Today’s strength and conditioning specialist has a greater volume of knowledge available than ever before. Although many questions regarding optimal training methods have yet to be answered, research has made great progress over the past twenty years in defining the general boundaries of effective training. The successful strength and conditioning specialist not only stays abreast of the current research, but is able to apply it to the local environment. This “bridging the gap” is a major goal of our association.

Each of us has a different environment to work in. The variations can be quite extreme. My whole career thus far has been coaching and teaching on the Navajo reservation. This is a nation within a nation. English is a second language here and most families are still without the often taken for granted luxuries of electricity and running water. Poverty is widespread. In a unique situation such as this, certain adjustments must be made to provide an optimal strength program for our situation.

Some of our experiences may be valuable to others who work with population groups who are on the lower end of the socio-economic ladder.

Some general characteristics that would influence program design for such a population include:

1. **Nutrition** - A balanced diet may be very difficult to obtain. Economic factors and/or cultural habits, if you’re working with a special ethnic group, will influence the athletes’ diets. A common Navajo breakfast is frybread, potatoes, and coffee, if the family eats breakfast at all. Lack of electricity and therefore refrigeration precludes the consumption of fresh fruits, vegetables and dairy products to a large degree. We do our best to teach our athletes how to obtain a balanced diet in the context of available food sources, but realize that it is often a very difficult struggle.

2. **Rest** - Coupled with poor nutrition, adequate physical rest can also be a problem. In some environments prospective athletes may have to work or fulfill chore responsibilities. Many of our Navajo students must tend livestock, chop wood, or haul water early in the morning until late into the evening. This further depletes limited recuperative capacities. In some cases homelife is unstable or living conditions are overcrowded. The constant turmoil makes the establishment of routine sleeping habits impossible.

3. **Time** - The above mentioned responsibilities combined with the remote environment (many of our students live 30 miles away, most on rough dirt roads) limit the amount of time we can train. For the most part, training must take place inside of school hours.

4. **Motivation** - When working with lower socio-economic groups where mere subsistence is a struggle, motivation to train can be a problem. Training and participation in activities is often viewed as superfluous by the community and support must be carefully solicited. Athletic scholarships, pro contracts and other rewards which could serve as motivators seem too distant to be effective. Alcohol, drugs, and suicide are all too common methods of escaping a harsh environment.

The problems associated with training a lower socio-economic group are not limited to the above factors, but we have found them to be major considerations. While the examples cited are specific to the Navajo reservation, the concepts could also apply to other groups or even inner-city areas.

With such factors to contend with, how does one design an effective strength and conditioning program? Dr. William Kraemer, C.S.C.S., often prefaces his presentations on program design with the admonition
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Mac Wilkins is recognized, worldwide, as the greatest discus thrower of all time. He has won every possible competition and held every possible record. A noted authority on track and field throwing events, Mac is equally recognized for his knowledge of conditioning, weight training and strength development, nutrition and motivation.

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to begin by designing the optimal program first, then adapt to environmental limitations (1).

Program variables which can be manipulated to compensate for the above mentioned factors include:

1. **Volume** - Because recuperative powers are minimal, the volume must be low. A high volume program would only overtrain the limited recuperative ability as well as exceed time limitations. Low volume will translate to short duration (1, 2, 3).

2. **Frequency** - In consideration of recuperative abilities and time, training must be less frequent than what might be normally recommended. While most programs train three to four times per week in the off-season and two times per week in-season, we've found two sessions per week year around to bring best results for us. We concentrate on heavy-heavy during the off-season, heavy-medium during the in-season. We train the total body each session (1, 2, 3).

3. **Intensity** - With low volume and low frequency we've found we can keep the intensity high both in terms of load and time. Generally we work at 90 to 100 percent of the RM for the desired number of reps in the micro-cycle on heavy days and 75 to 85 percent on medium days (1, 2, 3).

4. **Choice of Exercises** - Our strength training sessions are normally limited to three multi-joint, core exercises per session with the potential to prescribe assistance exercises on an individual basis, although this is done very sparingly. We consider our core movements to be the squat, the power clean, the bench press, and the deadlift. We also do pull-ups with a pronated grip, neck work, and abdominal work each session. These movements are very efficient in terms of allowing us to have an intense total body workout while keeping volume, duration, and frequency low. The major muscle groups are developed in balanced proportion, preventing imbalance problems. With absolute insistence on correct technique and spotting procedures we've had no injuries in four years. The athletes follow a set flexibility program before and after lifting. We use multiple sets and follow a four week meso-cycle (see Figure 1).

All workouts are recorded on charts which are kept on file in the weightroom. Progress is steady and recorded in black and white. We also use extrinsic motivators such as a record board for recognizing the top three lifts in each of the four core movements in 10 different body weight classifications, T-shirt awards, pictures of our athletes, and an annual Strength and Conditioning Competition. While these are helpful and add some fun to the program, it's the individual progress that holds the athletes in the program. As they see progress, confidence grows. With confidence comes an increased desire and ability to succeed. This desire and ability extends beyond the weightroom and we begin to see positive changes in all areas of the athletes' lives. Progressive resistance programs can build much more than mere muscle tissue.

This is the real reason we are in the business, to help individuals to see, understand, and reach their potential. Working with underprivileged groups can be challenging and, at times, frustrating. The temptation to use our coaching skills in an area with greater potential for accomplishment often beckons. But as we see our athletes beat great odds and rise above obstacles most people cannot comprehend, we get a whole new perspective on that elusive goal we call success.

References


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**Figure 1. Monument Valley Strength Training Program**

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
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<tbody>
<tr>
<td>Squat</td>
<td>3 x 8</td>
<td>5 x 5</td>
<td>3 x 3</td>
<td>5-4-3-2-1</td>
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<tr>
<td>Bench Press</td>
<td>3 x 8</td>
<td>5 x 5</td>
<td>3 x 3</td>
<td>5-4-3-2-1</td>
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<tr>
<td>Deadlift</td>
<td>3 x 5</td>
<td>3 x 5</td>
<td>3 x 3</td>
<td>5-3-1-1-1</td>
</tr>
<tr>
<td>Pullups x max/BW, AB crunches x max, neck harness x 4 ways</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Day 2**

| Power Clean | 3 x 5  | 5 x 5  | 3 x 3  | 5-3-1-1-1 |
| Jump Squat or Box Squat | 3 x 8  | 5 x 5  | 3 x 3  | 3 x 5 |
| Towel Bench Press or Push Press | 3 x 8  | 5 x 5  | 3 x 3  | 5-4-3-2-1 |

Pullups x max/BW, AB crunches x max, neck harness x 4 ways

*Training is done on two non-consecutive days; Monday-Wednesday or Tuesday-Thursday.*
Meet the Strength and Conditioning Professional:

John Waters

Self-appointed, self-motivated, self-proclaimed, self-scheduled, and unpaid best describe the strength coordinator, John Waters, at Big Foot High School, Walworth, Wisconsin. It may also describe the numerous other strength coaches practicing safe, sound, scientifically proven strength programs at smaller high schools across the nation.

In a period of declining public school enrollments and escalating costs, it is quite unrealistic for a school of 450 students to have a paid strength coach. Other needs such as learning materials, books, supplies, and teaching staff rightly take precedence. Realizing time and service are on a volunteer basis, the dedicated educator/coach does not let this inhibit the tenacity in which he/she attacks the strength program.

With this attitude, I have served the athletes, students, and coaches of Big Foot High School for the past few years.

As a native of a Chicago suburb, I graduated in 1967 from Homewood-Flossmoor High School and embarked on a journey to University of Wisconsin-La Crosse with intentions of attaining a physical education major. UW-La Crosse is noted for their physical education program, and I was unaware they would expect a physical education major to possess the ability to run around things as well as through them! After a semester of stress testing their high jump bars and creating kindling out of hurdles, we came to the mutual agreement that I should transfer to the biology department!

While at La Crosse, there was a direct correlation between the rising cost of out-of-state tuition and the quantity of loose change in my pocket. As one increased, the other decreased. A basic law of economics, which resulted in my subsequent transfer and graduation from Western Illinois University where I received a Bachelor’s degree in biology education and a minor in educational media.

Retained by Big Foot High School in the fall of 1972, my duties were numerous and varied. They included teaching biology and serving as media director, head wrestling coach, and assistant freshman football coach. (As a point of information, Big Foot’s population does not consist of seven-foot, furry creatures that have their knuckles dragging on the ground!) While at Big Foot, I returned to La Crosse and received my Master’s degree in educational media in 1979 and now serve as the media director, head football coach, yearbook advisor, and strength coordinator for the schools’ 450 students.

In the role of strength coordinator, I became involved with the NSCA through a LiftAmerica flyer addressed to the “weightroom supervisor” in the fall of 1983. The program seemed interesting and a possible means of motivating lifters while helping others, and the decision was made to get involved with LiftAmerica. Since that first Lift-A-Thon in the spring of 1984, Big Foot’s contribution has been a pledged total over $50,000. Not only has it financially assisted the mentally retarded athletes associated with Special Olympics and the work being accomplished by the NSCA, participation in LiftAmerica has renewed Big Foot’s strength program. Attendance is up; intensity is heightened; community awareness and support is present; equipment is being donated; money is being allocated for the program; and, most of all, athletic strength is being developed—all from participation in LiftAmerica.

This association with LiftAmerica/NSCA led to a truly respectful and humbling association with Wisconsin Special Olympics. Service is given to the brave athletes not only from LiftAmerica participation but through service as their photographer. Producing promotional and publicity material for them as well as a 100-page yearbook displaying the commitment and determination of the athletes has been particularly rewarding. Working directly with the athletes, I have served as a volunteer at their State Games and have supplied volunteers from Big Foot for the bowling tournament. I have witnessed the courage these athletes possess and by serving on the state’s fund-raising committee, the tremendous monetary needs of the thousands of Wisconsin Special Olympians. With the assistance of Jacque Kennedy, executive director of Wisconsin Special Olympics, it is my desire to have LiftAmerica grow and establish itself as a major financial contributor to Wisconsin’s mentally retarded athletes.

I sincerely urge every member of the NSCA to get involved with LiftAmerica and in turn, their local and state Special Olympics. Each of us has unique personalities, characteristics, and attributes which will be valued and utilized by Special Olympics. When involved, a different outlook on athletic ability, dedication, commitment, and determination will be gained.