

ADAPTING ARCHERY INSTRUCTION: INCLUDING STUDENTS WITH DISABILITIES IN PHYSICAL EDUCATION



Archery is a popular recreational activity enjoyed by many people. This is a reason for promoting it among students with disabilities. After receiving instruction, practice, and acquiring the skills of shooting a bow and arrow, they can take part in one more physical activity with family and friends.

The activity can be adapted for individuals with various skill levels. With instructional emphasis on personal skill development and a classroom environment that encourages everyBODY to participate to the best of their abilities, each student can benefit and inclusion can flourish.

It is in physical education at the junior high/middle school level that the foundation of sport skills are established and then applied during intramural and community recreation programs. Whether students with disabilities go on to join a disability sports program in the community or recreate with family and friends, they need the same instructional opportunities as their classmates without disabilities.



Assessment

Evaluate each student's present level of archery skill for probability of success. Assess previous experience, fitness level, motor functioning, attitude toward his/her disability, and willingness to participate.



Safety Considerations

1. Present activities according to the student's physical characteristics and capabilities, as well as his/her mental age.
2. Deafness and hearing impairment: In cases where hearing loss is present, it is advisable to avoid participation when there is excessive change in temperature, excessive wind, or dampness. If exposure is unavoidable, the child should wear ear plugs.
3. Orthopedic impairment: Be sure the archery range is free from all obstacles. Instruct amputees and other physical disabilities on the proper methods of falling.
4. Asthma: Activity should occur in areas that are minimal in dust and allergic substances.
5. Know the difference between insulin shock and diabetic coma and how to administer first aid. Coordinate activity with food intake and insulin injections.
6. Visual impairment: Use bright colored equipment when students are partially sighted. Be sure to establish audio signals for beginning and ceasing fire.



Instructional Adaptations

The following ideas are designed to facilitate the inclusion of students with disabilities into general physical education during instruction in archery. Successful

participation for some students requires equipment which has been adapted to their particular needs. Requests for purchase or construction of equipment can be facilitated through the Individualized Education Program (IEP). If special equipment is necessary to help a student progress in physical education, then it should be identified at the Case Conference and included on the IEP form.

General adaptations can include:

1. Use kinesthetic teaching.
2. Employ the buddy system.
3. Stack bales of hay around the target. This will make the retrieval of arrows much easier.

Specific adaptations for associated disabling conditions are listed below. The adaptations are provided in categories by disability in order to facilitate easy access to the information. However, each student with a disability is unique and capable and should not be limited within a category.

Cognitive and Sensory Disabilities

Deaf/Hearing Impairment

1. Establish basic hand communications.
2. Have a general outline of what will be covered in class written out in advance.
3. Utilize lights to begin firing (green) and cease fire (red) or use drum beats (drum placed on the ground) to indicate begin or cease firing.
4. Place the student on the end of the firing line (Left side, if right handed. Right side, if left handed) so the student can see entire class and teacher.
5. Speak at a normal amplitude, even speed, and always facing the students.
6. Have students wear protective ear gear during windy or cold weather.

Mental Retardation

1. Present instruction slowly and clearly.
2. Use demonstrations and emphasize imitation.
3. Give brief directions and repeat them often.
4. Provide motivating targets (i.e., balloons, faces, animals, etc.) and change targets frequently.
5. Enhance successful experiences (short distance, light bow, large target, etc.).

Visual Impairment

1. Orient the student to the target, bow, and distance to the target.
2. Use foot blocks to be certain the student is always facing the target.
3. Path to the target should be made of a unique texture surface (cement, carpet, low cut grass).

4. Use of guide wire to the target may be needed until the student can use the unique textured surface.
5. Place an audible goal locator behind the target.
6. Target face—
 - a. At first, the target can be entirely covered with balloons so the students know when they have hit the target.
 - b. For partially sighted students, paint the center of the target bright yellow or cover it with bright yellow balloons.
7. Scoring—
 - a. A string can be attached to the center of the target with knots tied corresponding to the width of the colors. The student can take hold of the knot in each score area and follow it around to see if there are any arrows in that area. Mark knots with Braille numbers corresponding to the value of the score area.
 - b. Target face colors could be painted with different textures paint (sand base every other color).
 - c. Have buddy supply immediate feedback upon contact of arrows (high or low, right or left of bullseye) so student can zero in on the center of the target.
8. If the student is partially sighted—
 - a. Use bright colored arrows with a yellow cock feather.
 - b. Put yellow tape on the bowstring where the arrow should be nocked.
 - c. Paint a line leading to the target with bright yellow paint.
 - d. Use bright colors for the target face and use black paper to cover the bales of hay.
 - e. Paint the foot blocks yellow.
9. Establish an auditory signal for retrieving and beginning shooting.
10. Be sure to have a bow rack and quiver. This will make the location of the bow and arrows easier than if they were simply places on the ground.
11. Changes in sighting procedure
 - a. Assistance in locating shot arrows
 - b. Guide wire from shooting area to target.
 - c. 8-12" stick placed on ground pointing in direction of target to orient student.
 - d. Two poles placed in ground and aligned with target to help determine correct amount of pull (one pole where extended hand should be, the other pole where the back of the wrist of drawing back hand should be).
 - e. Tape on pole marking accurate sighting.
12. Students can be taught to feel the correct way to nock the arrow in the bow.
13. Place an audio signal at the target (bell, buzzer).
14. Secure a rope from the shooting line to the target to prove a guide for retrieving the arrows.
15. Make targets out of various textures (velcro, sandpaper, paper).

Psychomotor Disabilities

Orthopedic Impairment

1. Minimal modifications are needed for students who use wheelchairs with adequate upper body strength and coordination.
2. Students with gripping difficulties should use assistive devices (trigger, wrist or mouthpiece release).
3. Wrist and elbow support would also aid in aiming.

One Arm Involvement

1. Use an adjustable bow holder. If student does not have a prosthesis, have him/her pull the string back with functional hand.
2. If the student has a prosthesis, it may be possible to strap the bow with velcro to the prosthesis.
3. Attach anchor low to pole (volleyball standard).
4. Use wrist support for students with limited hand strength.

Two Arm Involvement

1. Use an adjustable bow holder; have students pull the string back with their teeth; a buddy can assist.
2. Use a crossbow (bow cocked by assistant/sighted and shot by student).

One Leg Involvement

1. Students can either shoot from a chair or use crutches to support their weight.
 - a. Tilt the body toward target, put weight on front crutch (prop) to free other arm to draw.
 - b. Sit in chair if there is difficulty balancing.

Two Leg Involvement

1. If students are having difficulty in the beginning, they can use a bow holder which attaches to their wheelchair.
2. Position the front of the wheelchair perpendicular to the target.
3. Make sure the targets are low so that students are able to retrieve the arrows.
4. Surface to the target must be smooth so that the wheelchair will move easily.
5. The range should be on level ground.
6. Does not require rigorous movement; turn chair to side and reach over side to draw bow.

Other Health Impairment

Asthma

1. The range should be on a surface that is as dust free as possible. Avoid grass surfaces that were recently cut.

2. Avoid or reduce exposure to cold.

Cardiovascular Condition

1. Have the student shoot from chair, if the condition is severe, or have a chair available for students to sit down while waiting for other students to finish shooting.
2. Do not rush students when retrieving arrows.
3. Have a buddy retrieve the arrows that are a great distance past the target.

Diabetes

1. Archery is not a very strenuous sport and should not present any problems for the student with diabetes.
2. Be sure the wrist guard is not restricting circulation.

Barriers to participation in archery and other sports by individuals with disabilities are decreasing. More than ever, physical education teachers must endeavor to read professional journals, attend conferences and workshops, and join professional organizations to avail themselves of information on how to teach specific sports to their students of varying skill levels. Being an informed professional is half the battle in allowing students with disabilities to gain access to lifetime sports like archery.



Resources

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This information was developed by Nikki Sieracki,
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The adaptations and teaching strategies contained in this document are only suggestions. Each student must be considered individually, and in many cases, a physician's written consent must be obtained.