



ADVANCED ARCHERY

Archery Australia Official Coaching Manual

Proudly supported by the Australian Sports Commission



Australian Government
Australian Sports Commission

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First published June 2009
Second Printing June 2011
Third Printing October 2012

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Published by Archery Australia
P.O.Box 54,
Panania NSW 2213 Australia

Preface

This manual builds on the success of the Archery Australia Coaching Program and the Introduction to Archery Manual first published in 1983, 1992 and in 2003.

The Introduction to Archery manual is aimed at instructors and coaches introducing new archers to the sport through Archery "Come N Try"[©] or formal Instruction courses.

The Advanced Archery manual is aimed to support Club and Regional Coaches introducing new members into club activities, assisting them obtain and set up equipment and raising their skill and knowledge.

Archers new to our sport and those in their early years of participation make up the main group needing help and on-going attention. The importance of correctly instructing people at this level cannot be emphasised enough.

Many archers start off on the wrong foot because they have had no-one to teach them the basics of archery technique, correcting their errors, providing guidance to self-identify errors and providing them with general help and advice. The most common problem is new archers who obtain equipment that is unsuited to their physical requirements and ability.

As a consequence, many leave archery because they have been unable to achieve the satisfaction that would have kept them in the sport.

Archers who are taught correct procedures from the beginning will progress quickly and will have less trouble identifying and correcting faults that may creep into their shooting technique.

This manual has been primarily designed for use by Club and Regional coaches and sets out step-by-step methods of teaching archery skills but it may also be a useful tool to archers as reference material.

The other important aspect of this manual is the easy to understand, logical, scientific approach to archery. Unfortunately much of archery is shrouded in mis-conceptions, person opinions and is heavily driven market demands. Many believe the secret to success in archery is directly related to the value of equipment and the amount of accessories and gadgets you purchase.

A study of the worlds best archer see no gadgets, they success is a result of keeping it simple and hard work.

A bow is a simple mechanical device governed by all the laws of engineering and physics, it's the archer, their technique and the errors they make when they shoot that creates the problems and variations that untimely effect an archers performance.

An active Club and Regional coach must keep abreast of new developments in technique and equipment and progressively improve their teaching style and methods, personal attributes and actions which also serve both archers and archery, dignity in manner and dress, support and co-operation with other instructors, unbiased and positive assessment of archery products and encouragement for students toward a life-long interest in archery.

James Larven
Archery Australia Chief Executive Officer, 2012

ACKNOWLEDGEMENTS

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Photographs provided by James Larven

Technical Data provided by James Larven, James Park and Ken Birch

Technical Illustrations provided by James Larven

REFERENCE MATERIAL

Archery Australia Introduction to Archery
Archery Australia Community Archery Instructor Manual
Archery Australia Come N Try[®] Handbook
Coaching Articles by James Larven
Archery Anatomy by Ray Axford

RECOMMENDED READING

Mastering Archery Technique Analysis by James Park
Mastering Bow Tuning by James Park
Mastering Compound Bows by James Park
Archery Anatomy by Ray Axford
Archery Australia Inc National Coaching program
Archery Australia Inc Advanced Coaching Handbook
Archery Australia Inc "Come N Try" Handbook



AUTHOR

James Larven has been involved in Archery for 48 years having held various management positions within ArcheryNSW and Archery Australia Inc.

He is the Archery Australia Inc Chief Executive Officer responsible for the day to day affairs of Archery Australia Inc.

He has represented Australia at 29 times at World Championships and other international events as a competitor (recurve and compound), Team Manager, Team Coach and FITA Official.

He obtained Level 2 Instructor status in 1982 and is recognised as one of the most technically experienced coaches in Australia.

He was the Technical Operations Manager and later the Competition Manager, for the Sydney 2000 Olympic and Paralympic Games.

He has an extensive coaching background having coached a number of recurve and compound archers to National and International representative status.

PRINCIPLES OF TEACHING

The fundamental skills of any activity must be developed and mastered before the more difficult and complex advanced techniques and strategies can be effectively taught. The basic skills act as a framework for building more complicated and involved aspects of the sport. To this end the preliminary stages of teaching should emphasise the fundamental skills. It should be remembered that this process involves not only “how” the skill is performed but also “why” it is used. Thus the teaching and the practice of the skills should not be divorced from the sport itself.

2.1 Points on Teaching Skills

- a. Before any new skill is taught, it should be introduced by a demonstration, explanation, video or picture so that the student has a clear idea of what is required.
- b. The student should be permitted to practise the whole skill, keeping in mind the demonstration and what is to be achieved.
- c. The student should be given an assessment of their performance. Minor variations in style should not be changed. Corrections should be made where there are errors that affect the outcome of the skill. The instructor should assist the student in recognising and correcting the errors.
- d. Practice should be continued, each performance being accompanied by some commendation and praise for good achievement together with further details of the correctness or effectiveness of performance.

2.2 Learning a New Skill and Assessment of Performance

The process of learning a new skill may be seen to involve the following steps:

- a. The student **attempts** to reproduce the skill in terms of the idea or plan formed from the demonstration and explanation.
- b. The student has to be **aware** of the differences between the performance and what is to be achieved.
- c. The student has to then **locate** the cause of any differences.
- d. The student has to then know what **corrections** or **modifications** to make in order to improve performance.

The student may have difficulty at one or more of these stages. It is the **art** of the instructor to recognise these differences and assist in the most effective way.

In addition to these basic procedures, certain other aspects of teaching and learning should be kept in mind.

During the initial learning stages of a new skill the pressure of stress and time restriction should be reduced so that correct procedures may be developed. Any diagnostic or remedial teaching that is necessary should be firstly conducted without stress until corrections have been made.

Finally, the purpose of teaching is to provide the student with a repertoire of the fundamental skills that can be used effectively and reliably in competition. Each skill will be of little benefit unless it can be consistently and confidently performed.

The basis of all sports performance depends on the reliable use of the fundamental skills of the sport.

The aim of teaching and coaching is to consolidate as well as to increase the repertoire of effective and reliable skills.

PSYCHOLOGY OF COACHING

3.1 Learning and motivation

Some considerations involving psychology that instructors should be aware of:

- a. All sports involve learning patterns of movement over long periods of extended practice. How can this learning be most effectively accomplished?
- b. What kind of practice is most effective, e.g. short periods used frequently or longer periods used less frequently?
- c. People learn by making slight adjustments and modifications to their response or movement patterns but they must know what modifications to make and how to make the changes. People use knowledge of results and feedback to learn.
- d. Learning is most effective if rewarded or reinforced.
- e. Learning is also dependent upon the level of motivation of the student. Motivation is related to the goals, objectives, incentives, interests, needs and drives of the student.
- f. The performance of the individual depends on the level of learning (and training) attained. The distinction between learning and performance is important for this indicates the expected level of achievement that may be reached.
- g. Performance depends also upon motivation at that particular instant. What are the incentives to win? Is the student prepared to try harder?
- h. Performance depends upon many other psychological factors such as fatigue, anxiety and emotional stability.
 - i. Many of these psychological factors are closely related to the personality of the individual.
 - j. Personality will influence the effectiveness of certain types of motivation and incentives (in particular the use of rewards).
 - k. Personality will influence the individual's reaction to different types of instruction, e.g. authoritarian, democratic, paternal or laissez-faire.
 - l. Social factors are also involved, such as the degree of co-operation and communication between individuals and the instructor.

3.2 Psychology of Learning

Learning is a relatively permanent, enduring change in behaviour as a result of practice or experience. The learning of skills involves the formation of new, effective patterns of movement.

3.3 Phases of Learning

- a. **Initial phase:**
Movements (based on previous experience) are linked together in a trial and error sequence. There must be a model or a plan on which to base the development of the sequence.
- b. **Consolidation Phase:**
This part involves the elimination of waste movements and muscle activity and a reduction in the amount of effort. The timing of the phases of movement becomes more accurate.
- c. **Refinement phase:**
This part involves the precise co-ordination and timing of all movements. The performance becomes very consistent and some movements occur automatically. This phase of learning may continue over a very long period.

3.4 The Instructor and the Learning Process

Students can learn a skill with the assistance of an instructor through the following sequence:

- a. **The formation of a plan or model:** This involves demonstration by the instructor of the technique or style to be used.
- b. Students must **attempt** to put this plan into action. They will do this on the basis of previous movement experience plus guidance from the instructor.

- c. Students must recognise the **discrepancy** between the plan and their own attempt. The instructor can assist at this level by explaining and describing errors and discrepancies (error and information feed back).
- d. Students must make the appropriate correction. The instructor should be able to describe what changes need to be made.
- e. Students attempt the corrected skill. This process is repeated over and over.
- f. The instructor must motivate students and provide incentives so that interest is not lost during the learning stage.

3.5 Some aspects of Learning in Coaching

- a. The student must want to learn. This depends largely upon motivation.
- b. The student must be physically capable and mentally capable of learning skills.
- c. Do not try to teach too much at once. It is better to concentrate on one aspect at a time.
- d. Learning will only improve with specific practice.
- e. Practice sessions should be spaced fairly evenly and not too far apart.
- f. Learning proceeds most rapidly at first and then slows and reaches a plateau.

3.6 The Psychology of Motivation

Motivation may be regarded as those factors that direct behaviour towards some particular outcome or goal. Different people can be motivated in different ways. In sport, motivation is concerned principally with **arousal**. Arousal concentrates the state of readiness or preparedness. Asleep we are at a very low level of arousal. We are at a very high level of arousal when driving a car in traffic, when teaching or when about to start in a race.

In general, the greater the arousal level the better the performance. However, it is possible to become over-aroused and then performance will tend to fall off.

An optimum level of arousal can be developed by:

- Providing **goals** e.g. standards of performance to be reached (achievement scales, awards, club and state championships, etc.). These goals should be progressive and attainable.
- Providing **incentives** e.g. give some recognition or reward at each level or achievement, medallions, certificates, etc. Plot performance on charts and compare progress with other people and standards.
- Developing **interest** e.g. by showing films of performances, using guest speakers and demonstrators, and through the use of books.
- A wide **variety** of techniques and materials used by the instructor.

If arousal can be maintained through the use of goals, incentives and by developing interest, students are receptive to learning and boredom, monotony and “staleness” will be minimised. If, however, students are over-aroused for prolonged periods they may develop “staleness”.

3.7 Coaching Young Archers

The purpose of instructing juniors in a new activity is to provide them with a range of fundamental skills that can be used reliably in a consistent and confident manner in competition or just for the enjoyment of their chosen sport.

To successfully instruct juniors it is necessary to be aware of the reasons for their involvement with sport.

These reasons are: -

1. To have fun.
2. To make friends.
3. To feel good.
4. To learn new skills.

There are no fixed rules regarding the minimum age that needs to be adhered to in introducing juniors to archery but if size, strength and co-ordination are taken into account age 9 to 10 is considered to be an appropriate minimum age for formal instruction.

The bodies of young archer are still growing and developing, therefore the physical development of young archers must be taken into account before instruction, to ensure that no adverse strain is placed on the skeletal structure or joints that could cause adverse physical problems later in life.

The most important criteria in junior development is to ensure, regardless of strength, size or gender, that **the young archer is not overbowed** and instruction in correct basic form is given to ensure that the skeletal structure takes the load when shooting a bow.

The number of training periods and length of training sessions should also be considered. Frequency and length of instruction should be planned to ensure that they are not excessive. Other forms of exercise should be recommended to maintain a balance of muscular development in the young archers. Long-term exercise programs should ensure rest periods to allow the body to rejuvenate and grow.

Warm up and/or stretching exercises need to be introduced to enable the young archer to develop good habits and reduce the risk of injuries.

Good instruction for juniors is dependant upon good lesson planning and the conducting of the lesson in a clear, concise and methodical manner at a level that they can understand.

3.8 Efficient Learning

Learning is most effective during a state of optimum arousal.

Learning is also dependent upon motivation, in particular through the provision of:

- **Plans**, Details of techniques, methods and skills through the use of films, demonstrations and instruction.
- **Knowledge of results**, Letting the students know what their performance was like, what was correct, what was wrong and how errors can be eliminated.
- **Re-enforcement**, Praise and compliments for a good performance, certificates, badges or medals etc. Each effort should be reinforced or rewarded.

3.9 Some aspects of Motivation in Coaching

- a. Motivation is an essential part of an effective learning situation.
- b. The following incentives are effective motivators:
 - **Praise** – verbal encouragement (at the right time)
 - **Material rewards** – badges, medals, trophies etc.
 - **Individual rivalry** – competition between two persons.
 - **Self-competition** – trying to better one's own performance.

- **The presence of an audience** – the effect of the audience often depends on the personality of the individual, e.g. some people can become anxious and worried, while others lift and perform better.
- **Standards** – e.g. level of fitness to be maintained.
- c. High levels of motivation are necessary when training is prolonged or intensive.
- d. Variation in the methods of motivating is required if monotony and staleness are to be minimised.
- e. The form of motivation should be related to the individual person. For example, some people perform better under criticism rather than praise; some become very anxious if they are criticised and need lots of encouragement. The instructor must get to know the students as individuals.

3.10 Group Management

At the start of a class, the instructor meets for the first time a group of people of diverse personalities and abilities. As the progress of the class is affected by the interaction between the instructor and the class as a whole, instructors must manage the group by utilising proven procedures, such as;

- a. Adjust to the personality of each student
- b. As far as possible give each student the same amount of time and consideration.
- c. Use every means to convey to the class the idea that their individual development and success is important.
- d. Give recognition for achievement when appropriate and never be personally critical.
- e. Promote personal appeal by:
 - Maintaining a friendly demeanor.
 - Personal conduct and appearance.
 - Displaying a sense of humor.
 - Quickly learning the names of students. Making eye contact.
- f. Be business-like by:
 - Plan lessons properly.
 - Informing students on all aspects of the course.
 - Answering questions fully and promptly
 - Reviewing each session and making plans for improvement.
 - Developing teaching procedures and teaching aids.