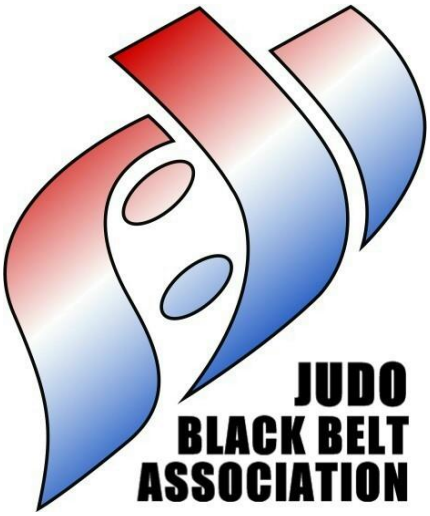

COACHING IS TEACHING: THE ART & SCIENCE OF COACHING JUDO

COACHING IS TEACHING

By Steve Scott

Teaching is the heart and soul of what a coach does. It is certainly true that not all coaches are great teachers, but the great coaches are indeed great teachers first and foremost.

Coaching isn't easy and not everyone is cut out to be a coach. Getting into coaching is a decision that should be thoroughly examined before taking the plunge into doing it. Being a coach isn't a glamorous life. It takes a passion for teaching and working with people, as well as the humility to realize that the coach's role is to never be in the spotlight. Sure, there are famous coaches in all sports, but the reality is that judo (or sambo, jujitsu or grappling) coaches generally don't become rich or famous. Coaches are the people who are behind the scenes providing the necessary support and guidance to the athletes who are the one standing on the podium. In all honesty, there are some people who should not get into coaching. It is imperative that a coach have a stable personality. As John Saylor said; "No matter where you go, you take yourself with you." This is especially true for coaches. A coach's personality directly affects how he or she will coach. I have often said that "personality goes a long way in coaching." So, before anyone makes the decision to get into coaching, it is a good idea for that person to objectively evaluate his or her strengths and weaknesses and base the decision on getting into coaching on that. It doesn't take a saint to be a good coach, but every coach should live a life above reproach.

A good coach is the same as a good parent in many respects. Often, a coach will mentor a student or athlete and serve as a surrogate for a parent. Firm (but not abusive) discipline, good moral direction, the teaching of good skills, teaching mature behavior and generally being a good, positive role model are some of the jobs that a coach has.

Another way to look at it, a coach, in some respects, has the same job as a lawyer does for a client. The coach will represent the best interests of the athlete and provide good, sound advice when necessary. A coach has to be selfish for his team; not selfish in the sense that the coach defends the actions of the athlete, right or wrong, but selfish in the sense of being the person who represents the best interest of the student, even when the coach has to discipline the student. The coach must show affection when a student is good and discipline when the student is bad. In all cases, when a coach disciplines an athlete, it should never be personal. The coach must remember that he or she is the teacher. Try to turn every bad situation into some kind of lesson (but at the same time don't preach to a student). Like a parent, a coach is responsible for teaching life's lessons to his or her students and athletes.

The coach is the person who is always there. He or she is the person who is on the mat whether a big crowd shows up for practice or if a small crowd shows up for practice. The coach is always there. The coach is the stability that keeps the club going and thriving. The coach should always be on time. In fact, on time is actually late-the coach should show up early. This

means that the coach should show up earlier than the athletes to make sure the practice or workout will go as smoothly as possible.

Shut Up and Teach: The coach is there to teach, not show off. We've all seen coaches who are in love with their own voices. The best advice is to "shut up and teach." That doesn't mean that the coach must not explain the necessary things for students to learn something, but it does mean that long-winded monologues, telling "war stories" about the coach's glory days and straying off the topic are detrimental to the learning and training process. The coach is there to teach skills and provide a safe and beneficial training session. When teaching a technical skill, the coach must explain and demonstrate the skill in such a way that the students on the mat can best comprehend it, practice it and apply it. Another aspect of this is that the coach must realize what his or her purpose is. It's to teach judo, sambo or the other related grappling sports or martial arts-not to discuss politics, religion or other social commentary that is not directly related. Judo is the type of activity that anyone of any religious, political or social background can benefit from.

A Black Belt Doesn't Equate to Being a Coach: Another consideration is that being a black belt does not qualify a person to be a coach. Belt rank is an indication of the skill or expertise of the person wearing that belt. Possessing personal skill is much different than being able to teach that skill to other people. This is why coach education is important. While some people have an inherent proclivity or ability in teaching, even they have to study how to apply the art and science of teaching and coaching.

Judo is First and Foremost Physical Education: Judo is first and foremost a method of physical education. As part of that physical education process, the development of good character is included. Professor Jigoro Kano developed a three-pronged approach to the Kodokan judo he developed in 1882 by stressing physical development, character development and practical implementation (self-defense and sport). More on this is discussed later.

Patience is a Virtue: Taking repeated and hard falls is one factor, but the difficulty of learning and mastering standing body movement and throwing techniques requires a great deal of patience and effort (as well as qualified coaching by coaches who actually teach it well so that it is functional and effective). This is a "long learning curve" as opposed to learning groundfighting skills which require less time to learn and master in a "short learning curve." A coach's challenge is to retain students long enough so that they are able to perform controlled throwing movements and achieve some success in individual mastery of skill in technique (even at a basic level of skill mastery). When it comes to learning and mastering skill, patience is a virtue for both the coach and the athlete. It takes time, effort and a lot of patience on the student's part and certainly on the coach's part to achieve this. In today's culture of "instant gratification" where quick results are expected, a slow and sometimes tedious (even with the most gifted coaches and gifted students) approach to learning how to perform skillful throwing techniques by the student can be difficult. There are numerous factors that determine success, but one of the most important in learning and mastering the control of movement is patience. This application of patience takes place at practice and is best developed if the coach uses a structured and systematic approach to skill learning.

The Formation of the Athlete or Student: A coach must always keep in mind that everything that is connected with an athlete's preparation for success in a sports competition is a major part of the formation of that student or athlete as a human being. In the process of training an athlete, the coach is also forming the athlete's personality. It is impossible to divorce training an athlete for a sport, especially a fighting sport, from that athlete's life outside of the sport. Look at how many physically talented athletes have played professional sports only to be morally bankrupt and end up in a lot of trouble. Just because a kid can run fast, hit hard or jump high doesn't make him a stellar human being. What is called "sportsmanship" is really the morality of sport. In similar ways that a young man or woman is shaped for the rest of his or her life by combat experiences in war, an athlete is shaped by his or her experiences in sports. The physical, mental and emotional occurrences that take place when humans experience them, especially those events that take place when a person is placed under stress, shape and form that person for a lifetime.

Coaches must be keenly aware of this and take great care to provide good virtuous and honorable ethics as part of the overall training program of athletes. As has often been said; "winning is more fun than losing." However, if an athlete has to cheat to win, then there is no honor in winning. If there is no honor in it, then there is no real achievement in winning. So then, coaches who look the other way when an athlete uses a banned substance, cheats or does anything illegal are not doing the athlete any good or doing any good for society in general. Coaches who fail to realize that they are working with impressionable (and often vulnerable) young people who look to them for guidance in life are missing the point of coaching. This is why it must be stressed that a coach cannot, and should not, separate what is said or done in training or competition from life in general. When preparing an athlete for competition, the process must be rigorous and done with the intention of defeating opponents who are fit, motivated and skillful, and done so within the ethical confines of sportsmanship and the rules of the sport.

Keep winning in context. If you are coaching a national team of elite athletes in an international judo tournament, your priority is most likely having your athletes win. No matter what is said or done, we humans compete against each other in every facet of life in order to achieve victory. It's a natural trait. If winning isn't important, there is no need to keep score. I have personally coached many teams that represented the United States at international events. In some cases, the national governing body or sports organization spent thousands of dollars on the travel, lodging and food for these athletes. It was my responsibility (actually, it was ultimately each athlete's responsibility) to see to it that the money allocated was spent wisely and that the athlete was as successful as possible. We didn't work this hard to get an athlete to this event just to have him or her go out in the first round of competition and sit in the stands taking selfies with other people while watching the rest of his category fight it out on the mat. If an athlete represents his or her country in an international event, that young person isn't a tourist. His or her primary goal should be to achieve success, and in competitive judo that means winning a medal. I have told every athlete that I have coached at the national and international levels: "Win the gold medal, but it you can't win the gold medal, win the silver medal. If that doesn't happen, win the bronze medal, but if that doesn't happen, make everyone you fight respect you." But, as

said before, there is no honor in cheating or skirting the rules to win-even at the elite level. However, even at this level, these athletes are impressionable young people who learn either good things from the coach or learn bad things from the coach. While your primary motivation for attending the tournament is to win medals, a coach can't forget what was said earlier in this chapter that the very real concept that sportsmanship is simply a word that describes virtuous moral behavior applied to sports. Cheating is exactly the same thing as stealing.

However, all that being said, when coaching elite athletes, I rarely (if ever) stressed "winning." Winning is a by-product of success. If an athlete or student is directed (by his coach, parents, peers and team-mates) to become a better human being, then winning at judo (or any sport) will be a natural by-product. My club's motto is: "Success is an on-going process." That means a person works hard to achieve success and then continues to work hard to maintain that success already achieved and continue to use that success to improve his own life and the lives of others.

As a concluding thought, it is worth saying that the coach doesn't have to be a saint, but the coach should live a life that is above reproach. What the coach says and what the coach does is seen and remembered for a lifetime by not only the athlete, but everyone who hears it and sees it.

SEQUENTIAL TEACHING: A PRACTICAL APPROACH TO TEACHING ON THE MAT

Sequential Teaching and Progression of Skill: Teach by Adding Layers

In coaching, it is both useful and effective to break the parts of a technical movement down so that the students learning the skill understand why and when that part of the movement is where it is and what it's supposed to do. Judo is made up of many complex motor skills that constitute many more technical movements. The skill in teaching complex movements is to present it to the students so that the movement doesn't seem too complicated or complex. Don't take ten steps to perform a movement when five will do-but make sure those five are both efficient and effective.

There are numerous methods of teaching skill, but the one that is described here can be best described as "adding layers" to the movement as the students become more familiar with it and more comfortable in performing it in practice. This is sequential teaching. The technique is taught in a sequence with each part of the movement building on the preceding part, and necessary for the part that is next to come. The student progresses from one layer to the next until the student is able to eventually achieve mastery of the basic structure of the skill. Here is a description of the different phases of sequential teaching.

1-Briefly describe the skill and introduce it to the students. What it is and why it is worth learning. The coach should tell the name of the skill and explain what it means. The coach should be enthusiastic and "sell" what he is teaching. The coach should explain what the skill is in a way that the students will understand.

2-Demonstrate the skill in its entirety. The coach will demonstrate or have one of the advanced students demonstrate the skill. Perform it at regular speed first and do it again at a slower speed to allow the students a better look at it. It is important not to try to modify the skill to impress the students. Do the move and do it in a fundamentally correct way.

3-Demonstrate and explain the major parts of the skill. Don't go deep into the details of it yet. Explain each major part of the movement. If there are questions, answer them at this point, but stay with the basic structure of the skill. Don't get too far into the specifics yet.

4-Allow time for the students to learn and practice the skill. The coach (and assistants if there are any) should go around to the different pairs of students and provide coaching and feedback of a general nature. As the students begin to grasp the basic structure and movements of the skill, bring them back for more instruction.

5-Demonstrate and explain the skill in more detail at this point. The coach will go into more specific instruction if the group of students is ready for it. If the students still need more work in the very basic and gross motor skills of the movement, go back to working on that. After this more detailed instructional time, pair the students up again and let them start practicing it again.

6-Allow more time for the students to work on the skill again; this time with more specific instructions from the coach on how and why the movement should be performed as it has been taught.

Once the basic structure of the movement has been introduced and practiced by the student, the next step in learning the movement is to make it functional.

Mastery of the basic structure or form of the technique. This takes time, patience, a lot of drill training and a lot of practice! The student goes from rudimentary ability on to better skill against a non-resisting partner and on to improved skill with a resisting partner (usually in Randori). As the student progresses in these levels of skill mastery and has confidence in the movement as well as the ability to use the movement in Randori, he has mastery of the basic structure and form of the movement. Don't mistake what is said here. The student is not a "master" of Judo. He simply has achieved mastery of the basic way of doing the technique. The next phase in learning is to "make the technique work for the student."

Adapt the technique so that it if functional for the student performing it. At this point, more individualized coaching is necessary for the coach to identify how to adapt or modify the movements of the basic form of the technique to be more effective for the individual student doing it. Is the student tall and lanky? Is the student short and squat? Is the student physically strong-or weak? This is the time when the coach also allows the student a wider range of options on how to perform the movements of the technique. Some students will (without knowing or thinking about it) automatically adapt the technique so that it works best for them. If the coach sees this happening and what takes place is biomechanically sound, the coach should encourage the student to modify the technique so that it works best for him.

Refine the technique so that the student develops his own "style" of doing it so that he develops optimal functional skill in the movement. After identifying how the technique should

be adapted to be most optimally performed by the student, the coach and athlete should spend time in refining the move-just small things here and there-in an effort to make the technique fit the athlete like a glove. This level of skill is what it known as style. The athlete has his own style of performing the technique so that it works against resisting opponents with a high ratio of success. Essentially, the learning and refining of technical skills will never stop as long as the athlete or person performing the skill continues his interest in Judo. As the athlete changes physically, he will make minor alterations to the skill on an on-going basis to ensure that it remains functional and useful for him. This is what Maurice Allan meant when he said: "Make the technique work for you."

So, progressing from the start with the basic application of a technique, we have added layers to the technique, making it a functional skill that has practical application.

It is essential to approach the teaching, practice and application of sport, especially judo and related combat sports, from a biomechanically sound, scientifically-based and performance-directed perspective. The ultimate objective in a sports competition is success and the task for a coach is to prepare his or her students and athletes for success. The tools necessary for success must be suited to each individual that uses them so that the highest ratio of success is achieved with consistency. These tools include physical preparation and adaptation, technical and skill development, preparation and application and mental/emotional preparation and application. These three areas are inter-dependent upon each other and must work in synchronization for maximum success to be achieved.

THE ART AND SCIENCE OF TEACHING JUDO

A coach doesn't have to be a world champion to develop world champions. However, it is the responsibility of coaches to appreciate, understand and be able to perform fundamentally efficient technical skills in order for him to adequately teach those skills. A coach must possess a fundamentally sound understanding of why and how a technical skill works before he can convey these complex skills to another person. In other words, the coach should know what he's talking about before he starts talking.

Coaching is an Art Based on Science: The better that coaches (and students) understand the principles that make the human body work and move, the better they will understand the principles that make Judo work. An example is the concepts of Kuzushi, Tsukuri and Kake that are taught in every Judo club in the world. These principles of controlling movement form the basis of the technical application of Judo. Good coaching is both science and art. **Science** in the sense that everything is based on sound, rational, mechanical, cognitive and affective reasoning. Good coaching is based on good physical education. **Art** in the sense that coaches are working with human beings and as such, a coach must be creative in how he or she best teaches the skills and provides for the needs of the students, athletes and parents in his or her program. There is no "cut and dried" formula for working with people. The art is in how you present the science to your students.

A Word on Coach Education

It should be emphasized that coaching is a serious responsibility and should be done by serious (and mature) people. Judo is comprised of many complex motor skills and injuries can occur. It is the coach's responsibility to ensure that every practice is conducted in as safe a manner as possible. Judo is also a combat sport, so along with the teaching of motor skills and movement, the coach has the responsibility to teach the maturity to know when to use these skills and when not to. This is why coach education is important. There are numerous coach education programs ranging from those general in nature to programs specifically aimed at a certain sport or certain audience. A black belt isn't enough to be a coach; it takes education and experience- the more, the better.

Choosing What to Teach Using Instructional Goals: In the same way we read a map on how to get somewhere, a coach uses instructional goals as his or her guide on what to teach and when to teach it. An instructional goal is a general concept or statement of what you want your students to accomplish and putting that in some type of time frame. Be sure to write these goals down and refer to them as you teach. Don't keep them in the back of your head, as you will have a lot of other things there as well. If these goals are written, you can refer to them as needed. In other words, an instructional goal is what it is you want them to learn and when (and how quickly) you want them to learn it.

Some things to keep in mind when developing your instructional goals are: 1-Is the technique or skill safe? Have you put in place safety measures to teach this and for the students to practice it? 2-Make sure the technique or skill you are teaching is fundamentally sound. In other words, if you are teaching a specific throw, does it look like the accepted way of doing that particular throw? 3-Consider the conditions in which the technique will be used. For example, is what you want to teach in the context of a competitive situation, a self-defense situation, or is the skill being presented in a general context? 4-Is the skill appropriate for the age level of the students? Do the students have the mental and emotional maturity to learn and practice the particular technique or skill? 5-Do the students have the physical ability to learn and perform the technique or skill? 6-If the technique or skill requires lead-up skills, have the students mastered these lead-up skills before taking on this new technique or skill? 7-Is the technique or skill interesting to the students?

Performance Goals: A performance goal is the mirror of the instructional goal. The student's performance should reflect on what the initial reason was for doing the technique or skill. These instructional goals are progressive. In other words, as a student is able to perform a specific skill (for instance, tai otoshi) on a very basic level, he or she will progress to another performance goal until you, as the coach, are satisfied with the student's performance within the context you want him to perform it in. Examples of performance goals are: 1-The student will be able to perform tai otoshi (body drop) on an unresisting and non-moving partner without any help or coaching. 2-The student will be able to perform tai otoshi on an unresisting and non-moving partner three times in a row with fundamentally sound skill. 3-The student will be able to perform tai otoshi on an unresisting partner who is moving in the specified movement pattern that you, as the coach, has taught at least one time. 4-The student is able to perform tai otoshi on

an unresisting partner who is moving in the specified movement pattern that you, as the coach, has taught at least three times without stopping. 5-The student is able to perform tai otoshi on an unresisting partner who is moving in a random pattern. 6-The student is able to perform tai otoshi on a partner who is offering mild resistance in a specific movement pattern that you have taught at least once. 7-The student is able to perform tai otoshi on a partner in randori. So you can see how performance goals mirror the instructional goals and are progressive in nature.

An Effective Practice Produces Effective Students: The primary place a person learns Judo is at practice. Professor Jigoro Kano said: "Never miss practice." Consistent and regular attendance is probably the most important key to success in Judo. If someone isn't at the club working out, he's not doing Judo and he won't get any better at it. It's the coach's responsibility to ensure that practices and workouts are worth coming to. That's not to mean that the coach should entertain his students, it means that the coach should make the practices interesting, enjoyable and challenging. Not every practice is "fun." There is a difference between "fun" and "enjoyment" and the coach must recognize the difference. An effective practice will focus on the student or athlete learning, retaining and mastering technical skill. A good practice will also provide the athletes with a physically challenging workout most suitable to the age, physical abilities and health of the students or athletes. An effective practice must be appropriate to the skill level, maturity and physical abilities of the students on the mat. There is only a limited amount of time that students and athletes are actually on the mat, even if they are elite level athletes in serious training. Because of this, a coach's management of time is an important factor in getting the most out of every practice. Constant observation by the coach is necessary so that everyone on the mat has a safe, enjoyable and productive training experience. A large part of a coach's job is watching and observing what takes place on the mat.

Bread and Butter Judo: The Fundamentals: My great friend Bob Corwin coined the phrase "Bread and Butter Judo." These are the fundamental skills that stand the tests of time and change. Without good fundamentals no one can ever go on to more advanced skills. Elite or world class judo skill is simply the fundamentals performed to their full potential. Teaching fundamentals may not be exciting, but it is vital to the development of the students and athletes on the mat. It is not easy teaching fundamentals and it takes much time and patience on the part of the coach and the student-however, it is worth it. When teaching a skill, the coach should ensure that the skill is done fundamentally correct. A novice student learning a basic throwing technique won't master the skill the first time he does it. It takes time and a lot of repetitions of the skill done optimally before it becomes an automatic response. This is where patience is a virtue for the coach. Do not rush the students, but at the same time, don't expect them to have perfect technique immediately. For effective motor skill learning to take place and for muscle memory to happen, the coach should teach a skill, drill on it and make sure that the students perform it with adequate basic skill. It's more important for a student to learn a few techniques with optimal skill that learn a large number of techniques with mediocre or poor skill. It doesn't matter how many techniques a student or athlete "knows," what matters is how well that student

can do what he knows. Eventually, the student will learn a variety of basic skills and with time, effort and a lot of hard work, that student will have developed optimal skill mastery.

Progression of Skill or Sequential Learning: More will be said on the subject of teaching technical skill and movement shortly, but at this point, it is important to say that for mastery of skill to take place, progression must occur. The old saying; "You have to walk before you can run" is certainly true. Learning takes place sequentially; one thing leads to another, and that thing leads to the next thing in a logical progression. Learn the basics, then master the basics, and then make the basics work for you. One thing really does lead to another when it comes to learning and building one skill upon the previously learned skill with the goal of the optimal application of the skill being developed by the athlete. It is the coach's responsibility for each skill to build on the previous skill in a logical progression so that the athlete is better able to perform the skill with a high ratio of success.

Teaching "lead-up" skills is important in helping a student develop an optimal understanding and application of a technique. The earlier stated example of being able to walk before being able to run is the best way to describe the use of lead up skills. This takes time, patience and effort on everyone's part-both students and coaches. If a student is not ready to try a specific technique, then teach movements and skills that will better direct him to learning that specific technique. As the student understands and learns one thing, he will be able to move on to the next thing. This progression of skill learning in a logical sequence ensures that the student understands why he is doing something as well as how to do it.

Teaching is a continual progression of skills in terms of adding layers to an existing technique. The coach and athlete will continue to add as many layers as necessary for the movement to be functional and useful in its most optimal way for the athlete. However, layers can't be added to something that's not there and this is why it is vitally important for mechanically fundamental elements of a technique be mastered before layers can be added to it. World-class judo is essentially the fundamentals done at an optimum level of functional skill. There's no quick or easy way to develop skill. It takes time, patience and a lot of physical and mental effort. First of all, an athlete (hopefully with the help of his coach and team-mates) will find a technique or series of techniques that "strikes a chord." This is natural tendency to do one technique or another is what this author has called "natural frequency." After a new student gains the skills necessary to safely participate in randori, he will almost naturally or intuitively do one technique with more frequency than others, or in many cases, move in biomechanically correct ways without ever being coached in these movements. Not every student does this, but it does take place often enough to be a noticeable effect-and certainly worth following up on as a coach. A coach can spot this simply by observing his students in randori. The frequency a student attempts a particular throw or groundwork technique without prompting or previous instructions from the coach is a sign of natural frequency. Some students have a natural tendency to use left-sided throwing techniques even if they were initially taught the technique on the right side. If this is the case, the coach should encourage the student to work off his left side and teach him throws from that direction from that point on. This is why it's essential coaches to teach, and students to learn, good solid fundamentals in all phases of judo. Along this idea of natural frequency, the

coach should watch the randori sessions and take an active role in suggesting to new students things that they seem to do naturally and to try them more often. The coach can use this opportunity to adapt or personalize a specific technique so that it works more efficiently for the student. This type of supervised randori is one of the most beneficial activities or drills a coach can do during a practice. Additionally, something that may not work for an athlete at an early stage of his career may work for him at a later phase of his career. As a person continues to train, develop and learn more about Judo and begin to gain mastery in one's own approach to judo, that person will see new areas open to him that were not realized before. And the reverse is true as well. That slick footsweep an athlete once had may not be so slick after several knee operations. Being able to adapt, improvise and overcome is part of being successful. Once we come to realize what we don't know, we progress to a higher level of learning and understanding. For real progression and mastery of skill to take place, a person must be humble enough to admit that he doesn't have all the answers, and in fact, probably doesn't even know all the right questions to ask yet.

DRILL TRAINING: NECESSARY STRUCTURE

Learning and mastering technical skills, as well as improved fitness, are best achieved by the effective use of drill training. Drill training is a specific term used to describe a systematic and progressive use of movements and actions designed to teach and reinforce skill, fitness and tactical ability. A drill is a systematic method of teaching using repeated movements and the repetitions of specific actions. Through the use of drill training, athletes will learn and retain skills more effectively and the coach can regulate training time more efficiently. Efficient use of drill training prevents the workouts from becoming stale or boring as different drills provide a variety of situations in training. Drill training eliminates to a great extent any goofing off or discipline problems. Drill training provides for a structured practice. A structured practice is essential for effective teaching and learning. If a group of athletes is kept busy, they have less time and opportunity to slack off or play around. In fitness training, an effective use of drills provides a structure and systematic progression of aerobic and non-aerobic conditioning. Drills can be used for tactical awareness and training as well. There are as many different drills as there are situations in Judo. A drill can be devised and used for each and every action, situation or position that takes place in a Judo match. A coach can focus on a specific action or situation and invent a drill for it to use to improve the ability of his athletes in that particular area. Drills can also be invented for a group of athletes based on situations or actions that take place or are common in Judo matches. An example is for a coach to use different types of drills to teach and reinforce skill in grip fighting. Grip fighting takes place in every Judo match. A coach can use a drill that focuses on one aspect of gripping or the coach can use a drill that permits the athletes to work on more general aspects of grip fighting. The methodology of drill training is based on repetition and development of an automatic response, so let's examine these two concepts.

First Comes Cognition, Then Comes Recognition: Muscle Memory and Repetition: A key benefit that athletes derive from drill training is muscle memory. To be successful, a Judo student or athlete must have an automatic response which is an ability to "do the right thing at

the right time." Automatic response takes place when the athlete's muscles have been taught how to perform a specific movement or skill without the cognitive mental process of thinking about it first. For the human body to achieve automatic response, muscle memory must be developed. Muscle memory is the same as motor learning which involves completing a specific motor task into memory through repetition. The more often an athlete performs the optimal way of doing a skill, the less time it takes for the brain to process how to do it and therefore, it becomes more automatic. The key, then, to muscle memory is repetition.

A repetition is doing something more than once. Repetition, for our purposes in the context of drill training and skill learning, is a movement pattern performed in a specific way many times. By doing something repeatedly, it becomes a habit. A habit is an acquired behavior pattern regularly followed that has become an involuntary behavior or automatic response. A habit can be good or it can be bad. For our purposes, we want an athlete to develop good habits of how to perform a skilled movement or task. The athlete's behavior must be altered so that he gets in the habit of doing the right thing at the right time. Habit is the same as permanence. Practicing a movement thousands of times creates permanence-a habit. The goal for a coach is to make sure that the permanent habit that is created is the one that is most efficient and effective for the athlete doing it.

Types of Drill Training: In 1979, American Judo pioneer Mel Bruno told me during a discussion on drill training and its effectiveness in the development of judo athletes: "Teach them Judo but train them like wrestlers." In our conversation, Mel advocated using a structured, physically demanding training session emphasizing drill training and structured randori or free practice (in the same way a wrestling coach would train his athletes). The big difference would be to center it all on technically sound judo skill. As a young coach at that time, it was a pleasure and honor getting advice from one of the real pioneers of Judo in the United States. It was also pointed out to me that (paraphrasing) "too much time on the mat is wasted" in judo workouts and that Judo students (like any other group of students) need direction from their instructors.

An effective practice or workout is actually one training drill that leads to another, each adding another layer of development, all with an overarching or central purpose for that particular workout. Any organized and structured exercise or series of exercises used during a practice is a drill. Every workout should have a goal or objective and every minute spent on the mat should have a purpose in achieving that goal. Drill training is the most efficient way of achieving goals in the most efficient use of time.

There are two primary types of drills. The first is a closed-ended drill and the second is an open-ended drill. There are subsets of these two primary drills as well and will be examined. A closed-ended drill is one used to teach or reinforce specific movement or behavior.

A closed-ended is also called a fixed drill and teaches or reinforces specific behavior within a controlled environment. The athlete repeatedly performs the skill or movement so that it becomes an automatic response in specific situations. This is a more structured drill in terms of

permitting freedom of choice of movement by the athlete or student. In other words, the coach limits the choices of what the athlete can do in a closed-ended drill doing specifically what the task is that the coach has established. Both athletes who are partners in a closed-ended drill know exactly what they have to do and what each partner will do.

In an open-ended drill, the student or athlete has more freedom of choice in how he will react to an assigned task. Randori is an example of an open-ended drill. Randori is "free practice" and while the name implies freedom of choice in movement, it is very much a drill. Randori must always be supervised and always have a purpose in the same way any other drill would. Randori in Judo is the same as a scrimmage in football or what a sparring session is for a boxer.

There are other subsets of these two primary types of drill training that are commonly used.

Skill Drills are what the name implies and are the type of drills or exercises where the primary goal is to teach and reinforce skill. Skill drills are not confined to teaching or reinforcing Judo techniques. For example, teaching a child how to perform a cartwheel or other tumbling type movement is included in a skill drill. A common example of a skill drill that is done in all Judo clubs is practicing Ukemi. There is a structure to the act of lining up and taking turns doing rolling breakfalls down the mat. This structure and the regularity of the exercise fulfills the criteria for being a drill.

Situational Drills are used to teach and reinforce both technical and tactical skills. This is also called a variable drill. In one type of situational drill, the coach will develop a drill based on an actual situation that takes place in a match. As a lead-up to this drill, the athlete has already been instructed on the best response to the situation. A common example is during a randori period, the coach will assign a specific score to one athlete so that he is leading in the score. The coach will instruct the athlete who is leading in the score to keep his lead and instruct the athlete who is behind in the score to catch up and take the lead in the score. A second type of situational drill is when the coach will purposely put the athlete in a difficult situation and it is up to the athlete to elicit the optimal response to the situation. An example is for the coach to have a training partner control the other athlete (who is the focus of the drill) in a strong ride in groundfighting. The training partner's job is to provide varying degrees of resistance according to the coach's instructions. The athlete who is the focus of the drill must elicit an effective response to get out of the bad situation and turn it into a good situation for himself. Prior to doing this situational drill, the coach has instructed the athlete how to perform the skills that are now being drilled on.

Fitness Drills are any drills or exercises that are not skill-based in primary purpose and are used to improve flexibility, strength, cardio-vascular capacity, speed, agility or coordination. Fitness drills are also the warm-up exercises (junbi-undo) and cool-down exercises (shumatsu-undo) that are performed at every practice. These include flexibility exercises and any mat games that are used. Mat games are useful tools for a coach as they allow the students to "let off some steam" and have fun. As a coach, this author used mat games at the end of our workouts as both a reward for the students' hard work and as a useful skill in fitness training as well (on a more occasional basis) as a warm-up at the start of a practice. Mat games are enjoyed by and beneficial for both children and adults.

In every drill, there is a carry-over value of one type of drill to the other. This means that a drill designed to be a skill drill where a child learns rolling breakfalls or cartwheels as the primary reason for the drill also serves as a fitness drill where the child will also get the benefit of some fitness training.

Important Point: Any situation that takes place in competition, self-defense of in anything can be turned into a drill. Be creative in making up drills that replicate the real things that actually happen so your athletes and students will be better prepared to deal with them.