 585, email: amargalef.cenma@iea.ad

2.2 Equipment

One of the key issues of the courses is the importance of the safety equipment and how to use it. In this sense, we asked the attendees if they had a transceiver, a shovel and a probe before the course and, otherwise, if they have bought it afterwards. The results are not as good as we expected: even though 15% have acquired a transceiver, 19% have acquired a probe and 16% have acquired a shovel, there are still 25% of the respondents who don't have a transceiver, 22% who don't have a probe and 16% who don't have a shovel (Figure 3). One of them has acquired an Avalung after the course.

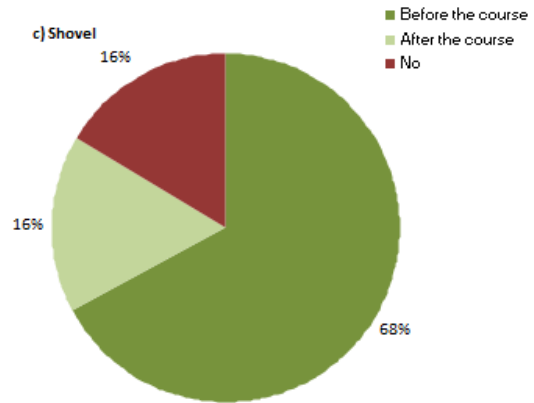
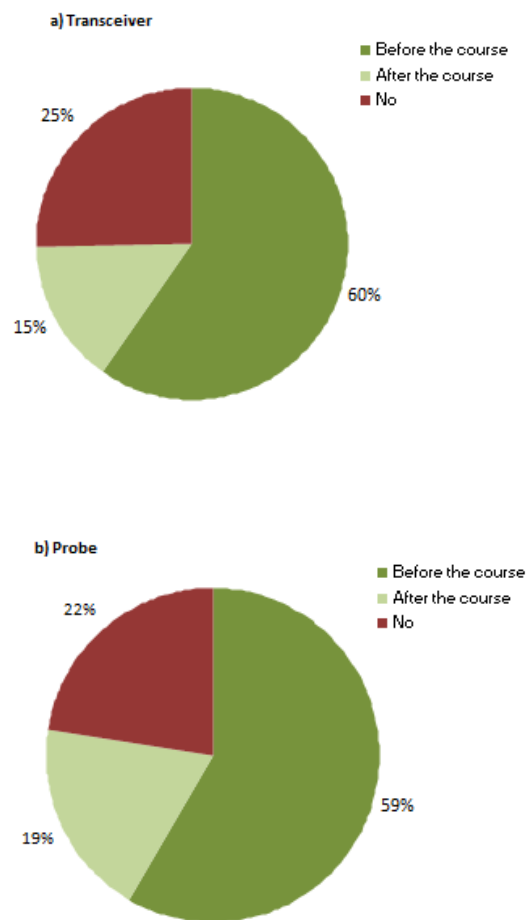


Figure 3: Number of people owning (a) a transceiver, (b) a probe and (c) a shovel. N=67

In regard to their colleagues, we asked if they have a transceiver, a probe and a shovel, where the possible answers were “all of them”, “most of them”, “few of them” and “no one”. In the case of the transceiver, in 34% of the cases all the colleagues have a transceiver. However, only in 20% and 18% of the cases all the colleagues have a shovel and a probe, respectively. It's also remarkable that in 16% of the cases, any of the colleagues have a probe, and in 12% any of them have a shovel (Figure 4).

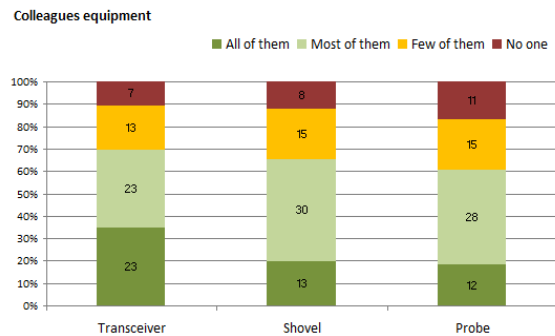


Figure 4: Equipment of the attendant's group. N=67

Focusing on the cases in which all the colleagues have a transceiver, only in 56% of the cases all of them have a shovel and in 52% all of them have a probe.

Referring to the search training, 53% of the respondents train at least once a season, while only 31% used to do it before attending to the course (Figure 5).



Figure 5: Do the attendants practice with the transceiver? Before and after the course. N=67

2.3 Planning the trip

This is probably the most disturbing fact. Although most of them look at the weather forecast, 18% of the attendants of the course don't look at the avalanche bulletin before the trip (13% in the case they have attended level 1 and 2) (Figure 6).

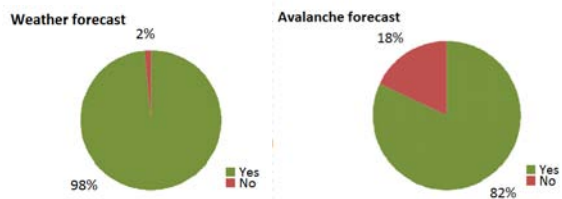


Figure 6: How the attendants prepare the trip. N=66.

During the trip, 50% says they do some stability tests, and 65% of them feel capable to identify weak layers on the snowpack.

2.4 Risk perception

Answering to the question "Does the course made you change the perception that you had of your knowledge of the winter mountain?" 80% of the respondents recognize that they had less knowledge than they thought. Based on this population, 52% of them feel more vulnerable, while 41% feel more prepared and safe after the courses (Figure 7).

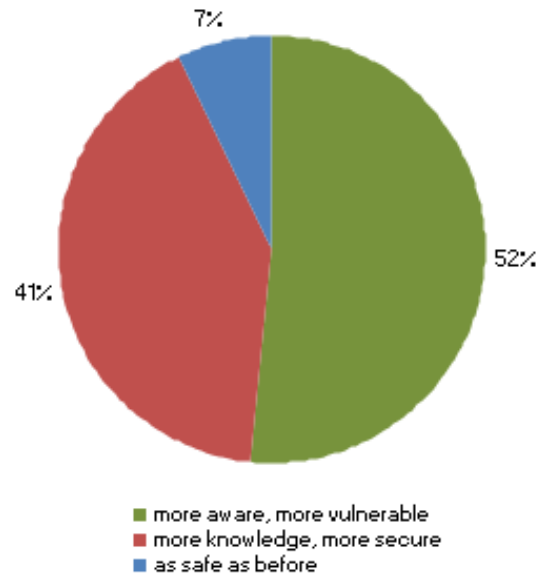


Figure 7: How the attendants feel after the courses. N=56 (People who recognize that they had less knowledge than they thought).

In this aspect, 29% of the attendants affirm they keep forming, mostly by reading documents and doing more courses.

3 CONCLUSIONS

Since 2009, there is in Andorra a spreading initiative focused on snow and avalanches called EDNA (Espai de Neu i Allaus) and based mainly on courses. Recently, and after 4 years running, the EDNA members decided to carry out a survey to evaluate the usefulness of these education activities.

Thanks to the survey carried out we have identified some weak points which will be improved in future editions of the EDNA activities.

To start off with it is intended to expand to a wider public. During the first editions there has been influx mainly of ski mountaineering practitioners, and in the last editions also of ski patrollers and freeride instructors. We think it is necessary to continue working on this public related to the ski resorts, but it is also necessary to make incision on snowmobilers and snowshoeing practitioners.

A worrisome issue is that referred to the trip planning. We attribute the fact that 18% of the people don't look at the avalanche forecast as due to the familiarity with the terrain, i.e. most of them use to ski in Andorra and they have done the same routes several times. It will be necessary to insist more on the importance of reading and understanding the avalanche forecast as a primary tool to find safety routes.

With respect to the safety equipment we think that the emphasis we have made in understanding the transceiver, the probe and the

shovel as a whole has given good results, since in fact, there are more people possessing a shovel and a probe than a transceiver. This fact may be due to because of the price of the transceivers, the less usual users renting them instead of buying. On the other hand, we must insist on the importance that everyone in the group own this safety equipment and that in case of accident our life is in our colleagues hands. With this aim we will encourage the attendants to convince their colleagues to do some avalanche training courses. For the next season we have also planned an open day on the DVA park installed at Vallnord Ordino – Arcalís ski slopes to promote the searching training periodically.

Finally, and related to the human factor, most of the attendants realized that they had less knowledge than they thought, that is, they discovered a wide new field of knowledge. Half of these people feel more vulnerable after doing the course, while 41% of them they feel safer. We must therefore insist in the fact that formation doesn't finish at this point and that it is necessary to keep learning and recycling the knowledge acquired.

ACKNOWLEDGEMENTS: Joan Micó and Mercè Casals (Sociological Research Centre, CRES - IEA). Òscar Santos (Mountain Rescue Group, Andorran Fire Brigade) and Francesc Poujarnisclle (Andorran School on Sport and Mountain Professions, EFPEM).