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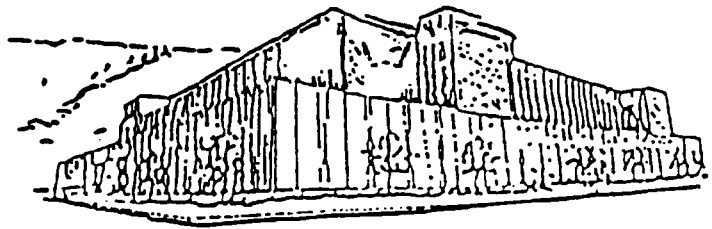
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**Review of Montana's Hunter Education Program  
with Recommendations for Improvement**

**by**

**Blaine C. Bradshaw**

**B.S. Brigham Young University, 1996**

**presented in partial fulfillment of the requirements**

**for the degree of**

**Master of Arts**

**The University of Montana**

**1999**

**Approved by**

  
Chairman, Board of Examiners



**Dean, Graduate School**

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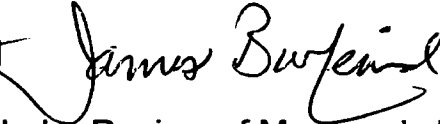
## **Abstract**

Bradshaw, Blaine C., B.S., October 1998

Sociology

### **Review Of Montana's Hunter Education Program With Recommendations For Improvement**

Director: James Burfeind



This report is entitled a Review of Montana's Hunter Education Program with Recommendations for Improvement; it is part of a comprehensive review of the Montana Hunter Education Program which is run by the Montana Fish, Wildlife & Parks (FWP). The goal of the comprehensive study is to see if the objectives of the program are being fulfilled and pinpoint where improvement is necessary. This report contains the results of a questionnaire completed by hunter education instructors across Montana during the fall of 1997. The comprehensive review of the program will continue on through 1999, as the students who take the program across the state will be surveyed in addition to the instructors. This report should be read in conjunction with the report discussing the results of the student questionnaire.

The instructors believe that the program is achieving its goals to a certain extent because 96 percent of the instructors believe the Montana's Hunter Education Program is effective. The greatest strengths of the program according to the instructors included the program's ability to teach firearm safety and hunter ethics/responsibility. Also the tremendous dedication and volunteerism of the program's instructors.

The instructors also listed the greatest weaknesses of the program as being the lack of time instructors have to teach all the hunter education material, a lack of hunter education instructors, and the lack of field work in the course. Another greatest weakness of the program according to the instructors are the inadequate visual aids (such as hunter education videos) provided by the Montana Fish, Wildlife & Parks.

It is recommended that instructors strive to incorporate hunter ethics and responsibility into every aspect of the program as instructors spend, on average, only 25 percent of their teaching time teaching hunter ethics/responsibility. It is also recommended that the instructors spend a higher percentage of their teaching time using interactive teaching methods as they, on average, lecture 48 percent of the time.

## **Acknowledgments**

I would like to thank Tim Pool and Dana Dolsen at Montana Fish, Wildlife and Parks for hiring me to do this project. The grant funding has helped me complete my master's degree in sociology with an emphasis in criminology. I would like to thank all the professors in the Sociology Department at The University of Montana, especially Dr. Jim Burfeind and Dr. Dan Doyle for their valuable help.

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## **Executive Summary**

This report, entitled **Review of Montana's Hunter Education Program with Recommendations for Improvement** is part of the first comprehensive review or study of the Montana Hunter Education Program, which is run by the Montana Fish, Wildlife, & Parks (FWP). Several studies on the national level have been conducted, but evaluations done on individual state programs are lacking. In this report, the Montana Hunter Education program is reviewed and 21 recommendations for improvement are given.

By looking at the low hunting accident rate in Montana, one would suspect the Montana Hunter Education program is doing a great job teaching firearm safety. However, the goal of the program is to teach firearm safety along with numerous other subjects. Hunter ethics and hunter responsibility are to be incorporated in every subject taught in hunter education.

This study found:

- The instructors, on average, spend 25 percent of their teaching time on hunter ethics and responsibility, while they spend approximately 40 percent of their total teaching time teaching gun safety.
- On average, instructors spend approximately 48 percent of their teaching time lecturing. Another 30 percent of the instructors' teaching time was spent using interactive teaching methods such as role-playing.

This report gives the strengths and weaknesses of the program according to a study of the Montana Hunter Education instructors. The Montana Hunter Education Program's strengths outweigh its weaknesses as 96 percent of the instructors rated the program as effective.

The greatest strengths of the program:

- Overall, the Montana Hunter Education Program is rated by its instructors as being highly effective in teaching firearm safety and hunter ethics/responsibility.
- According to the instructors themselves, the dedication and experience of the corps of volunteer instructors, are the greatest assets to the program.

The greatest weaknesses of the program:

- The lack of time that hunter education instructors have to teach the basic hunter education information.
- The program's lack of certified instructors.
- Many areas in the state lack field training (such as marksmanship training, blood tracking, survival training, and first aid training).
- The program has inadequate visual aids (such as hunter education videos).

Several recommendations for improving the program based upon the evaluation research and the literature review are given. A complete listing of the recommendations concludes this report.

- It is recommended that instructors incorporate hunter ethics and responsibility into every subject taught in hunter education.
- It is also recommended that instructors use interactive teaching methods more often.

- The state could offer incentives (more recognition, special hunting privileges, etc.) to entice quality instructors.
- Field training and live-firing practice need to be required aspects of the course.
- Throughout the state, survival training and first aid need to be taught more in the classroom and also in the field.
- The Montana Fish, Wildlife and Parks' video library needs to be updated.

## **About the Study**

In the spring of 1997, Montana Fish, Wildlife and Parks received a federal grant to evaluate their hunter education program. Montana Fish, Wildlife & Parks signed an agreement with the University of Montana to carry out the purposes of this study. The purpose of this overall evaluation is determine how well the program is achieving Montana FWP's objectives for the program and to offer recommendations for improvement.

- I. Perform an overall evaluation on the Montana Hunter Education Program. The evaluation focused on how the program's use of new teaching methods (role-playing), materials (*Beyond Fair Chase*), and focus (ethics instruction along with traditional gun safety) is working.
- II. Ascertain the extent to which the Montana Hunter Education Program is following recommendations given in 1981 and 1996 reports from studies performed by independent researchers for the United States Fish and Wildlife Service and the United States Department of the Interior.
- III. Identify probable needs of and for Montana Hunter Education now and during the coming years, using the following aspects of the study;
  - a. examine pertinent research literature and recommend ways in which literature findings may be incorporated into the current program;
  - b. examine the effects of teaching techniques and styles of Montana's Hunter Education Program;
  - c. examine the effects of Montana's Hunter Education on hunter safety;
  - d. examine the effects of Montana's Hunter Education on hunters' knowledge of ethics and responsibility;
  - e. examine key aspects (learning environment, instructors' training, parental involvement, etc.) of Montana's program to determine the effects on student learning.
- IV. Examine the materials used by Montana's Hunter Education Program and determine their effectiveness. The materials are the student manual, *Beyond Fair Chase*, instructor's manual, and visual aids. *Beyond Fair Chase* is a short book dealing with hunter ethics and examples of hunting ethically.

- V. Make recommendations for program changes that can assist the state in implementing changes to identified needs.
- VI. *This report is only a section of the overall evaluation.* This report reflects how the Montana Hunter Education instructors describe and critique the program. Another report is forthcoming that will look at the program's effect on students' learning of hunter ethics and responsibility and will look at the program's effect on students' hunting knowledge. This report nor the one forthcoming report will not look at the program's effect on student behavior regarding hunter ethics and responsibility. A five-year follow-up study will examine how the program is affecting student behavior regarding hunter ethics and responsibility.

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**Data Collection and Evaluation provided by:**

**Blaine Bradshaw, Graduate Student, The University of Montana, Sociology Department.**

## **History of Hunter Education**

The *Montana Hunter Education Instructor Guidebook and Instructors' Handbook* (1990, Chapter 1, p. 4-6) gives the history of the Montana Hunter Education Program. In that manual it states:

Montana's early Hunter Safety Program began as a voluntary program in the late 1940s. Originally, the program was purely a safety program concerned with the safe handling of firearms, to reduce the high number of accidents related to firearm use while hunting. The instructional materials used were provided by the National Rifle Association. In 1957, the Montana Legislature passed a law making it mandatory for youth aged 12, 13, and 14 years to take and pass a course in the safe handling of firearms before they could purchase a resident big game license. Those aged 15, 16, and 17 were also required to take this course unless they were in the possession of resident big game license from the prior year. This law became effective in January, 1958.

The 1963 Legislature amended the law so no resident hunting license could be sold to anyone under the age of 18 unless the license applicant had completed the Hunter Safety Course, and could present a certificate of competency to the license agent.

The original Hunter Safety Program consisted of four hours of training. As the program began to mature, and additional instructional material was provided in addition to the basic firearm safety training, the program expanded to six hours.

The United States Fish and Wildlife Service administers the Pittman-Robertson (P-R) Funds that are used by most states to fund their hunter education programs. It requested the International Association of Fish and Game Agencies (IAFGA) to develop a core curriculum for states to follow in order to receive the P-R funding for hunter education. The IAFGA developed the core curriculum, which requires a minimum of ten hours of instruction, in order for certification to be valid. By making these changes, and including even more information beyond the basic firearm safety training, the Montana Hunter Safety Program changed its title to the Montana Hunter Education Program.

The Montana Hunter Education Program course still emphasizes the safe handling of firearms, but has now



included additional instructional material consisting of: The History of Hunting and Firearms, The Responsible Hunter, Wildlife Management, Game Identification, Firearm Familiarization, Firearm Handling, Primitive Hunting, Survival and First Aid Awareness, and Water Safety.

The production of this instructional guidebook, in the summer of 1990, is to reflect the changing times. The Montana Hunter Education Program will always emphasize safe firearm handling, but it is widely recognized that safety training alone is not enough to effectively train our young and new hunters. In order for hunting and shooting to continue for future generation, conservation and sportsmanship need to be included in the basic course.

The Montana Hunter Education Program, over the years, has been successful and a leader for other state's programs. All Hunter Education Instructors should feel proud for being the key factor in this success. The number of hunting-related firearm accidents has dropped from a high of 60 accidents to an average of 11 accidents per year. The number of fatal accidents has decreased from a high of 25 to an average of 1.3 per year. The program and its instructors continue to provide quality training to develop safe, responsible, and knowledgeable hunters.

The Montana Hunter Education Program maintains a core of approximately 700 (now 1000) volunteer instructors who teach the Hunter Education Program to approximately 6,100 participants a year. Since the beginning of the mandatory hunter program in 1957, over 220,000 individuals have completed the course and been certified.

Volunteer instructors have been the single major force in the success of this program to date, and they will continue in years ahead to be the most important factor in determining the ultimate success of this training program. ...

## **Literature Review**

The existing literature on hunter education programs is limited because very few evaluations on state hunter education programs have been done. A lot of research has been done evaluating specific aspects of hunter education programs. The literature on hunter education can be divided into two types: evaluations of state programs and research done striving to improve hunter education. If one summarized existing hunter education literature, the summary statement would emphatically state that more research needs to be completed, especially evaluating state programs (Benson and White, 1995; Bromley, 1987; Bromley and Hampton, 1981).

### ***Evaluation of State Programs***

Research done on state programs has mainly focused on specific aspects of these programs; it has tried to describe the current situation and offer recommendations for improvement. Evaluations conducted on state programs will be discussed further in this section.

Bromley and Hampton (1982) task set out to see if the existing hunter education student examination in Virginia met the educational and administrative standards they discussed. The researchers (1982, p.802) found:

... that the existing exam was found inadequate on several grounds. Although it was readable and scores were similar for different classes, half of the exam questions were worded inappropriately, and 7 questions were too easy or did not have significant item to score correlation.

Also, they found that the exam did not adequately represent what the student manual and instructor manual presented.

Byrne, Taylor, Seng, and Young (1996) did an overall evaluation of state and provincial hunter education programs throughout the United States and Canada. All four of them were involved with the overall evaluation called the "Review of the National Hunter Education Program with Recommendations for Improvement." The final report was conducted and written by Seng, Young, and Duda (1996). The 1996 study was designed to see if state programs had put recommendations from a similar study in 1981 into place and to see how well those recommendations worked.

From the study (Byrne et. al, 1996, pp.436-355), 22 recurring themes or concerns emerged. The themes revolved around points of hunter education programs that concern hunter education leaders and that needed improved. The researchers found that hunter education programs need to be evaluated and classes need to be monitored, skilled instructors (in teaching techniques and hunting knowledge) are keys to the success of programs, and the 1981 study gave valid course content for courses. A minimum number of hours (9 to 11 hours minimum) for courses are needed so that instructors can effectively relay the materials; standardized courses around the country are needed for interstate certification; and hunter education programs need to work with the International Hunters' Education Association (IHEA) in developing course-accreditation.

The study found that most hunter education programs do not need to

significantly change their content or their methodologies in delivering hunter education materials. Some changes are needed such as incorporating new technologies and teaching methodologies proven to work better such as hands-on or interactive teaching which help students learn more. More public shooting ranges are needed based upon the 1996 review of the United States' hunter education programs conducted by Seng, Young, and Duda (1996). New technologies such as public television, interactive video, CD-ROM, Internet, etc. are an increasing trend and should be used more often based upon the 1996 study. Some home study hunter education courses may be effective alternatives and resources should be used to support them. Lastly, hunter education programs need to be better advertised.

### ***Improving Hunter Education Programs***

All research dealing with hunter education strives to improve hunter education programs. However, the research is not done to describe programs as much as it is to provide new hunter education material and different ways for presenting the information.

Bromley (1987) reviewed state based and private programs that instill hunting ethics. Bromley (1987, p.105) gave several recommendations to improve ethics programs: ethics programs must be positive, have open and extensive communication between different organizations sponsoring ethics programs, and they must have "comprehensive audience coverage." He also

advised that the different organizations that sponsor ethics programs must work together and involve each other in policy matters.

Duda, Young, Graham, Sipes and Bissell (1997, p.1) assessed “the benefits and costs of mandatory basic hunter and advanced hunter training on recruitment, desertion, and satisfaction.” They found that mandatory hunter education requirements reduce hunting participation in the United States, but by less than one percent when other factors such as are held constant. Hunter education needs to be advertised better as 56 percent of America’s youth have never seen a hunter education course advertised.

Enck (1994) reviewed New York’s mentor program which The Human Dimensions Research Unit (HDRU), a group of researchers at Cornell University, developed under direction from state officials. One purpose of the mentor program was to increase hunting participation as well as to increase ethical hunting. New York Hunter Education officials assigned each of these youth hunting mentors to help them learn hunting practices. The evaluation of the program found that “many longtime hunters do not have all the skills, time, or desire to be good mentors for youth” (p. 73). Youth hunters must be assigned mentors who have skills, time, and the desire to be mentors.

Enck (1994) stressed that proper program planning and implementation are necessary to start this program and to increase hunter participation effectively. Mentors need to be carefully selected, trained, and assigned to youth hunters. He found that the program takes a lot of communication and

coordination to run smoothly; the program is also financially costly. Mentors had a tough time building social bonds that made up for the apprentices' lack of support in hunting. As far as strengths, the program has the potential to increase hunting participation of safe and ethical hunters.

Jackson, McCarty, and Rusch (1989) noted that women make up about 8 percent of all hunters. The authors suggested that females should be encouraged to enroll in outdoor education programs. The authors (1989, p.453) concluded that strategies should be set up to encourage women's involvement in wildlife recreation:

- (1) to enrich the lives of women;
- (2) to provide for the perpetuation of wildlife appreciation, hunting, and trapping;
- and (3) to increase the public support for wildlife programs and professions.

The researchers are really trying to help hunting by increasing political support for the tradition. They point out that the number of hunters in the United States is declining, while anti-hunting and animal rights' groups are becoming stronger and stronger. In an attempt to preserve the tradition of hunting, they believe hunter numbers need to increase. In order to increase the number of hunters, the authors feel that more women should be involved in hunting; women are an untapped resource, since so few women hunt currently. The authors believe that more females need to be more involved in hunting to help the sport politically and also to enhance the enjoyment of the outdoors for women.

Jackson, Moe, and Norton (1987) discussed the importance of teaching

responsibility and ethical behavior in hunter education courses. They also described their work in transforming the Wisconsin Hunter Education Program. They designed the new Wisconsin model for running hunter education courses. After they put the model in place, they evaluated its effectiveness. The new hunter education model advocated ethical education, open forum classroom settings, and instructor training. The key to program is *involvement* or giving students a hands-on hunter education experience.

Smith (1984, p.24) stated that “[T]he purpose of this study is to identify major areas of concentration that have an impact on state hunter education programs.” He identified and analyzed aspects of hunter education that block successful program implementation through a survey of 30 state hunter education coordinators. He found that the hunter education instructors were problematic, instructors lacked training, and better communication was needed between the different parties involved in hunter education and within agencies. He recommended that instructors be screened, instructor training be ongoing, communication networks bolstered, and programs evaluated using a variety of methods.

Wentz (1994) stressed the need for hunter education programs to develop new delivery systems or methods of teaching hunter education. He referred to an example of an innovative approach to hunter education as being "New York's Apprentice Hunter" program. He gave examples of alternative delivery systems such as a written home study course and simulated hunting. A

home study course is effective for all hunters, except for the "youngest hunters" (Wentz, 1994, p.209). Home study courses help increase family involvement, while still providing hunter education. Wentz also gave high ratings to the 4-H Shooting Sports Program, which could be integrated with hunter education.



## **Methods for the Study**

In the spring of 1997, the project officers from Montana Fish, Wildlife and Parks hired Blaine Bradshaw (myself) to conduct three survey studies to evaluate Montana's Hunter Education Program. Officials at the Montana Fish, Wildlife and Parks decided the method for this study. Before starting the survey design, I was first asked to do an extensive literature review on hunter education. However, the main project was to conduct all three surveys. I designed the surveys with the expert help of Dr. Jim Burfeind and Dr. Dan Doyle from The University of Montana and Dana Dolsen from Montana Fish, Wildlife and Parks. The three surveys consist of one instructor survey and two student surveys (a pre-test and post-test).

The instructor survey was pre-tested at an instructors' training workshop in Great Falls, Montana. Fifteen instructors attending the workshop agreed to fill out the survey. Upon completion of the survey, the instructors met with Dana Dolsen (FWP) and myself to discuss problems with the instrument. Following the pre-test, I revised the survey instrument and sent one to every hunter education instructor across the state. As a result of the pre-test, some survey questions were changed, added, or deleted.

The instructor survey had 105 questions and took approximately forty-five minutes to complete. All of the questions were closed-ended questions except the last two questions. These last two questions allowed the instructors to explain what they thought were the greatest strengths and greatest weaknesses

of the program. The survey was sent out in the summer of 1997 to all the 1033 hunter education instructors across the state of Montana. Of those 1033 instructors, 479 of them returned the completed survey for a response rate of 49.3 percent.

The response rate was achieved by using two post card reminders mailed to instructors who had not returned the surveys. The first post card was sent during the period of time with the highest return rate and the second post card was sent approximately a week and a half later. However, those involved in this study did expect the response rate to be higher since the instructors are so dedicated by the program. Officials at the Montana FWP believe one reason for the lower than expected response rate was that the instructors were not adequately informed that the FWP was indeed sponsoring this study. No scientific data exists that explains why instructors failed to respond or if the responding instructors are different from those who responded.

Possible limitations exist with the data produced by the returned surveys because approximately half of those surveyed did not respond. However, the data produced can still be generalized to the entire group of instructors because the entire population of Montana Hunter Education instructors were sent surveys and a high percentage of them responded. When generalizing in such a manner, response bias will skew the evaluation to a certain extent, but that bias should be limited because of the excellent survey return rate.

This report will give only the findings from the instructor survey. The

instructor survey was designed to look at key aspects of Montana's Hunter Education Program such as the learning environment, teaching methods, instructor's backgrounds, gender issues, community support, and possible improvements in the program. Each instructor was asked to rate the state's program, the course each on helps teach, and their own teaching skills. The instructors were also asked to give a lot of background about themselves to help me locate accurate predictor variables that show when instructors are able to help students learn the most effectively. Responses were kept confidential, but the surveys were not anonymous as each survey was numbered in order to link each of the instructors with their students.

I also designed the two student surveys with the help of the aforementioned researchers. In the near future, we plan to survey the Montana Hunter Education students before and after they take the course (both a pre-test and a post-test). Once the student surveys are completed, the results found in this report will be compared with the results from the student surveys in a final report. In the final report, the results from the student pre-test survey will also be compared with the results from student post-test survey.

## **Results from the Instructor Survey**

The instructor survey produced many useful results, because instructors know the program intimately. The results showed the strengths and weaknesses of the program as seen by the instructors. The main sections include the following: 1) profile on the hunter education program; 2) instructors' rating of the overall program and their courses; 3) effectiveness of the teaching and learning environment; 4) hunter education and gender issues; 5) parental involvement in Montana Hunter Education; 6) instructors' views on how the program is conducted and the way it should be conducted; 7) instructors' discussion of their teaching methods; 8) instructors' discussion of their teaching styles; 9) instructor types; 10) instructors' ratings of the hunter education materials; 11) field trips and live-firing practice; and 12) instructors' definitions of the greatest strengths and weaknesses of the program (qualitative findings).

### **Profile on the Montana Hunter Education Program**

In this section of the paper, background information will be given on the volunteer instructors across Montana. From the respondents of the survey, the instructors' age, gender, education, experience, and training will be given in terms of group percentages. Later in this section, team teaching will be described; as will be when instructors are scheduled to teach, and how many hours they each spend teaching during a typical hunter education course.

At the end of this section, the number of guest speakers used by instructors will be described along with a description of the classrooms. The kinds of guest speakers used, the number of guest speakers that are used, and the amount of time they take will be described. The description of the classrooms used for hunter education courses will be given and the average class sizes will be described.

### ***Age and Gender***

Of the 479 instructors that responded, only 26 were junior instructors, meaning under the age of eighteen. Junior instructors constitute approximately 10 percent of the total instructors. Once junior instructors become eighteen, they become fully certified instructors. Junior instructors must teach with two other certified instructors because two certified instructors must teach every course.

In this report, the results will cover only certified instructors, not junior instructors. Excluding the junior instructors, 453 certified instructors (N or Sample Size=453) responded. Of those 453 certified instructors, the average age of the instructors was 48.2 years old, indicating that the instructors appear to have age maturity.

Table 1 shows the instructors, who are all volunteers, were clearly male dominated. All of the graphs and tables in this report do not show equal sample sizes because of missing data as some instructors did not answer every survey

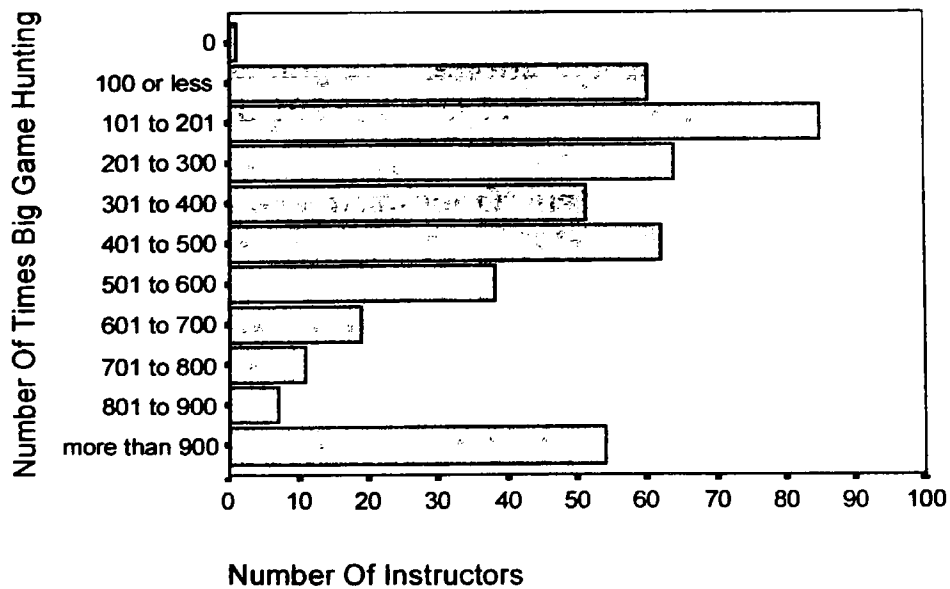
question. The percentage of instructors answering a certain way will be based on the number who responded to that particular question.

**Table 1: Gender Of Instructors (All Instructors Are Volunteers). (N=452)**

Gender	Number Of Instructors	Percent (%)
Female	41	8.8
Male	412	91.2

***Experience, Education, and Training***

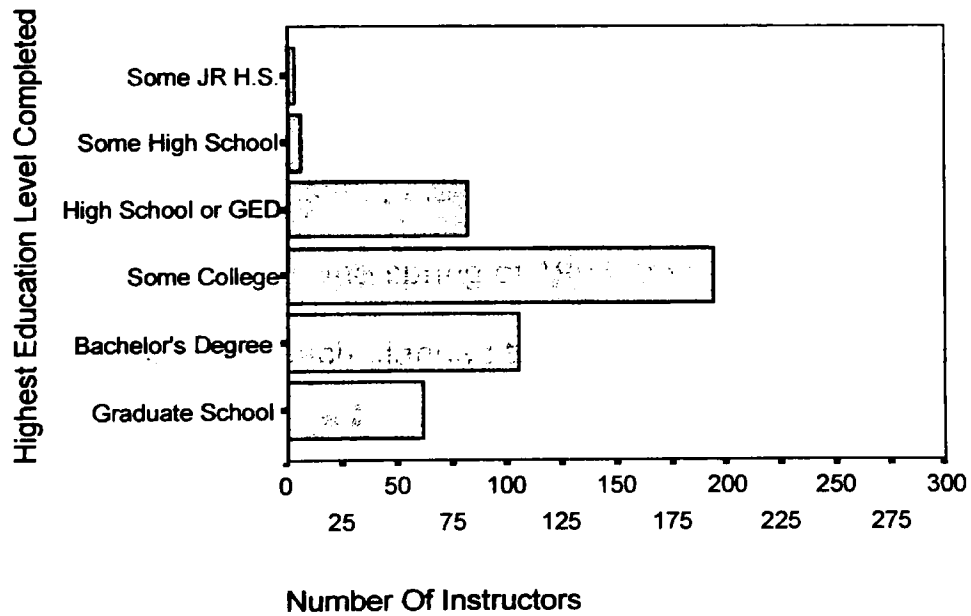
Instructor education, experience, and training of the instructors are several great strengths of the Montana Hunter Education Program. Experience involves the number of times each instructor has hunted, taught the hunter education course, and taught the bow hunter education course.



**Figure 1: Instructors' Hunting Experience. (N=452)**

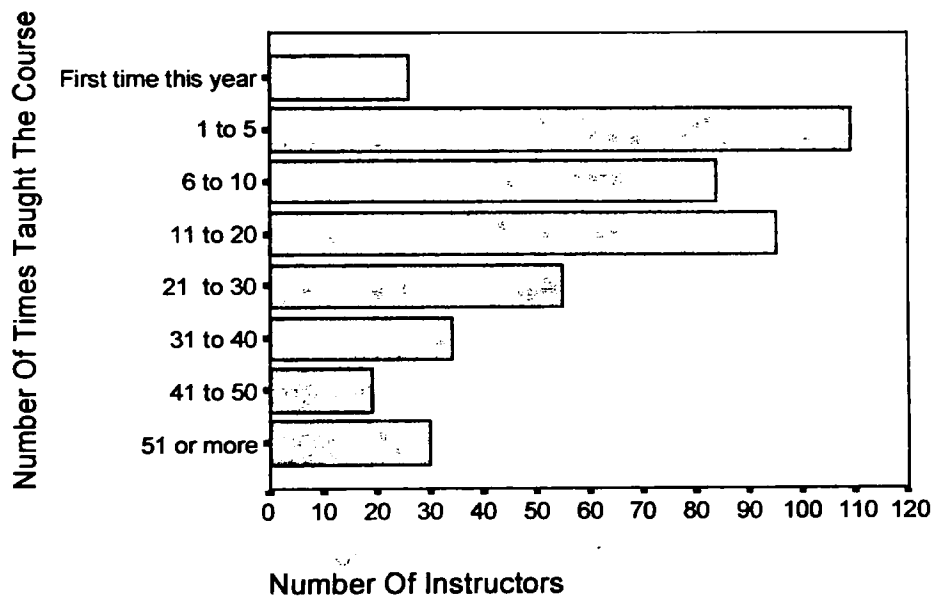
Figure 1 shows that generally the instructors have a lot of experience as over 300 of the instructors have big game hunted approximately 200 times or more.

Figure 2 shows the education levels of the instructors. Over 360 of the instructors have at least some college or more and almost 170 of the instructors have a bachelor's degree or more.



**Figure 2: Instructors' Education Levels. (N=452)**

Figure 3 shows the instructors' teaching experience. A little over 100 instructors have taught the course one to five times and more than 200 of the instructors have taught the course 11 or more times.



**Figure 3: Instructors' Teaching Experience. (N=452)**

### ***Training***

Instructor training is essential to Montana's Hunter Education Program. Recently, officials at Montana Fish, Wildlife and Parks have implemented changes in its hunter education program. If instructors are going to teach the



way the program intends, they must be properly trained. Tables 2 and 3 on the next page and Table 4 on the following page show the instructors' attitude about instructor training and how much training the instructors receive.

Table 2 shows that over 70 percent of the instructors believe that instructors should attend a training workshop at least once every two years.

**Table 2: Instructors' Belief That, "All Instructors Should Attend Instructor Training Workshops At Least Every Two Years." (N=450)**

<b>Instructors' Belief</b>	<b>Number Of Instructors</b>	<b>Percent (%)</b>
Agree	193	42.9
Strongly Agree	126	28.1
Neutral	85	18.9
Disagree	14	3.1
Strongly Disagree	32	7.1

Table 3 shows that almost 27 percent of the instructors did not attend any instructor training workshops in the two years preceding this study. Almost 65 percent of the instructors attended one or two training workshops.

**Table 3: Number Of Training Workshops Instructors Attended From August, 1995 to August, 1997. (N=447)**

<b>Number Of Workshops</b>	<b>Number Of Instructors</b>	<b>Percent (%)</b>
0	119	26.6
1	175	39.1
2	114	25.5
3	21	4.7
4	11	2.5
5	1	.2
6	3	.7
7 to 10	0	0
11 or more	3	.7
<b>Total</b>	<b>447</b>	<b>100</b>

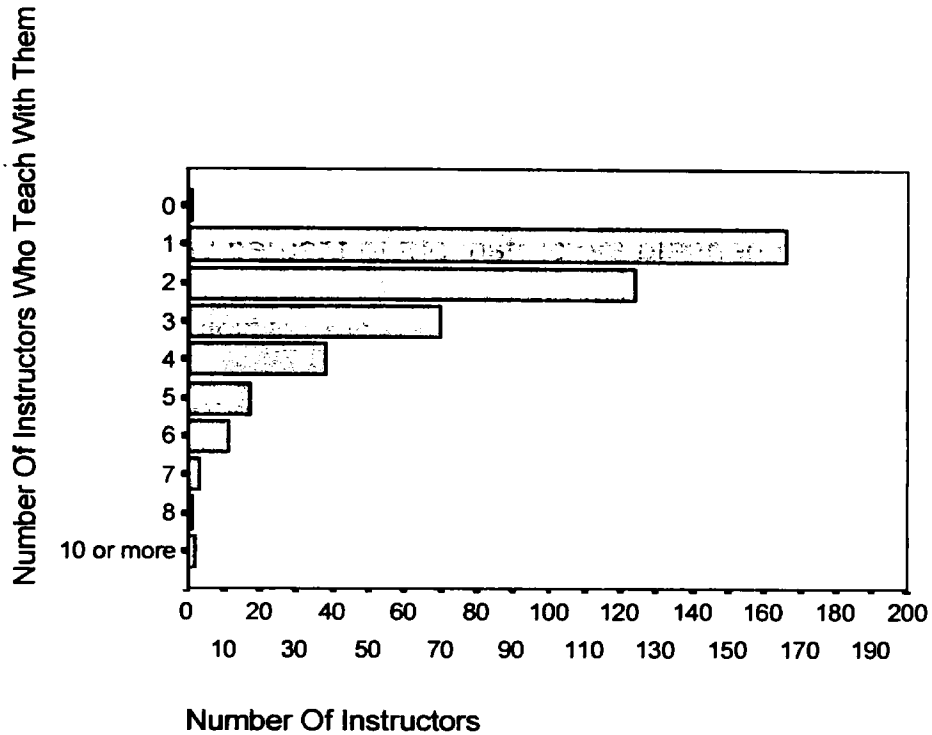
Table 4 reveals that almost 60 percent of the instructors received 10 hours of instructor training the two years preceding this study. Thirty-eight percent of the instructors had 11 to 50 hours of instructor training during that same time period.

**Table 4: Number Of Instructor Training Hours Each Instructor Had From August, 1995 to August, 1997. (N=447)**

<b>Number Of Hours</b>	<b>Number Of Instructors</b>	<b>Percent (%)</b>
10 or less	267	59.7
11 to 50	170	38.0
51 to 100	8	1.8
101 or more	2	.4
<b>Total</b>	<b>447</b>	<b>100</b>

### ***Team Teaching***

Montana Fish, Wildlife and Parks mandates that each certified instructor must teach with at least one other certified instructor. On average, instructors teach with two other certified instructors. Figure 4 displays the number of instructors that teach with each instructor. Seventy instructors teach with three other instructors, 124 instructors teach with two other instructors, and 166 instructors teach with one other instructor. Seventy-two of the instructors teach with four or more instructors.



**Figure 4: instructors' Team Teaching. (N=433)**

***Times Scheduled to Teach and Hours Spent Teaching***

Table 5 shows the times that the instructors planned to teach the course whether it was the fall of 1997, the spring of 1998, both times, or neither. Almost 52 percent of the instructor teach planned to teach both times, 20 percent planned to teach in the fall only, and 23 planned to teach in the spring only.

**Table 5: Times Instructors Were Scheduled To Teach. (N=450)**

<b>Time</b>	<b>Number Of Instructors</b>	<b>Percent (%)</b>
Fall of 1997 Only	92	20.4
Spring of 1998 Only	102	22.7
Both Fall of 1997 and Spring of 1998	233	51.8
None of the above	23	5.1
<b>Total</b>	<b>450</b>	<b>100</b>

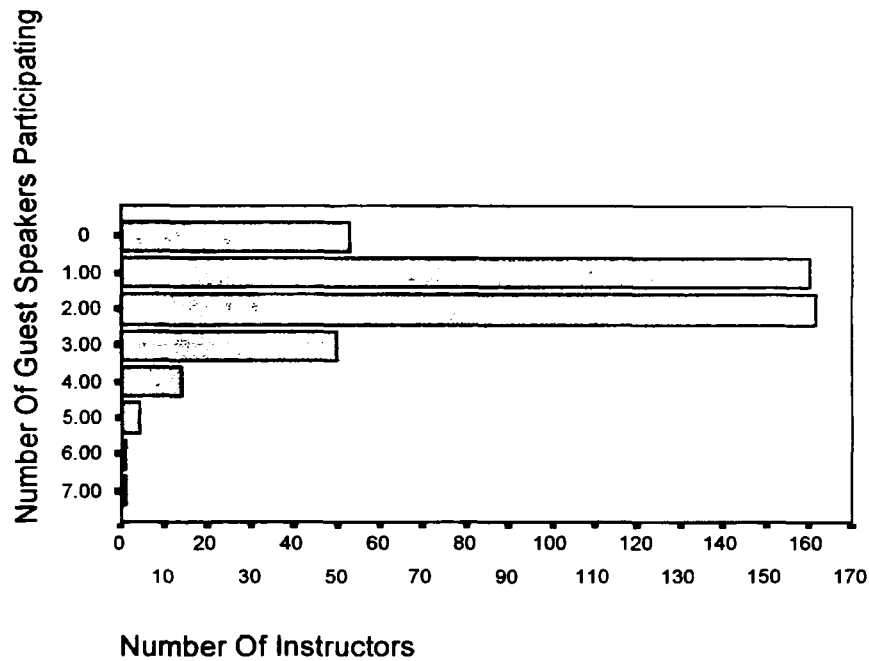
Table 6 reveals the number of hours that the instructors average teaching during a typical course. On average, 34 percent of the instructors spend 16 or more hours teaching during a typical course and just over 25 percent of the instructors spend 10 or fewer hours teaching during a typical course.

**Table 6: Average Hours Instructors Teach During A Typical Course. (N=449).**

<b>Hours Spent Teaching</b>	<b>Number Of Instructors</b>	<b>Percent (%)</b>
5 or less	70	15.6
6 to 10	84	18.7
11 to 15	141	31.4
16 or more	154	34.3
<b>Total</b>	<b>449</b>	<b>100</b>

***Profile On Guest Speakers***

Instructors can and do invite guest speakers or experts to participate in their classes. Figure 5 illustrates the number of guest speakers the instructors will have participating in their course the next time they teach a hunter education course. Fifty-three of the instructors will not have any guest speakers participate in their next course, twenty instructors will have four or more guest speakers participate in their next course, and 322 instructors will have one or two guest speakers participate.

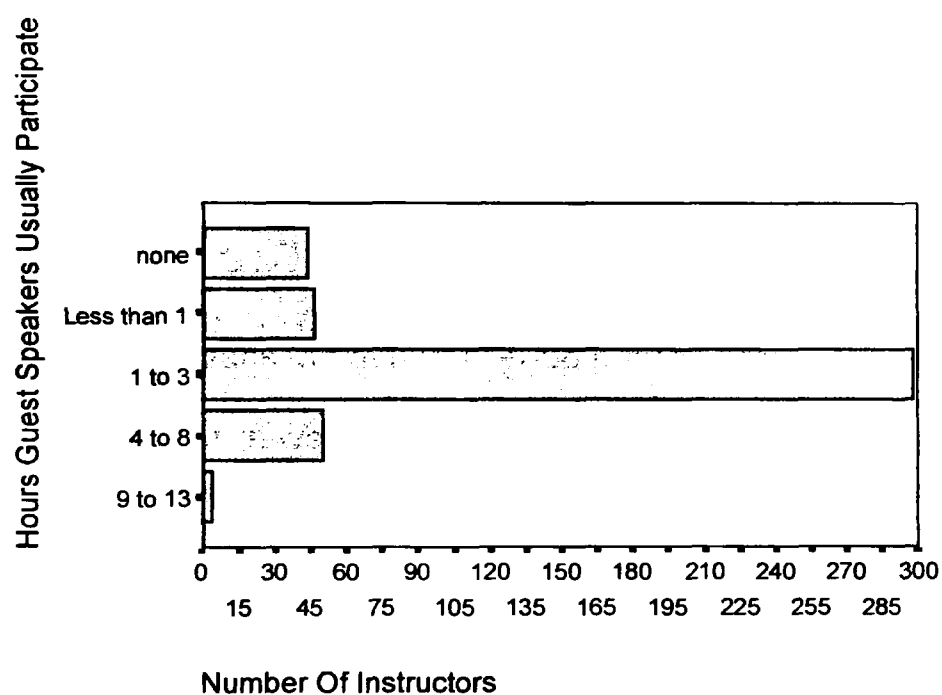


**Figure 5: Number Of Guest Speakers Participating In The Next Course. (N=445)**

Guest speakers spend many hours participating in hunter education.

While taking into account total teaching time, three percent of the instructors use guest speakers from one-third to two-thirds of their total teaching time. Four percent of the instructors have guest speakers take over two-thirds of their teaching time and close to 80 percent of the instructors use guest speakers a third of their teaching time or less.

Though not taking into account total teaching time, Figure 6 identifies how many hours the instructors usually use guest speakers during an entire course. Eighty-six of the instructors have guest speakers spend one hours or less participating in their course. Almost 300 of the instructors have guest speakers spend one to three hours during their course.



**Figure 6: Hours Guest Speakers Used. (N=445)**

Table 7 shows the different types of guest speakers scheduled to participate in the next course the instructors taught. Eighty-three percent of the instructors planned to have a game warden participate in the next course they taught. A little over forty percent of the instructors planned to have an experienced hunter participate the next time they taught.

**Table 7: Guest Speakers The Instructors Planned To Use The Next Time They Taught. (N varies based on the guest speaker, N averages 439)**

Type Of Guest Speaker	Number Of Instructors	Percent Of Instructors (%)
Landowner	108	23.8
Game Warden	376	83.0
Experienced Hunter	182	40.2
Search and Rescue Team Member	77	17.0
Wildlife Biologist	110	24.3

***Profile on the Class Sizes and Classrooms***

The instructors were asked to give the average class size they taught. Across the state, hunter education classes varied in size tremendously from less than five to over 55 students. Sixty-three percent of the instructors have classes with 25 students or less. Close to 12 percent of them have classes with 31 to 45 students. Almost ten percent of all the instructors teach 46 or more students in their classes.

The instructors were asked whether or not they agreed that there too many students in their classroom because it was too small or there were too few instructors. Table 8 displays how the instructors responded to the statement: “there are too many students in my classroom because the classroom is too

small.” More than 72 percent of the instructors either disagreed or strongly disagreed with that statement.

**Table 8: Instructors Respond To The Statement About Their Classrooms Being Too Small. (N=453)**

<b>Instructors' Beliefs</b>	<b>Number Of Instructors</b>	<b>Percent (%)</b>
Disagree or Strongly Disagree	327	72.2
Agree or Strongly Agree	38	8.4
Neutral	59	13.0
Does Not Apply	29	6.4
<b>Total</b>	<b>453</b>	<b>100</b>

Table 9 shows how the instructors responded to the statement: “there are too many students in my classroom because there are not enough instructors.” More than 65 percent of the instructors do not believe that their classrooms are too small because of a lack of instructors, while 15 percent of them believe their classrooms are too small because of a lack of instructors.

**Table 9: Instructors Respond To The Statement About A Lack Of Instructors. (N=450)**

<b>Instructors' Beliefs</b>	<b>Number Of Instructors</b>	<b>Percent (%)</b>
Disagree or Strongly Disagree	293	65.1
Agree or Strongly Agree	69	15.3
Neutral	65	14.4
Does Not Apply	23	5.1
<b>Total</b>	<b>450</b>	<b>100</b>

The instructors were also asked to respond to the statement that “the classroom I use for the course are large enough for all my students to meet in



comfortably.” Eighty-eight percent of the instructors agreed that their classrooms were usually large enough for their entire class to meet in comfortably. Eighty-two percent of instructors agreed that their classrooms had all the equipment they needed such as desks, chalkboards, televisions, and VCRs. Eighty-six percent of them also agreed that their classrooms provide a good learning and teaching environment.

### **Instructors' Rating of the Overall Program and Their Courses**

Each of the instructors were asked to rate the state's program generally and how the program is carried out in the individual courses at the community level. The "program" means the general set-up provided for by the state and the "courses" are the classes in which the instructors implement the program. The last topic of this section will deal with how instructors rate the effectiveness of their courses in teaching gun safety and hunter ethics/responsibility.

### ***Overall Evaluation of the Program and the Community Courses***

The instructors were asked to rate the effectiveness of the Montana Hunter Education Program in a general sense. Ninety-eight percent of the 453 instructors who responded either agreed or strongly agreed (60 percent strongly agreed) that the program is effective. This is a strong indication that the instructors believe the program is helping students and succeeding. The program can be more effective, but at this time, the instructors are giving their

nod of approval to the program.

The courses are the classes in which the instructors implement the hunter education program. The instructors rate their courses in a similar fashion as the program. Ninety-six percent of the 453 instructors who responded rate the courses they teach as being effective.

### ***Effectiveness of Courses in Teaching Gun Safety and Hunter Ethics/Responsibility***

The instructors were asked whether or not the course they help teach is able to teach gun safety effectively; all the 453 instructors responded to these questions. Ninety-one percent of the instructors believe that their course teaches gun safety effectively, while 4 percent of the instructors do not believe their course teaches gun safety effectively. Ninety-two percent believe that the course they are involved with teaches hunter ethics/responsibility effectively, while 2.8 percent of the instructors do not believe their course fulfills this objective.

Instructors were also asked if the students who pass their course leave with the knowledge how to be ethical and responsible hunters. Fewer than three percent of the 453 instructors who responded believe that their passing students finish the course without the proper knowledge to be ethical and responsible hunters.

## **Effectiveness of the Learning and Teaching Environment**

As part of the rating for this part of the program, the instructors were asked about their class sizes, the instructors per class, their classrooms, and problem students.

### ***Correct Number of Instructors Per Class***

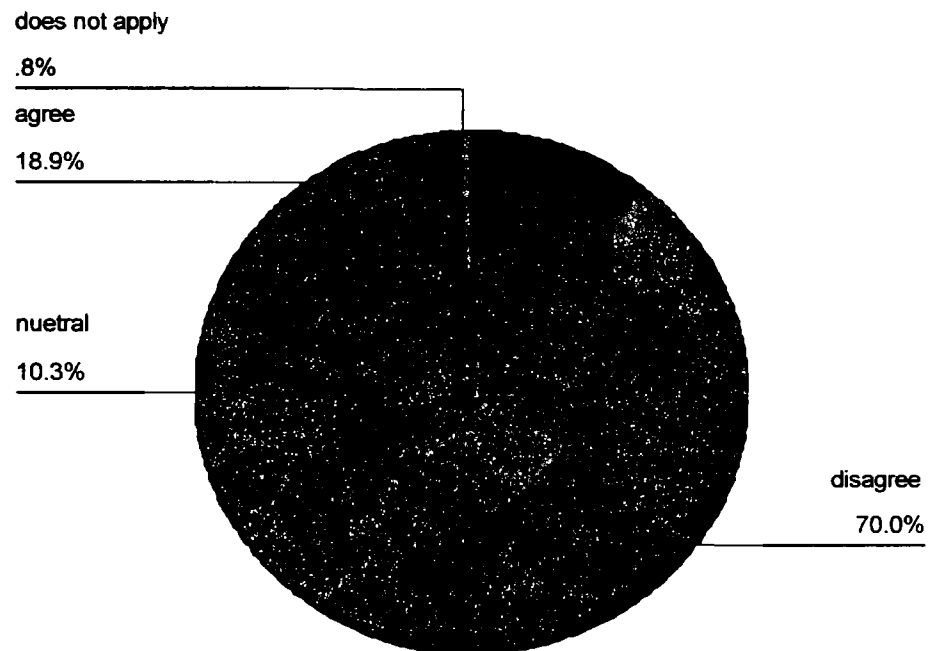
Having too few or too many instructors per class could be problematic, so the instructors were asked if having three to five instructors per class was the most preferable for teaching a course. A little over 54 percent of the instructors agreed or strongly agreed that having three to five per class would be the most preferential for teaching a class. Fifty-one percent of the instructors actually teach with a team of three to five instructors. This evidence shows that the beliefs of the instructors (a majority agreed that three to five instructors per class was preferential) was correlated with their actual behavior as a majority of the instructors actually teach with two to four other instructors.

### ***Instructors Handling of Problem Students***

Eight percent of the instructors said they averaged three to four problem students per hunter education class. Eighty-seven percent of the instructors average 2 or less problem students per class. Thirty-two percent of the instructors do not usually have any problem students in their classes.

Figure 7 identifies how instructors feel about handling problem students.

Almost 20 percent of the instructors feel uncomfortable handling problem students. Over 70 percent of the instructors feel comfortable handling problem students.



**Figure 7: Instructors Feel Uncomfortable Handling Problem Students. (N=450)**

## Hunter Education and Gender Issues

The instructors were asked if the state's program needs more female teachers and if the instructors encouraged females to take the course. One reason for this question was illustrated by the gender representativeness of the respondents to this survey, as only 9 percent were women. Montana's Hunter Education course is dominated by male instructors which may be an indicator that a small proportion of females care about the future of hunting or are

involved in hunting. Another reason for including more females is that one research team (Jackson, McCarty, and Rusch, 1989) urged everyone involved in hunting to get more females involved in order to preserve the tradition.

### ***Montana Hunter Education and Female Instructors***

Fifty-seven percent of all the Montana Hunter Education instructors, who responded to the survey, agreed that the program needs more female instructors. Approximately 33 percent of the instructors remained neutral to the idea that the program needs more female instructors. Almost six percent of the instructors disagreed that the program needs more female instructors.

### **Parental Involvement**

The topic of this section will show the parents' roles in their children's participation in hunter education. One question deals with whether or not the parents have an opportunity to participate in class discussion on ethics. Another question deals with whether or not parents or other family member take an active role in the class their child attends.

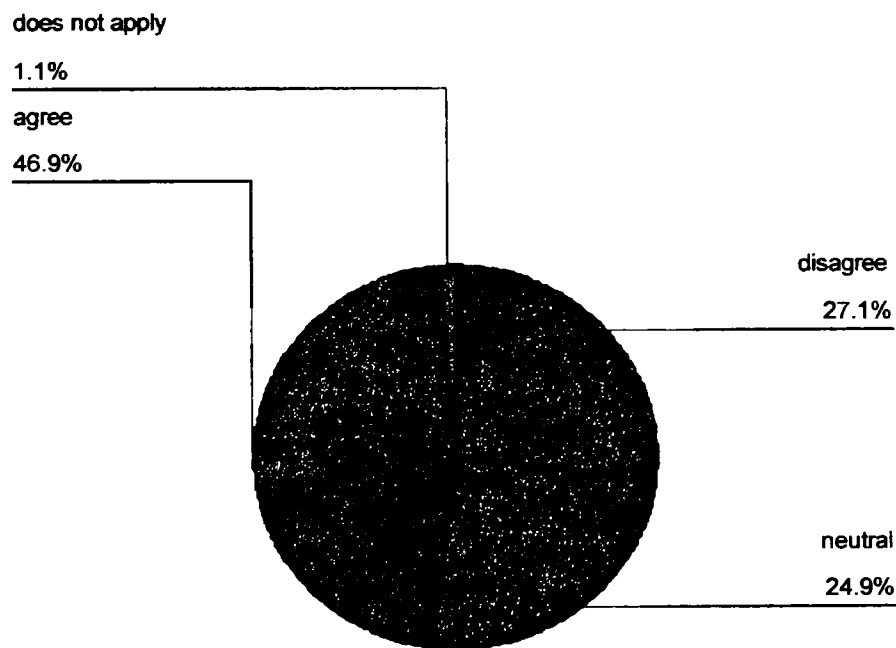
### ***Parental Opportunities to Participate in Class Discussions on Ethics***

If the Montana Hunter Education program intends to influence students, the program must also influence their parents who will most likely hunt with them. Parents need to be involved in the course to encourage their own children and to learn proper ethics themselves. Parents need to have opportunities to

participate in the classes their children attend. Eighty-eight percent of the instructors agreed that their students' parents have opportunities to participate in class discussions of ethics.

### ***Parental Activity in the Courses***

Figure 8 identifies how the instructors responded to the statement: "the parents and/or other family members of students usually take an active role in the course." Just under 70 percent of the instructors agree with this statement and 25 percent of the instructors disagree.



**Figure 8: Students' Family Usually Takes An Active Role In The Course.(N=450)**

### ***Instructors' Views on Familial and Peer Influences***

The instructors were asked to respond to the statement that “hunting companions, family, and friends of students influence students' learning far more than the hunter education course.” Seventy-five percent of the instructors agreed with this statement concerning the influence of family and peers on students' behavior.

### **Instructors' Views on the Way The Program Should be Conducted**

Volunteer instructors differ quite widely in their thinking about hunter education; instructors carry out the program and different communities vary in the way they teach the program. Instructors vary on their use and attitude toward different hunter education materials, teaching styles, definitions of key ideas, and precedence given certain subjects over others. Instructors differ on the percentages of class time they will spend teaching certain topics. Communities vary in the length of the course and the number of course sessions it takes to teach the course. The course must be at least twelve hours long, but courses can and do go longer.

Good communication is important among instructors to help assure that instructors in the same community are on the same wavelength. The instructors were asked if there needs to be better communication between themselves and the other instructors in their community.

### ***Communication Between the Instructors in Each Community***

Each instructor was asked whether there needs to be better communication between the instructors in their own community. Table 10 shows how the instructors responded to this question. Thirty-six percent of the instructors disagree that there needs to be better communication among the instructors in their community, while 33 percent agree that there needs to be better communication.

**Table 10: There Needs To Be Better Communication Among The Instructors In Communities. (N=446)**

<b>Instructors' Beliefs</b>	<b>Number Of Instructors</b>	<b>Percent (%)</b>
Disagree	161	36.1
Neutral	120	26.9
Agree	149	33.4
Does Not Apply	13	29.1
<b>Total</b>	<b>446</b>	<b>100</b>

### ***Instructors' Definitions of Hunter Ethics and Hunter Responsibility***

In the Montana Hunter Education Manual (student manual), it states that "someone with good ethics has a good sense of what is right and wrong. ... Ethical hunters would never do something they knew or felt was wrong" (p.13). In the student manual, responsibility is defined as "obeying the law, but it also means being able to answer for your actions" (p.15). Both an ethical decision and a responsible decision are "usually decision[s] that you feel good about" (p.15). They are both about personal integrity. According to these definitions, a responsible hunter is also an ethical hunter.



Fifty-one percent of the respondent instructors agreed or strongly agreed that hunter ethics and responsibility are the same thing. A little under 40 percent of the instructors either disagree or strongly disagree with the question. Among instructors there is not a clear-cut distinction between hunter ethics and hunter responsibility.

### ***Importance of Teaching Gun Safety Versus Hunter Ethics/Responsibility***

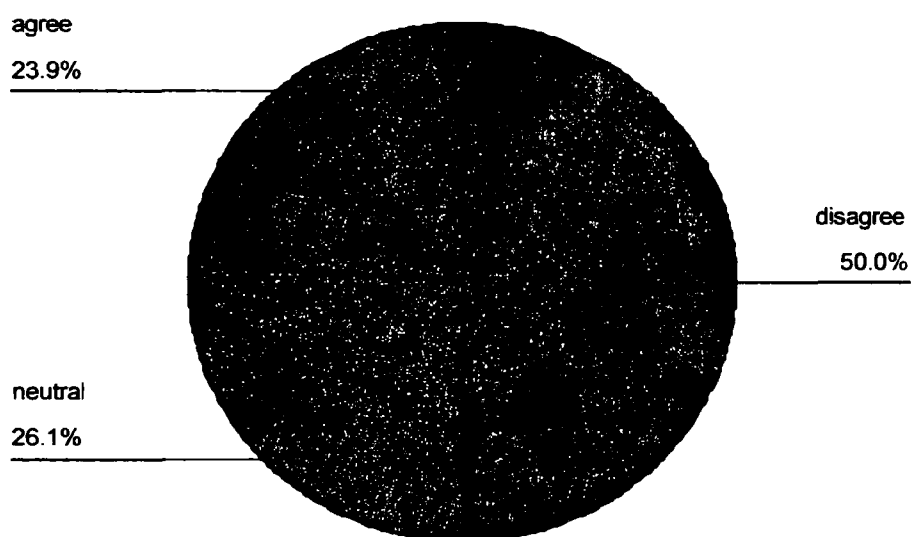
In the early 1960s, the program changed names from Montana Hunter Safety to Montana Hunter Education: Gun Safety and Hunter Responsibility. The focus before the change was solely gun safety and now the focus is on gun safety, hunter ethics, and hunter responsibility. Gun safety, hunter ethics, and hunter responsibility are to be taught throughout the course, which teaches the history of hunting and firearms, wildlife management, game identification, firearm familiarization, firearm handling, survival and first aid awareness, and water safety.

On average, the instructors spend approximately 25 percent of their teaching time, teaching hunter ethics and hunter responsibility. The amount of time each instructor spends teaching ethics and responsibility can be categorized into low, moderate, and high levels. Low refers to instructors that spend a third or less of their teaching time, teaching ethics and responsibility. Moderate refers to the instructors who spend over a third of their time to two-thirds of their time on ethics and responsibility. High refers to the instructors

who spend over two-thirds of their teaching on hunter ethics and responsibility. Fifty-five percent of the instructors fall in the low category, 37 percent fall in the moderate category, and only eight percent of them are in the high category.

The instructors strongly believed that hunter ethics and responsibility should be a major part of the hunter education course. Ninety-three percent of the instructors believed hunter ethics and responsibility should be taught throughout the course. Seventy-nine percent agreed that hunter ethics and responsibility should be taught as much as gun safety.

Figure 9 on the next page illustrates the percentage of instructors who agreed that instructors should spend more time teaching gun safety rather than hunter ethics. Fifty percent of the instructors disagree that instructors should spend more time teaching gun safety rather than hunter ethics, while close to 24 percent of the instructors disagree that instructors should spend more time teaching gun safety rather than hunter ethics.



**Figure 9: Prefer Instructor Emphasis On Safety Versus Ethics.  
(N=452)**

Until the 1960s, the emphasis of the program was to teach gun safety. Many of the current instructors still think gun safety should be taught more than hunter ethics and other subjects. One indicator of the importance that instructors give gun safety is the amount of their teaching time that they spend going over this subject. On average, the instructors spend approximately 40 percent of their teaching time teaching gun safety. Like their teaching of hunter

ethics, the instructors' teaching of gun safety will be broken down into three categories: low, moderate, and high. These three categories correspond to the same percentages of teaching gun safety as they did with teaching hunter ethics. Thirty-four percent of the instructors fall into the low category, fifty-one percent of the instructors fall into the moderate category, and fourteen percent spend more than two-thirds of their total teaching time teaching gun safety.

In summary, the instructors spend more time teaching gun safety than hunter ethics and responsibility, which contradicts their personal beliefs. On average, the instructors spend approximately 25 percent of their total teaching time teaching ethics and responsibility. Instructors, on average, spend 40 percent of their total teaching time teaching gun safety. These numbers indicate that the instructors still give more weight to gun safety rather than hunter ethics.

Instructors' attitudes on hunter ethics do not correlate strongly with their beliefs as almost eighty percent of the instructors agreed that hunter ethics should be taught as much as gun safety, but gun safety is taught considerably more than hunter ethics in the program.

### ***Course Length and Course Sessions***

Tables 11 and 12 compare what is being done across the state in terms of the number of hours and sessions it takes to teach the course and the number of hours and course sessions the instructors desire to teach the course. Table 11 reveals that 107 instructors teach course that are 12 hours long or less.

Seventy-one instructors teach courses 19 hours or more. A majority of the instructors (262 instructors) teach courses that are 13 to 18 hours long. Only 69 instructors desire to teach courses that or 12 hours or less. Over 140 instructors desire to teach courses that are 19 hours or more. The majority or 233 instructors desire to teach courses that are 13 to 18 hours.

**Table 11: Course Length (Hours) Taught Versus Course Length Desired. (N=443)**

<b>Actual Hours To Teach The Course</b>	<b>Number of Instructors</b>	<b>Percent (%)</b>
12 or less	107	24.3
13 to 18	262	59.1
19 to 24	61	13.9
25 or more	10	2.3
<b>Total</b>	<b>N=440</b>	<b>100</b>
<b>Desired Hours To Teach The Course</b>	<b>Number of Instructors</b>	<b>Percent (%)</b>
12 or less	69	15.5
13 to 18	233	52.3
19 to 24	112	25.2
25 or more	31	7.0
<b>Total</b>	<b>N=445</b>	<b>100</b>

Table 12 reveals that 327 of the instructors teach courses that are 6 to 10 sessions long, while 359 of the instructors desired to teach courses that are 6 to 10 sessions long. Ninety-six instructors teach courses that are 5 or less class sessions long, while 59 instructors desired to teach a course with that many course sessions.

**Table 12: Number Of Sessions To Teach A Course Versus Course Sessions Desired. (N=443)**

<b>Actual Sessions To Teach The Course</b>	<b>Number of Instructors</b>	<b>Percent (%)</b>
5 or less	96	21.8
6 to 10	327	74.1
11 to 15	13	2.9
16 or more	5	1.1
<b>Total</b>	<b>N=441</b>	<b>100</b>
<b>Desired Sessions To Teach The Course</b>	<b>Number of Instructors</b>	<b>Percent (%)</b>
5 or less	59	13.3
6 to 10	359	80.7
11 to 15	27	6.1
16 or more	8	1.8
<b>Total</b>	<b>N=445</b>	<b>100</b>

## **Teaching Methods**

Teaching methods make can be the difference between effective teaching and ineffective teaching. The hunter education instructors are given a lot of options as far as teaching techniques. They can use lectures, demonstrations, guest speakers, field trips, visual aids, and role-playing. Leaders of the program encourage instructors to role-play as much as possible. Hunter Education officials assume that role-playing is the best possible technique for helping students learn the most material.

Once again, the instructors are given a lot of leeway in terms of their teaching methods. Each instructor has their own personal style of teaching and each of the instructors use different teaching methods. The instructors were

asked how much time they spent on field trips, role-playing, showing videos, and lecturing. The instructors were asked what methods they like to use in certain circumstances.

***Time Used Lecturing, Role-playing, Watching Videos, and On Field Trips***

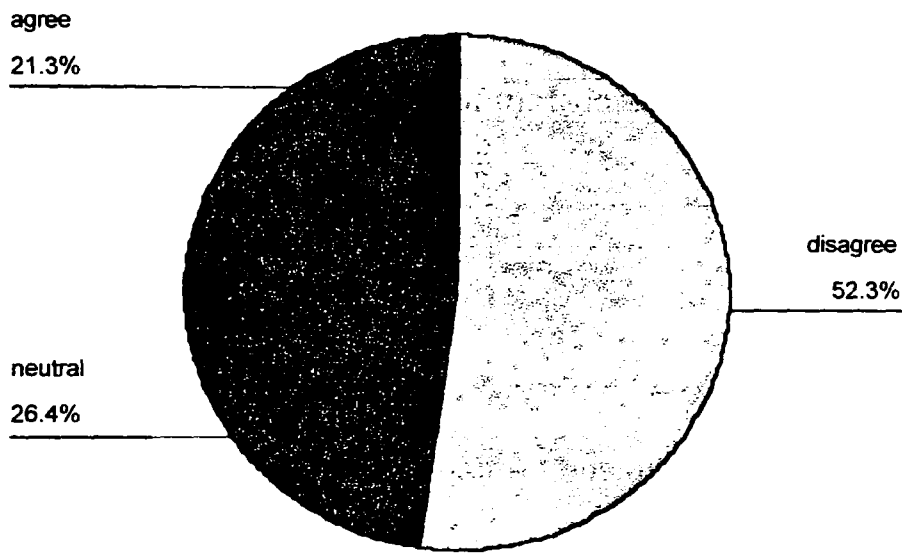
Instructors are encouraged to use interactive methods, such as role-playing, more often than lecturing. However, instructors lecture considerably more often than they use interactive methods such as role-playing. Instructors, on average, lecture approximately 48 percent of their total teaching time; they use interactive methods such as role-playing, approximately 30 percent of their teaching time. Table 13 reveals the average percentage of the each instructor's total teaching time using different teaching methods.

**Table 13: Time Spent Using Different Teaching Methods. (N varies based on missing data)**

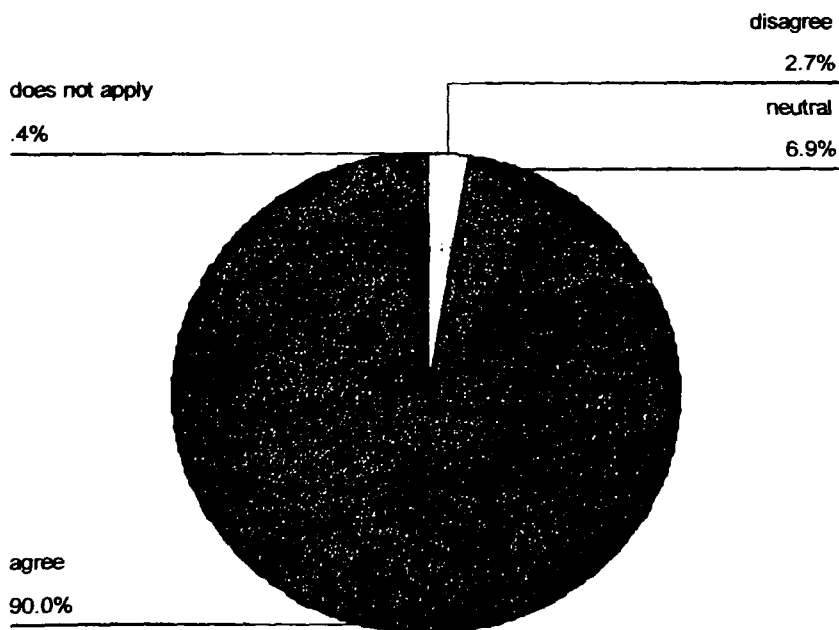
<b>Teaching Methods</b>	<b>Percent Of Instructors' Total Teaching Time (%)</b>
Interactive Methods	30%
Educational Videos	13%
Lectures	48%
Field Trips	13 %

***Best Teaching Methods According to the Instructors***

The instructors were asked to respond to the statement: "lecturing is the best way for me to teach hunter ethics." Figure 10 shows how the instructors responded. Figure 11 identifies how the instructors responded to the statement that "role-playing is better than lecturing when teaching gun safety."



**Figure 10: Lecturing Is The Best Way To Teach Hunter Ethics. (N=451)**



**Figure 11: Role-playing Is Better Than Lecturing When Teaching Gun Safety. (N=450)**



Figure 10 reveals that 52 percent of the instructors disagree that lecturing is the best way for them to teach hunter ethics, while 21 percent of the instructors agreed that lecturing is the best way for them to teach hunter ethics. Figure 11 illustrates that 90 percent of the instructors agree that role-playing is a better method than lecturing when teaching gun safety. Only 3 percent disagree that role-playing is better than lecturing when teaching gun safety.

The instructors rated demonstrations and role-playing as highly effective in teaching certain aspects of the program, though a combination of teaching methods was rated as the best method for most hunter education material. Eighty-six percent of the instructors agreed that a demonstration is the best way to help students learn gun safety. Seventy-eight percent of the instructors agreed that encouraging class participation (such as role-playing) is better than lecturing when teaching hunter ethics. Eighty percent of the instructors agreed that role-playing helps students learn to deal effectively with landowners and the same percent agreed that role-playing helps students learn hunter ethics and hunter responsibility effectively. Almost all of the instructors (98 percent) believe that using a combination of methods is the best way to teach most subjects in hunter education.

## **Teaching Styles**

Instructors were also asked about their style of teaching regarding their organization skills, comfort level when teaching, and ability to give positive

feedback. Other teaching styles dealt with whether the instructors guide or control class discussion, as well as their enthusiasm and comfort level when teaching. The last teaching style discussed was what resources the instructors tended to draw upon the most when teaching. The importance of teaching styles will emerge when the student survey is completed, the results of it will be compared with these results to see what teaching styles are the most effective in helping students learn the information. Additionally, all the students will be asked to rate their instructors' teaching styles.

### ***Instructors' Ability to Give Positive Feedback/Organization Skills***

In terms of giving positive feedback and organizational skills, the instructors tended to rate their own teaching styles very positively. The instructors were asked to respond to the statement, "I would say that my students think I give positive feedback often." Eighty-three percent agreed that their students would make this statement. Dealing with organizational skills, 86 percent of the instructors believed that they have an organized approach to teaching.

Table 14 refers to the number and percentage of instructors who guide (rather than control) class discussions on ethics. Close to 70 percent of the instructors believe they guide class discussion on hunter ethics.

**Table 14: Instructors Who Guide Versus Control Discussion On Ethics. (N=450)**

<b>Teaching Style</b>	<b>Number of Instructors</b>	<b>Percent (%)</b>
Unsure	81	18
Control	23	5.1
Guide	346	76.9

### ***Instructors' Level of Enthusiasm and Comfort Level Teaching***

Instructors were asked to rate their enthusiasm when teaching as low, somewhat low, medium, somewhat high, or high. Almost 4 percent of the instructors rated their enthusiasm as medium. Thirty-six percent rated their enthusiasm as somewhat high and 60 percent rated themselves as having a high level of enthusiasm when teaching.

Instructors were also asked to rate their comfort level when teaching as being low, somewhat low, medium, somewhat high, or high. Less than three percent of the instructors have a low or a somewhat low comfort level when teaching hunter education. Most of the instructors (54 percent) feel a high level of comfort when teaching.

### ***Resources Used by Instructors When Teaching***

The instructors were asked what resources they tended to draw upon: all experience, mainly experience, experience and resource material equally, mainly resource materials, or all resource materials. Eight percent said they rely

upon experience solely and nineteen percent said they rely upon mainly experience. Sixty-two percent rely upon resource materials and experience equally. Eleven percent rely mainly on resource materials and approximately two percent rely solely on resource materials.

### **Instructor Types/Characteristics Based On Teaching Methods**

One purpose for performing this study was to help officials at Montana FWP understand what types of instructors they have or if the instructors fall into any groups or categories. Group membership could predict how certain instructors teach the course. Helping officials at the Montana FWP understand their instructors, would in turn help those officials in dealing with all instructor types if any such types exist. An example of a teacher type, hypothetically speaking, would be instructors that have taught the course longer would be more inclined to use older teaching methods such as lecturing and focus more on gun safety rather than both hunter ethics and gun safety.

In order to discover if any instructor types exist, certain independent or predictor variables (such as number of times one has taught the course) were compared or correlated with certain dependent variables (such as percentage of teaching time spent on gun safety and hunter ethics). Correlated variables are variables that either increase or decrease in value together or one increases while the other decreases. A positive correlated value means that two variables increase or decrease together, while a negative value means that one value is

increasing in value while the other is decreasing.

Other independent variables in addition to the number of times instructors have taught the course were used to predict instructor types were instructors' age, gender, amount of education, number of times hunting, and number of times one has taught the bow hunter education course. The dependent variables or predicted variables compared were percentage of teaching time spent lecturing, using interactive teaching methods, teaching gun safety, teaching from *Beyond Fair Chase*, and teaching hunter ethics and responsibility, using instructional videos, and amount of teaching time spent training students in the field.

The correlation statistic was used to examine the association between the independent and dependent variables was Spearman's correlation coefficient. With this statistic, 1 means a perfect positive correlation, 0 means no correlation, and -1 means a perfect negative correlation. None of the independent variables significantly correlated with any of the dependent variables. Thus, the notion that these hunter education instructors might fall into certain groups (based on age, gender, teaching experience, etc.) or that there might be types of instructors based on these independent variables seems to be incorrect.

## **Hunter Education Materials**

Instructors have a lot of available materials to use when teaching the course: *Montana Hunter Education Instructor Guidebook and Instructors'*

*Handbook, The Montana Hunter Education Student Manual, Beyond Fair Chase*, numerous educational videos such as the *Beyond Fair Chase* video, an instructional video called "How to Teach Montana's New Hunter Education Program" and the written student exam or test. The students also have *Beyond Fair Chase and Montana Hunter Education Student Manual* as resource materials. Students must read the book and the manual before attending the first class session. Students are not allowed to pass the course without demonstrating that they have read these books.

### ***The Chapters Instructors Teach From the Student Manual***

Table 15 gives a description of each student manual chapter. Nearly seventy-nine percent of all the instructors responded that they usually teach out of all the chapters in the student manual. Very few (1.3 percent) instructors reported that they do not teach from any of the chapters in the student manual. The remaining instructors said they teach various student manual chapters

**Table 15: Student Manual Chapters.**

<b>Chapter Number</b>	<b>Description Of The Chapter</b>
Introduction	Definition of Hunter Education
One	Hunter Ethics and Hunter Responsibility
Two	Hunting Laws and Regulations
Three	The Land and Environmental Impact
Four	Wildlife: Habitat and Conservation
Five	Dealing With Other People
Six	Firearms and Gun Safety
Seven	Preparation for Hunting: Survival, etc.
Eight	Hunting History/Wildlife of Montana/Purpose of Montana Fish, Wildlife and Parks

### ***Instructors' Evaluation of the Student Manual***

The student manual is designed to give the students an understanding of the basics and the instructors are to clarify, emphasize important points, and even expand upon the manual using their own experience and materials. Table 16 details the number and percentage of instructors who believe the individual chapters in the manual have enough information.

**Table 16: Sufficiency Of Student Manual Topic Coverage. (N varies based on the missing data for each topic)**

<b>Topics in the Student Manual</b>	<b>Number of Instructors</b>	<b>Percent (%) that believe topic has sufficient coverage</b>
Firearms/Gun Safety	309	69.9
Hunter Ethics/Responsibility	375	85.0
Hunting History	366	83.7
Wildlife and Habitat	342	78.3
Outdoors Survival	207	47.2
Preparation for Hunting	253	57.9
Hunting Laws	240	54.7
Wildlife Conservation	364	82.9
Dealing With Others	304	69.2

Table 16 reveals that 70 percent of the instructors believe the student manual has sufficient coverage on firearms/gun safety. Eighty-five percent believe that the student manual has enough information on hunter ethics and hunter responsibility. Only 47 percent believe the student manual has sufficient coverage on outdoors survival, while 55 percent believe the manual has sufficient coverage on hunting laws. Additionally, 58 percent think that the student manual does not have enough information on preparing for hunting.

### ***Beyond Fair Chase***

The book, *Beyond Fair Chase*, discusses hunter ethics and hunter responsibility in detail. The author, Jim Posewitz, describes different hunting scenarios and shares hunting experiences to help the reader understand ethics and responsibility. The book and the student manual are required reading in all Montana Hunter Education courses. Students are to have read *Beyond Fair Chase* and the student manual before attending the first class session, as it is only 60 pages long, with very few words per page.

Instructors are encouraged to discuss hunter ethics and responsibility throughout the course. The book, *Beyond Fair Chase*, is one means whereby instructors can start discussions on ethics. Instructors may rely on stories from the book to illustrate points they are trying to make. Hunter education officials encourage instructors to discuss the entire book in class.

Instructors had a chance to evaluate the effectiveness of *Beyond Fair Chase*. They were asked if the book is an effective tool for teaching hunter ethics and responsibility. Eleven percent of the instructors do not believe the book is an effective tool for teaching ethics and responsibility. Seventy-one percent believe the book is an effective tool for teaching ethics and responsibility.

Instructors were asked whether or not a sequel would be useful in the current hunter education curriculum. Twenty-eight percent of the instructors do not believe a sequel would be useful, but 48 percent of them do believe the



sequel would be useful in the hunter education curriculum.

### ***Beyond Fair Chase and the Student Manual as Required Reading***

Since both the book and manual are required reading for the students, one may question whether or not the students actually read them both before the first class. One question asked the instructors if their students did read the manual and the book before coming to the first class session. By making an educated guess, fifty-five percent of the instructors do not think most of their students have read the manual and book before coming to the first class. Twenty-seven percent of the instructors believe that most of their students have read both of these materials before coming to the first class.

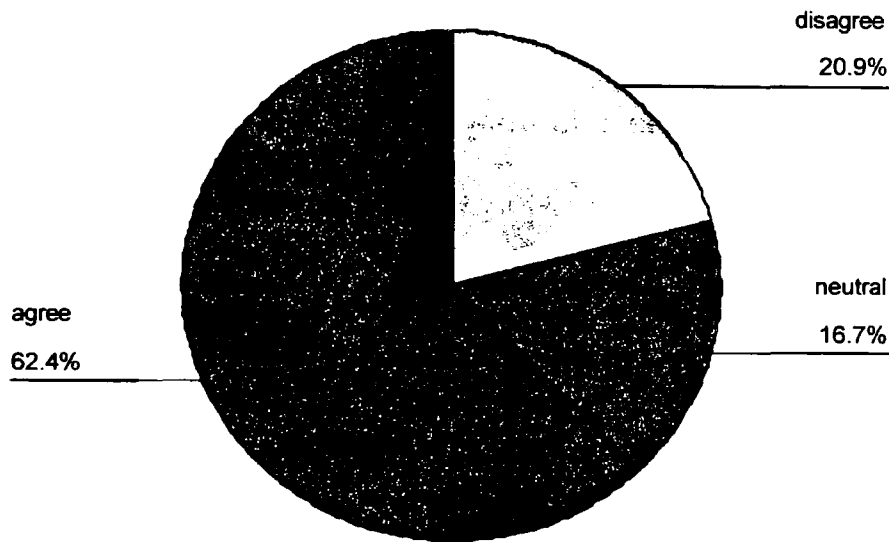
The instructors responded to the statement that "my students have too much to read before attending the first hunter education class." Fifty-six percent of the instructors disagreed that their students have too much to read before the first class. Twenty-one percent of the instructors agreed with this statement.

Twenty-five percent of the instructors believe that students should be allowed to pass the class without having read the student manual and *Beyond Fair Chase*. On the other hand, 54 percent of the instructors believe that the students must read both of these materials before they can pass the course.

### ***Student Exam***

Instructors grade students on three criteria: knowledge, attitude, and skill.

A student may not pass the course without passing all three parts. The instructor is given a lot of leeway in evaluating students during the course. Knowledge is tested by the use of a 100-question written exam. A firearm handling exercise is used to evaluate a student's attitude and skill. If a student fails (less than 85 percent) the written exam, but passes the firearm-handling course, the instructor may give the student a re-test. If the student fails the attitude and skills part of the course, the student must take the course again. The written student exam is made up of three parts: true and false section, multiple choice section, and three short answer questions. The exam has 45 true or false questions, 49 multiple choice questions, and three short answer questions. Figure 12 on the next page reveals how the instructors evaluated the student written exam. Almost 20 percent of instructors disagree that the student exam measures student knowledge adequately. On the other hand, 62 percent of the instructors agree that the written test measures student knowledge adequately.



**Figure 12: Written Test Adequately Measures Student Knowledge. (N=449)**

How do the instructors describe the difficulty of the written student test?

Forty-one percent of the instructors believed the written student test is not too easy for the students. Twenty-five percent of the instructors believed the written student test is too easy for the students.

### ***Instructors' Manual***

The instructors' manual is also called the *Montana Hunter Education Instructor Guidebook and Instructors' Handbook*. The manual gives the course policies, educational approaches, course curriculum, course records, and program procedures. The manual was written in 1990 and has nine chapters

with seventy pages.

The instructors also evaluated their instructors' manual in terms of its ability to prepare them for teaching class. Twenty-three percent of the instructors do not think that the manual adequately prepares them for teaching, but 58 percent of them felt the manual adequately prepares them for teaching the hunter education course.

### **Field Trips and Live-Firing Practice**

According to the instructors' manual, "range activities involving live-firing are optional, although such training is strongly recommended as part of the hunter education course" (1990, Chapter 8, p.17). All field exercises are optional in the program. The field exercises are not required because in some areas, places for such exercises are not readily accessible.

Instructors believed field experience should be an integral part of hunter education. Fifty-seven percent of the instructors believed that field trips are a valuable teaching tool in hunter education. Also, approximately half of all the instructors believe that hunter education would help students learn more if they were conducted more in natural hunting settings or in other words, a greater proportion of class time on field trips. Whether or not their course has live-firing, eighty-nine percent of the instructors stated that they encourage their students to target shoot outside of class time.

## **Greatest Strengths of the Program**

The final two questions on the instructor survey were open-ended questions. The instructors were asked to list the greatest strength of the program and the greatest weakness of the program. These two questions were the only qualitative findings in the report. The instructors' responses were coded and each code was quantified. The instructors' responses are described in this section.

### ***Instructors***

Fifty-six of the instructors said that the volunteers were the greatest strength of the program. Additionally, 46 of them said the dedication and commitment of the instructors was the greatest strength of the program. By dedication and commitment they are referring to the countless hours instructors invest in teaching students without any financial reimbursement. Twenty-seven said it was the instructors' knowledge and experience that was the greatest strength of the program. Seven others said that the enthusiasm of the instructors was the greatest strength. Other aspects of instructors they listed as the greatest strengths of the program are shown in Table 17.

**Table 17: Other Greatest Strengths Listed.**

<b>Number of Instructors</b>	<b>Aspects About Instructors</b>
6	Ongoing Training of the Instructors
5	Instructors Who Wished to Preserve Hunting
4	Great Example of the Instructors
4	Lee-way instructors Have in Teaching
4	Chief Instructors
3	Support Instructors Give Each Other
2	Ability of the Instructors To Train Instructors
1	Honesty and Openness of the Instructors

Another great strength of the program according to the instructors was the program's ability to teach students to hunt safely and use firearms correctly. Sixty-seven instructors listed the program's ability to help students use firearms safely (thus reducing accidents) was the greatest strength of the program. Sixty instructors said the greatest strength of the program was the emphasis on gun safety and hunter ethics/responsibility. While, twenty instructors believed the program's teaching of ethics to be its greatest strength.

### ***Montana Fish, Wildlife & Parks***

Forty-four of the instructors stated that the support from Montana Fish, Wildlife & Parks was the greatest strength of the program. The instructors referred to the support that comes from officials in the main office in Helena, but a few of these instructors referred to officials at the local level. Out of those 44 instructors, three of them commented that it was the budget or resources from Montana Fish, Wildlife & Parks that was the greatest asset of the program.

### ***Additional Strengths***

The ability of the program to help students build a positive hunting foundation early in life, its capability to preserve the hunting tradition, the hunter education materials, and teaching aids were also seen as some of its greatest strengths. Twenty-five of the instructors noted that the great strength of the program lied was its ability to help hunters early in life to go the right direction, build positive values, and build ethical and safe foundations for hunting. Twenty instructors said that the hunter education materials (books, manuals, videos, and teaching aids) were the greatest strengths of the program. Fourteen of the instructors believed the great strength of the program was its ability to preserve the hunting tradition by hunters regulating themselves.

The instructors gave a lengthy list of what they felt were the program's greatest strengths. Table 18 reveals the number of instructors who believe certain aspects of the program to be the greatest strengths. Here are some highlights: 15 noted that it was the variety of subjects taught in the curriculum, 14 said it was ready and willing students, 13 said the field course, 11 said it was the program produced effective results, and ten said it was community and parental support of the program.

**Table 18: Other Greatest Strengths About The Program.**

<b>Number of Instructors</b>	<b>Aspects About the Program</b>
15	Variety of subjects taught in the course
14	Ready and willing students
13	Field Course
11	Produced effective results
10	Community and parental support
9	Diversity of places across the state it is offered
7	Ability to create an appreciation for the outdoors
7	Involved students using interactive methods
5	Ability to help students deal with landowners
3	Ability to teach hunting laws
3	Adding the emphasis of hunter ethics

### **Greatest Weaknesses of the Program**

In this open-ended question section of the survey, the instructors listed more weaknesses than strengths. The main weaknesses centered around visual aids, field instruction, live firing, number of instructors, time needed to teach the program, first aid and survival (preparedness), the unethical influence of peers and family, lack of community and parental support, and the change in emphasis from gun safety to ethics.

#### ***Practical Training***

One of the greatest problems with the program according to the instructors is the lack of field training such as marksmanship training, hunting preparedness training (first aid and survival training), and blood tracking. Thirty-



nine instructors believe the greatest weakness of the program is the lack of time spent on live firing training or marksmanship training. Thirty other instructors stressed that the program's greatest weakness is the general lack of field training in which blood tracking was included. Twenty other instructors also argued that the greatest weakness in the program is the lack of hunting preparedness training such as first aid training and survival training.

### ***Instructors***

A high number of instructors feel that the greatest weakness of the program is the lack of time they have to teach all the program material. Fifty-two instructors stated that the greatest weakness of the program is that they do not have enough time to teach all the subjects. The instructors implied that they would like to have more time to teach the subjects rather than reduce the amount of information being taught. These instructors feel the course should be longer in hours and class sessions.

Some instructors rate themselves as problematic along with their relationship with the FWP as problematic. Thirty-three instructors listed "bad" instructors as the greatest weakness of the program. "Bad" instructors refers to teachers who are biased, burnt out, do not like to use new teaching methods like role-playing, lecture all the time, tell inappropriate hunting stories excessively, do not care about students, or lack control of their classrooms. Of those 32 instructors, ten of them listed instructors who dislike change, and lecture all the

time as being the greatest weakness of the program. Only two instructors listed instructors' lack of control in the classroom as being the greatest weakness. An additional 26 instructors believed the greatest weakness of the program is a lack of certified instructors.

Furthermore, 17 instructors believed the greatest weakness of the program is the lack of time the instructors have to commit to classes. The instructors are only volunteers so they must have their own careers and spend spare time teaching hunter education courses. Seven of the instructors thought the greatest weakness of the program is the fact that instructors are not paid. Sixteen instructors see a lack of certified instructors in their areas as being the program's greatest weakness. Eight instructors listed controlling or egotistical instructors (three of these instructors referred to specific chief instructors as being on "power trips") as being the greatest weakness.

### ***Montana Fish, Wildlife & Parks***

Thirty-three more instructors rated Montana Fish, Wildlife & Parks as being the greatest weakness of the program. Seven instructors listed a lack of resources from the FWP such as guns as the greatest weakness of the program, while five of them stated it was the general lack of support from the state level that was the greatest weakness. Six instructors listed the political agenda of officials in Helena as being the most problematic aspect. Three instructors listed the waste of money by the FWP and three others listed the lack of publicity for

hunter education classes. A wide range of other deficiencies attributed to FWP were identified by instructors, however, no response regularity was identified.

### ***Visual Aids***

Visual aids provided by Montana Fish, Wildlife and Parks are another concern of interest. An additional, thirty-three instructors believed that the program lacks adequate teaching aids or their FWP video library (hunter education videos) is problematic. Twelve out of those 33 instructors stated the program is lacking visual or teaching aids. Twenty-two out of those 33 instructors felt, that generally, the videos provided by the FWP were problematic because they have bad sound quality, were not applicable in today's world, were outdated, or were unavailable in certain areas of the state. However, it must be noted that since the instructors completed this survey, the FWP released a new hunter education video on ethics that summarizes the book, *Beyond Fair Chase*.

Along with researcher Jody Enck (1994), thirty instructors listed the unethical influence of parents and peers as the greatest problem of the entire program. Also, 28 instructors rated the greatest weakness of the program to be a lack of community and parental support of the hunter education program.

Thirty-one of the instructors believed the greatest weakness of the program to be the shift in emphasizing gun safety to emphasizing hunter ethics, landowner rights, and as one instructor called it, "political correctness." These instructors did not see it as a shift in focus from gun safety to hunter ethics and

gun safety; they saw it as mainly a shift in focus from gun safety to hunter ethics. Additionally, one instructor felt the greatest weakness in the program is the shift in the gun safety emphasis to an emphasis in habitat and wildlife conservation.

### ***Course Requirements***

Twenty instructors strongly believed the course should be required of all new hunters, required in schools, required of everyone, required of all game law violators, or believed that refresher courses must be required and taught. However, the current policy only requires those 12 to 17 years of age to pass the course in order to hunt. Of those 20, three instructors thought the greatest weakness of the program is a lack of any advanced hunter education courses or refresher courses. Of those 20, three instructors believed the greatest weakness of the program is that hunter education is not mandatory in schools, two believed this way because it is not required of all game law violators, and one believed the greatest weakness of the program was that it does not require all persons 18 years and older who move into the state.

### ***Materials***

Hunter education materials were also rated poorly by some instructors. Nine of the instructors believe the book, *Beyond Fair Chase*, to be the greatest weakness to the program. Ten instructors believed the changes in the student manual to be the greatest weakness of the program. Nine instructors believed

the written student test to be the most problematic part of the program. Of those nine, five believed the test asks questions not covered in the student manual, one believed the test must be revised to ask more meaningful questions, one believed there needs to be multiple versions of the test, one said the test is too hard, and one instructor said the test is too easy.

### ***Students***

Instructors rate some aspects about the students as being the most problematic aspect of the program. Seven instructors noted that the greatest problem with the program is that 11 or 12 year old students are too young to learn gun safety and/or hunter ethics, thus implying that 11 to 12 year olds should not be allowed to hunt. Seven instructors listed the greatest weakness of the program as being students who do not want to learn, are too busy to learn the material, and have behavioral problems in the classroom. Of these seven, five believe the worst problem in the program is students who just don't want to learn or do not have the time to learn.

### ***Instructor Training***

Some instructors felt that instructor training is the most problematic aspect of the program. Five instructors agreed that the most severe problem with the program is that instructor training sessions are too far away from them. Six other instructors agreed that the lack of instructor training opportunities is the

greatest weakness with the program. One instructor thought the greatest weakness of the program is that instructor training too inflexible, one other instructor believed it to be the fact that training is not mandatory, and one thought that instructor training in bow hunter and hunter education is not integrated enough.

## **Recommendations for Improving the Montana**

### **Hunter Education Program**

**Note:** *In order to implement these recommendations, Montana Fish, Wildlife & Parks (FWP) may want to solicit the help of instructors. A panel of instructors, representing instructors across the state, may be invited to a focus group. A focus group is where individuals assemble to discuss certain issues and is moderated by one trained person. The focus groups could discuss the best possible way of implementing each of these recommendations. A number of instructor focus groups could be conducted to discuss the implementation of these recommendations.*

1. The program needs additional qualified, certified, and competent instructors. Certain areas in the state may have enough instructors, but others do not have enough instructors. FWP can continue to enlist volunteer help, FWP may want to give incentives (such as more awards, special hunting privileges, etc.) to solicit the correct number of quality instructors in every area of the state. The focus groups could generate suggested incentives for use by Montana Fish, Wildlife & Parks.
2. Thirty-one instructors noted that the greatest weakness of the program was the shift in focus from gun safety to hunter ethics and “political correctness.” Instructors who do not want to follow the goals and agendas of FWP should be asked to leave the program. Although a diversity of ideas is needed in every program, all those involved in the program should have similar goals.

If hunter ethics is not a priority for an instructor, then that instructor should not be teaching hunter education in Montana. A lack of instructors may result, but once again, FWP can choose to give instructors incentives to entice quality instructors. Though, with awarding incentives, FWP will have to continue to closely monitor and screen individuals who want to teach. As part of how to selectively choose instructors, FWP may want to initiate an application process for instructor positions.

3. A follow-up study in five years is necessary to determine how effectively gun safety and hunter ethics/responsibility are being taught in Montana. The program needs to be evaluated by outside experts on a regular basis for the rest of the program's existence. As part of the national study on hunter education programs in 1996, recommendations were made that:

Agencies should make internal program evaluations a continuous, regular, and integral part of every hunter education program. The USFWS's (1989, cited in the literature review) Self-Evaluation and Planning Guide for Hunter Education Programs should be utilized as a basic program evaluation tool and upgraded to maintain its usefulness. The internal evaluation should include customer service and program availability, content, and delivery (training methods, etc.).

4. In a national study on hunter education carried out by Duda, Seng, and Young (1996, p.8), it was stated that "monitoring hunter education" is an often identified need of hunter education programs. According to the Montana Hunter Education Coordinator, Tim Pool, the Montana Hunter Education Program does not have a system in place to monitor individual



instructors. Instructors need to be evaluated by other instructors on a regular basis. Lead instructors should attend classes taught by their instructors and critique their teaching delivery. Lead instructors should also be critiqued by other instructors or possibly a team of instructors. Each time an instructor is critiqued, the one(s) doing the critiquing should point out several positive qualities of that particular instructor first and then give some recommendations for improvement. The one doing the critiquing may ask the one being critiqued, "what can you do better"?

5. As far as the greatest weaknesses of the program, the one most often mentioned was the lack of hands-on field training the program offered such as emergency preparedness, survival, first-aid, blood tracking, and marksmanship training. Thirty-nine instructors listed lack of field training as the greatest weakness of the program. The Montana Hunter Education Program needs to make field experience a higher priority. The program is lacking in hands-on training in the field, survival training, emergency preparedness, and first-aid training. The student manual needs more information on these subjects as well. Every course across the state should include field exercises. The length of the course might need to be expanded and more instructors might be needed in certain areas to meet this goal.

Researchers who carried out the national study on hunter education programs (1996, p.9) found this problem to be a problem nationally and recommended that all hunter education programs make "[H]ands-on live

firing” a requirement and “facilities should be made available to do so.” The Montana Hunter Education program should make live firing a requirement for each student. Resources (public shooting ranges and guns) need to be made available if they are not already available to make the live firing requirement possible. The length of the course might need to be expanded in certain areas to meet this requirement and more instructors are needed in certain areas to meet this requirement.

6. Hunter ethics and hunter responsibility are a priority in the Montana Hunter Education Program because Montana Hunter Education officials desire all hunters to be ethical hunters. Montana Hunter Education officials assume that educating a student on hunter ethics will produce an ethical hunter. Hunter education officials desire all hunters to be ethical because ethical hunters are safe, law-abiding, responsible, and will preserve hunting by showing that hunting is an honorable sport. Hunter ethics need to be “incorporated into virtually every component of hunter education, including safety” (Seng, Young and Duda, 1996, p.11). Generally, Montana Hunter Education instructors need to be better at incorporating hunter ethics into every component of the course. The result will be that a majority of the instructors’ teaching time will be spent teaching hunter ethics as it is incorporated into every hunter education topic.
7. There needs to be better communication between instructors in the same community (33 percent of the instructors agreed with this statement). Good

communication must begin with the lead instructors and continue on to all the instructors.

8. A majority of the instructors stated that they thought that a majority of their students have not usually read the student manual and *Beyond Fair Chase* before attending the first class session. It is a requirement of the course that the students read the student manual and *Beyond Fair Chase* before attending the first class. The requirement must more strongly enforced, such as giving an easy test on the materials the first day to see who may take the course. A better option would be to continue requiring students to read the student manual before attending the first, but not requiring the students to read *Beyond Fair Chase* before attending the first class. The students can still be given *Beyond Fair Chase* at the registration and told that they will be required to read it as the course continues. Students can be given daily assignments to read in the book as the course progresses. One way to assure students read *Beyond Fair Chase* is to revise the written student test to include questions from this book.
9. The student manual is currently revised every few years. The next time the student manual is revised, more information on outdoors survival, preparation for hunting (first aid, etc.), and hunting laws and regulations should be added.
10. If the hunting tradition is going to be preserved in Montana, more females need to be involved in the sport. This may be achieved by recruiting more

female instructors in the program across Montana. Program officials should target females when encouraging participation in the program. Seng, Young, and Duda (1996, p. 16) stated the need to encourage "agencies...to continue to work to meet the need/desires of women and other nontraditional constituents. The recommendations include the following:

Agencies should acknowledge and identify the barriers to hunting participation that currently exist, and develop programs and opportunities to reduce these barriers. To accommodate nontraditional constituents, agencies should consider taking the following steps such as: (a) solicit input from nontraditional audiences to determine actual barriers to participation; (b) actively recruit instructors from nontraditional audiences to achieve greater participation and gender/cultural balance among instructors; and (c) develop specialized courses for specific ages, skill levels, gender, culture, and other variables as demand necessitates (p.16).

11. Every new hunter needs an ethical role model to hunt with after taking the hunter education course. A mentor program like the one discussed by Enck (1994) could be encouraged across Montana. How are mentors going to be found? Once again, FWP could offer incentives to ethical hunters willing to be student mentors. Parents should be included as mentors. Mentors should be required to attend a certain portion of the hunter education program with their student. Mentors should be included in class discussions on hunter ethics. Mentors should be asked to participate and help with the field training aspect of the course. Many areas may not have resources to conduct such a program.

12. A strong majority of instructors agreed that a student's family influence a student's hunting ethics far more than the hunter education course. If this is truly the case, parents need to be given knowledge of how to be an ethical hunter. Participating in hunter education classes may educate parents on hunting ethics and help parents be ethical mentors to their children. As a general rule, parents should be required to be actively involved in the course whether this means that they attend some class sessions, read *Beyond Fair Chase* and discuss it with their student/child, attend field training, or something of an equivalent nature.
13. In many areas, the hunter education course needs to be extended in hours and the number of class sessions. Instructors need time to teach all the subjects required of them. Many instructors say they do not have enough time to teach all the subjects required of them and want the course to be longer, but must not have the authority or resources to extend the course in their community. The authority to expand the course time must be given to the instructors in each community. The program does not have a maximum number of hours, as there is only a minimum time requirement that must be met. Resources must also be provided to support longer courses.
14. FWP officials involved with hunter education may want to work with state education officials in an attempt to integrate gun safety and hunter ethics into the state school curricula.
15. Montana FWP needs to update the video library of communities across the

state with newer hunter education videos. Certain areas of the state are lacking visual/teaching aids and need to be supplied with the basics.

16. Additional interactive teaching methods need to be taught to instructors across the state. Role-playing and the DART system (simulated hunting situations using a large screen television and computer software) are effective interactive techniques, but there are other methods available. Cooperative learning, where a class is split up into groups to do projects and learn, is a technique that may be incorporated into the Montana Hunter Education Program. Teaching tools, increasingly prevalent on the Internet, public television, and CD-ROM, may also be incorporated. The ideas given by Wentz (1994) in the literature review of this report will also be useful.
17. Some instructors have problems with officials at FWP. There needs to be more cooperation between the FWP and the instructors if the program is going to run smoothly. FWP officials across the state need to personally evaluate their own relationship with the hunter education program and see where they can improve. Instructors also need to be more cooperative with FWP officials.
18. FWP is encouraged to conduct research to determine the expectations of the public concerning hunter retraining. The agency should offer refresher courses and advanced courses as needed.
19. The student survey must be carried out in the spring of 1999 so those results can be compared with the results of the instructor survey.

20. On average, instructors spend approximately 48 percent of their teaching time lecturing, while spending only 30 percent of their teaching time using interactive teaching methods such as role-playing. As a rule, the instructors need to spend more time using interactive techniques like role-playing, etc., instead of relying so heavily on lecturing.
21. The written student exam may need to be revised as 21 percent of the instructors stated it does not adequately measure their students' knowledge and 25 percent of the instructors said the test was too easy for the students.
22. Close to 27 percent of the instructors did not attend any instructor training workshops during the two years preceding this study. Another 39.1 percent of the instructors attended one training workshop during that same time period. FWP should strive to improve upon this so every instructor receives training at least once every two years.

# Appendix

## Hunter Education –INSTRUCTOR SURVEY

You are giving your permission to participate in this study by completing this questionnaire. Use a number 2 pencil to answer all the questions. Please fill-in a *circle* for every question, make dark marks, and fill-in each *circle* completely. Also, erase cleanly any mark you wish to change. Mark **ONLY ONE** answer for each question, unless the question asks for more. Please answer all of the questions honestly and to the best of your ability. Fill out the questionnaire about yourself and give only your feelings. *If you are a first time instructor*, please fill out the questionnaire on how you will teach your first class. There are questions on the front and back of each page.

### Section 1.

In this section, we will be asking some questions about you and the other instructors in your community.

1. How old are you now?

- |   |                       |   |                       |
|---|-----------------------|---|-----------------------|
| 1 | <input type="radio"/> | 0 | <input type="radio"/> |
| 2 | <input type="radio"/> | 1 | <input type="radio"/> |
| 3 | <input type="radio"/> | 2 | <input type="radio"/> |
| 4 | <input type="radio"/> | 3 | <input type="radio"/> |
| 5 | <input type="radio"/> | 4 | <input type="radio"/> |
| 6 | <input type="radio"/> | 5 | <input type="radio"/> |
| 7 | <input type="radio"/> | 6 | <input type="radio"/> |
| 8 | <input type="radio"/> | 7 | <input type="radio"/> |
| 9 | <input type="radio"/> | 8 | <input type="radio"/> |
|   |                       | 9 | <input type="radio"/> |

An **example** if you are 23 years old: 0

- |   |                                  |   |                                  |
|---|----------------------------------|---|----------------------------------|
| 1 | <input type="radio"/>            | 1 | <input type="radio"/>            |
| 2 | <input checked="" type="radio"/> | 2 | <input type="radio"/>            |
| 3 | <input type="radio"/>            | 3 | <input checked="" type="radio"/> |

2. Are you:

- Female       Male

3. What is the highest level of schooling you have completed?

- Completed Jr. High School or Less
- Some High School
- Completed High School or GED
- Some College and/or Technical School
- Completed College (Bachelor's Degree)
- Graduate or Professional School After College

4. Approximately how many times have you been big game hunting?

- |                                   |                                  |
|-----------------------------------|----------------------------------|
| <input type="radio"/> 100 or less | <input type="radio"/> 501 to 600 |
| <input type="radio"/> 101 to 200  | <input type="radio"/> 601 to 700 |
| <input type="radio"/> 201 to 300  | <input type="radio"/> 701 to 800 |
| <input type="radio"/> 301 to 400  | <input type="radio"/> 801 to 900 |
| <input type="radio"/> 401 to 500  | <input type="radio"/> 901 & up   |

5. How many **times** have you taught a **Montana** hunter education course? (*do not include bow hunter education*)

- |  |                                  |
|--|----------------------------------|
| <input type="radio"/> First Time This Year | <input type="radio"/> 21 to 30   |
| <input type="radio"/> 1 to 5               | <input type="radio"/> 31 to 40   |
| <input type="radio"/> 6 to 10              | <input type="radio"/> 41 to 50   |
| <input type="radio"/> 11 to 20             | <input type="radio"/> 51 or more |

6. If you are also certified to teach bow hunter education, how many **times** have you taught a **Montana** bow hunter education course?

- |  |                                  |
|--|----------------------------------|
| <input type="radio"/> Not Certified        | <input type="radio"/> 11 to 20   |
| <input type="radio"/> Never                | <input type="radio"/> 21 to 30   |
| <input type="radio"/> First Time This Year | <input type="radio"/> 31 to 40   |
| <input type="radio"/> 1 to 5               | <input type="radio"/> 41 or more |
| <input type="radio"/> 6 to 10              |                                  |

7. *In addition to yourself*, how many certified instructors usually teach a hunter education course in the classroom with you?

- |                         |                                  |
|-------------------------|----------------------------------|
| <input type="radio"/> 1 | <input type="radio"/> 6          |
| <input type="radio"/> 2 | <input type="radio"/> 7          |
| <input type="radio"/> 3 | <input type="radio"/> 8          |
| <input type="radio"/> 4 | <input type="radio"/> 9          |
| <input type="radio"/> 5 | <input type="radio"/> 10 or more |

8. When are you scheduled to teach hunter education courses?

- Fall of 1997 only
- Spring or Summer of 1998 only
- Both Fall of 1997 and Spring of 1998
- None of the above

9. How many hours do **you usually spend teaching** during a hunter education course?

- |                         |                         |                          |                               |
|-------------------------|-------------------------|--------------------------|-------------------------------|
| <input type="radio"/> 1 | <input type="radio"/> 5 | <input type="radio"/> 9  | <input type="radio"/> 13      |
| <input type="radio"/> 2 | <input type="radio"/> 6 | <input type="radio"/> 10 | <input type="radio"/> 14      |
| <input type="radio"/> 3 | <input type="radio"/> 7 | <input type="radio"/> 11 | <input type="radio"/> 15      |
| <input type="radio"/> 4 | <input type="radio"/> 8 | <input type="radio"/> 12 | <input type="radio"/> 16 & up |

10. How many guest speakers will participate in the next hunter education course that *you will personally* teach?

- |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|
| <input type="radio"/> 0 | <input type="radio"/> 2 | <input type="radio"/> 4 | <input type="radio"/> 6 |
| <input type="radio"/> 1 | <input type="radio"/> 3 | <input type="radio"/> 5 | <input type="radio"/> 7 |

➔10a-i. These questions ask about the backgrounds of your guest speakers who will be participating in the next course session you teach. Please answer "no" to all if you will not have any guest speakers come to the next course session you teach.

10a. Landowner(s)

- Yes       No       Don't Know

10b. Game Warden(s)

- Yes       No       Don't Know



10c. Another Certified Instructor(s)

Yes  No  Don't Know

10d. Experienced Hunter(s)

Yes  No  Don't Know

10e. Hunting Guide(s)

Yes  No  Don't Know

10f. Member(s) of a search and rescue team

Yes  No  Don't Know

10g. Government leader(s)

Yes  No  Don't Know

10h. School Teacher(s)

Yes  No  Don't Know

10i. Wildlife Biologist(s)

Yes  No  Don't Know

## Section 2.

**Tell us if you strongly disagree (SD), disagree (D), are neutral (N), agree (A), or strongly agree (SA) with the following statements about the state's hunter education program and the course you help teach. If the statement Does Not Apply (DNA) to you, please fill in the appropriate circle.**

11. The courses that I help teach are effective.

SD  D  N  A  SA  DNA

12. The state's hunter education program is effective.

SD  D  N  A  SA  DNA

13. Having three to five instructors would be preferable for teaching a single class in a community.

SD  D  N  A  SA  DNA

14. There are usually too many students in my classroom because the size of the classroom is too small.

SD  D  N  A  SA  DNA

15. There are usually too many students in my classroom because there are not enough instructors.

SD  D  N  A  SA  DNA

16. The course I help teach, teaches gun safety effectively.

SD  D  N  A  SA  DNA

17. The course I help teach, teaches hunter ethics and responsibility effectively.

SD  D  N  A  SA  DNA

18. The state's program needs more female instructors.

SD  D  N  A  SA  DNA

**These statements deal with students and their families.**

19. My students' parents have an opportunity to participate in class discussions of ethics.

SD  D  N  A  SA  DNA

20. I encourage females to take the hunter education course.

SD  D  N  A  SA  DNA

21. The parents and/or other family members of students usually take an active role in the course.

SD  D  N  A  SA  DNA

22. As an instructor, I have the ability to effectively handle students who cause problems.

SD  D  N  A  SA  DNA

23. I feel uncomfortable handling problem students.

SD  D  N  A  SA  DNA

**Here are some statements about hunter ethics and gun safety.**

24. I encourage students to target shoot outside of class time.

SD  D  N  A  SA  DNA

25. Hunter ethics and hunter responsibility are the same thing.

SD  D  N  A  SA  DNA

26. Hunter ethics should be taught as much as gun safety.

SD  D  N  A  SA  DNA

27. Students who pass the course leave the course with the knowledge of how to be an ethical and responsible hunter.

SD  D  N  A  SA  DNA

28. Instructors should spend more time teaching gun safety rather than hunter ethics/responsibility.

SD  D  N  A  SA  DNA

29. Hunter ethics and responsibility should be taught throughout the course.

- SD      D      N      A      SA      DNA

**These statements refer to teaching style, methods and training.**

30. A demonstration is the best way for me to help students learn gun safety.

- SD      D      N      A      SA      DNA

31. Lecturing is the best way for me to teach hunter ethics.

- SD      D      N      A      SA      DNA

32. Encouraging class participation (such as role-playing) is better than lecturing when teaching gun safety.

- SD      D      N      A      SA      DNA

33. Encouraging class participation (such as role-playing) is better than lecturing when teaching hunter ethics.

- SD      D      N      A      SA      DNA

34. Encouraging class participation (such as role-playing) is better than lecturing when teaching hunting laws and regulations.

- SD      D      N      A      SA      DNA

35. Role-playing during class helps students learn to deal effectively with landowners.

- SD      D      N      A      SA      DNA

36. Role-playing during class helps students learn hunter ethics and hunter responsibility.

- SD      D      N      A      SA      DNA

37. All hunter education instructors should attend instructor training workshop(s) at least once every two years.

- SD      D      N      A      SA      DNA

38. Instructor training workshops have helped me to teach gun safety more effectively.

- SD      D      N      A      SA      DNA

39. Instructor training workshops have helped me to teach hunter ethics/responsibility more effectively.

- SD      D      N      A      SA      DNA

40. Instructor training workshops have helped me become a more effective instructor.

- SD      D      N      A      SA      DNA

41. A combination of teaching techniques (guest speakers, role-playing, class discussion, demonstrations, field trips, visual aids, gun handling) is the best way for me to teach gun safety.

- SD      D      N      A      SA      DNA

42. Using a combination of teaching techniques is the best way for me to teach hunter ethics and responsibility.

- SD      D      N      A      SA      DNA

43. Using a combination of teaching techniques is the best way for me to teach most hunter education material.

- SD      D      N      A      SA      DNA

44. Field trips are a valuable teaching tool in hunter education.

- SD      D      N      A      SA      DNA

45. My style of teaching gets students actively involved in the classroom.

- SD      D      N      A      SA      DNA

46. I *guide* rather than *control* class discussions on ethics.

- SD      D      N      A      SA      DNA

47. I would say that my students think I give positive feedback often.

- SD      D      N      A      SA      DNA

48. I have an organized approach to teaching.

- SD      D      N      A      SA      DNA

**These statements refer to the instructor and student materials used in hunter education.**

49. The written student test measures students' knowledge adequately.

- SD      D      N      A      SA      DNA

50. The written test is too easy for the students.

- SD      D      N      A      SA      DNA

51. The book, *Beyond Fair Chase*, is an effective tool for teaching hunter ethics and hunter responsibility.

- SD      D      N      A      SA      DNA

52. Just guessing, I think most of my students have read their manual and *Beyond Fair Chase* before coming to the first class.

- SD      D      N      A      SA      DNA

53. I feel that students should not be allowed to pass hunter education without reading the student manual and *Beyond Fair Chase*.

- SD      D      N      A      SA      DNA

54. A follow-up or sequel to the book *Beyond Fair Chase*, which discusses ethics at a more advanced level, would be useful.

- SD     D     N     A     SA     DNA

55. The hunter education instructor's manual adequately prepares me for teaching classes.

- SD     D     N     A     SA     DNA

56. My students have too much to read (the manual and *Beyond Fair Chase*) before attending the first hunting education class.

- SD     D     N     A     SA     DNA

57. The student manual provides adequate information on all hunter education subjects.

- SD     D     N     A     SA     DNA

58. Hunting companions, family, and friends of students influence the students' hunting ethics far more than a hunter education course.

- SD     D     N     A     SA     DNA

59. I believe that the "five stages of the hunter" talked about in the student manual is correct.

- SD     D     N     A     SA     DNA

60. Videos provided by the Montana Fish, Wildlife & Parks should be used often during course sessions.

- SD     D     N     A     SA     DNA

**These statements are about the classrooms where hunter education takes place in your community.**

61. The classroom(s) that I use for the course are usually large enough for all of my students to meet in comfortably.

- SD     D     N     A     SA     DNA

62. The classroom(s) I use usually have all the equipment that I need—chalkboard, desks, TV/VCR, etc.

- SD     D     N     A     SA     DNA

63. My hunter education classroom(s) provide good teaching and learning environments.

- SD     D     N     A     SA     DNA

**These statements refer to possible improvements to Montana's hunter education program.**

64. An effective way of teaching ethics and safety to students would be to assign each student a hunting "mentor." Each mentor would go hunting with their assigned student and teach him/her to hunt in a safe and ethical way.

- SD     D     N     A     SA     DNA

65. Hunter education courses would help students learn more if they were done more in the outdoors—in natural hunting settings.

- SD     D     N     A     SA     DNA

66. There needs to be better communication between the instructors in my community.

- SD     D     N     A     SA     DNA

### Section 3.

**In the following section, you will be asked to rate some reasons for teaching and you will also be asked to rate the student manual.. Also, we ask about your teaching preparation and your teaching methods. Please answer all the questions based on your teaching methods. We also want to know how much many hours you have done things during a course session. Please answer the questions based on what you have usually done .**

**These questions ask you to rate some reasons for teaching.**

For the reasons for teaching listed below, please rate *their importance* in terms of your *overall motivation* for teaching.

67. To preserve tradition of hunting in Montana  
low      high

68. To increase students' knowledge of hunting laws  
low      high
69. To teach students to use the environment wisely  
low      high
70. To teach students to firearm use/gun safety  
low      high
71. To teach students about wildlife and their conservation  
low      high
72. To instill in students hunting ethics and responsibility  
low      high
73. Because I enjoy being around students  
low      high

**The next questions refer to the student manual.**

Indicate whether or not the student manual has enough information on the following topics:

74. Firearms/Gun Safety  Yes  No
75. Ethics/Responsibility  Yes  No
76. Hunting History  Yes  No
77. Wildlife and Habitat  Yes  No
78. Outdoors Survival  Yes  No
79. Preparation for hunting  Yes  No
80. Hunting laws  Yes  No
81. Wildlife Conservation  Yes  No
82. Dealing with others  Yes  No  
(Hunters, landowners, other land users, etc.)

**These questions and statements refer to how you teach and how you feel when teaching.**

83. My enthusiasm when teaching is generally...  
low      -high
84. My level of comfort when teaching is generally...  
low      high
85. I perceive my level of training as an instructor to be...  
low      high

**For this question, mark one of the five circles that best describes the way you teach. The middle circle means that you rely upon them equally.**

86. When I teach I tend to draw upon...  
Experience      Resource  
Materials

**These questions ask about the way hunter education is currently taught in your community and the way you think it should be taught.**

87. How long (in hours) is the course that you are usually involved in teaching?  
 9 or less  16 to 18  25 to 27  
 10 to 12  19 to 21  28 to 30  
 13 to 15  22 to 24  31 & up
88. Currently, how many class sessions does it take to teach your hunter education course?  
 5 or less  16 to 20  
 6 to 10  21 or more  
 11 to 15
89. How many students usually attend your hunter education class? (Average both your spring and fall classes if you teach both.)  
 5 or less  21 to 25  41 to 45  
 6 to 10  26 to 30  46 to 50  
 11 to 15  31 to 35  51 to 55  
 16 to 20  36 to 40  56 & up
90. How many students *who cause problems* usually attend your hunter education class? (Average both your spring and fall classes if you teach both.)  
 None  5 to 6  
 1 to 2  7 to 8  
 3 to 4  9 or more
91. How many hours should the hunter education course be? (Not what is done now, please give your own beliefs.)  
 5 or less  16 to 20  31 to 35  
 6 to 10  21 to 25  36 to 40  
 11 to 15  26 to 30  41 & up
92. How many class sessions should it take to teach the hunter education course? (Not what is done now, please give you own beliefs.)  
 5 or less  8  11  14  
 6  9  12  15  
 7  10  13  16  
& up
93. How many instructor training workshops have you attended in the last two years?  
 0  3  6  9  
 1  4  7  10  
 2  5  8  11 & up
94. Approximately how many hours of instructor training have you received in the last two years? (do not include travel time)  
 10 or less  201 to 250  
 11 to 50  251 to 300  
 51 to 100  301 to 350  
 101 to 150  351 to 400  
 151 to 200  401 & up

95. How many hours do you spend teaching about ethics and responsibility during a course? (*Remember this question applies to you only and not other instructors in your community.*)

- None                       4 to 8  
 Less than 1               9 to 13  
 1 to 3                       14 to 17

96. Approximately how many hours during the course do you spend going over material from the book, *Beyond Fair Chase*?

- None                       4 to 8  
 Less than 1               9 to 13  
 1 to 3                       14 to 17

**The next few questions ask about how long you usually spend using different teaching techniques during hunter education courses. If you are a first time teacher, answer these questions based on how you will teach your first classes.**

97. a-h. What chapter(s) do you usually teach out of the hunter education student manual? (*Mark either "all" or the individual chapter numbers that apply.*)

- all the chapters  
 or

Chapters

- 
- 1     2     3     4     5     6     7     8

98. How many hours do you usually spend lecturing (any kind of lecturing—with no, some, or lots of class participation) during the entire hunter education course?

- None                       1 to 3                       9 to 13  
 Less than 1               4 to 8                       14 to 17

99. How many hours do guest speakers *usually* spend during your teaching time throughout an entire hunter education course?

- None                       1 to 3                       9 to 13  
 Less than 1               4 to 8                       14 to 17

100. How many hours do you usually spend having interactive class discussions (role-playing) during an entire hunter education course?

- None                       1 to 3                       9 to 13  
 Less than 1               4 to 8                       14 to 17

101. How many hours do you usually spend on field trips during an entire hunter education course?

- None                       1 to 3                       9 to 13  
 Less than 1               4 to 8                       14 to 17

102. How many hours do you usually have students spend watching videos during an entire hunter education course?

- None                       1 to 3                       9 to 13  
 Less than 1               4 to 8                       14 to 17

**Please add your final comments.**

103. What is the greatest strength of the hunter education program?

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104. What is the greatest weakness of the hunter education program?

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