

The Art and Science of Coaching

Throughout the year questions often arise from both Skaters and Parents as to why programs are set out in a particular order and why emphasis is placed more on certain competitions than on others. As coaches our duty is to provide to the athlete a schedule of activities that allows them to reach their goals while doing the work necessary to get there. The following is a few pages to help explain programming.

The Developing Skater

Our club structure allows skaters to progress from the level of Learn to Skate to national level and training center level athletes. Our sport is a *Late Specialization* sport and this simply means that while some of our National Team Athletes are indeed young many will not see their full potential until late 20's and occasionally beyond. With a late specialization sport coaches and parents should encourage athletes to not only Speed Skate but try other sports and activities to improve their *Physical Literacy* which is the ability of an athlete to be familiar with the movement patterns and biomechanics of their body in relation to many movements and not just that of skating. In all sports the best athletes have typically been those that are good at many movements patterns and not only the ones that are best related to their own sport. In reality some of our best speed skaters could have been an Olympic runner, hockey player, gymnast, etc.

Knowing the above it is important to remember that we must not only train the Technical and physical components of skating, but it is equally important to provide a sport that is enjoyable and provides a challenge to the young athlete. Along the way recruitment from one sport to another may occur, but for the success of our program we want the athlete to remember what sport provided the best feeling of group and/or accomplishment.

Why the difference in the ages?

Nothing is more important to me than to have both the parent and athlete understand the following two paragraphs. Please discuss with your young skater these important points. It can make the biggest difference in having them mentally strong and capable of shining along in skating, sports, and life.

I have been involved in speed skating for over 25 years and have had the privilege to look up to, skate against, and now coach some of the greatest athletes that our country produces and I can tell you that the ones that are best in the end are the ones who both stayed with the sport and not those that always won races when they were younger. The reason for this is *Chronological vs. Maturation Age*. When kids are growing they develop skills and physical strengths at different ages. Three kids at 11-15 can be very different in physical appearance and skill level. While scientifically it is true that the younger maturing athlete will often be stronger physically at 20 this does not mean they will be the stronger skater.

Many parents see physical size to be a reflection of mental maturity, however these traits in fact have little to do in relation to one another. At younger preteen and teen years you will see both the physically mature as well as the emotional/mentally mature athlete winning races. Later on when maturation evens out the differences between all the athletes become much less apparent. Many of the Late-Maturers will put all their feelings of self worth on performance during this period of growth and some will quit before their “time has come”. Emphasis should instead be put on developing their skill base while enjoying the sport.

On the flip side we have been notorious in our sport for developing the early maturer and celebrating them so highly that the majority quit once their peers catch up. Instead of an over emphasis on records and winning at this young stage we should instead celebrate good sportsmanship, skill development, and Team.

At what Age should they...

From the start of their skating career athletes should be focusing on different skills and physical components during their practices. When to work on each component is very much an individual consideration but some sport science principles must be respected when developing our programs.

- 1) *Aerobic Training*- Aerobic training is the base of almost every individual sport and is very important in allowing the athletes to be in the condition needed to train hard and compete. The younger B and C Child are often little Aerobic machines as Lung/Heart size is much larger (in proportion) in a pre-adult due to their small frames and body weight. Emphasis should be put on the younger athlete to do physical play off ice and coaches can not be afraid of getting the younger kids to do laps on ice. For the Older A athlete this training must be done off ice as well since the level of Aerobic training on the ice will never be enough to match what is needed to do well in our sport. In Fact during a heavy training phase over half of the week’s volume will be done off ice. If not on ice training will be below par.
- 2) *Strength Training*- There is a very sound training principle that should be followed to determine when athletes should start heavier weight training. It is called *Peak Height Velocity*. PHV is the time when the athlete has the most accelerated growth spurt (for a detailed measurement it is best to contact me for more information). For Females it is best to start weight training within 6 months of PHV while for males it is best to wait for 12-18 months afterwards. Teens that have not been through PHV are encouraged to keep to very light resistance and body weight exercises. Anyone interested in a program for both weights or resistance training is encouraged to contact me. For those entering a strength training Center it is important to know that the majority of personal trainers are not properly certified to give you the best weight program for sport nor are many of them familiar with PHV. Many will give you a *Hypertrophy* program that is

good to make muscles bigger, but should not be followed for an extended period of time, as it will be detrimental to sport's performance.

- 3) *Speed Skills*- At the B and C Group level Technical should be incorporated in broken down segments, at slow speeds, and at faster speeds. Speed is best trained in short sessions (5-15 minutes) for these younger athletes. At the A Level Speed skills should be practiced at 80-110% (*Over speed* training). Athletes who do not practice speed will not be able to perform at top speeds during competition. Speed practices should account for @30% of practice in non-competitive cycles and 50%+ in competitive cycles. *Lactate* specific training should only account for 1-2 practices a week during the competitive season as a high level of lactate specific training will eventually be very negative to performance
- 4) *Skill Acquisition*- is the most important component to success in the Speed Skater. In the B and C Groups Skills and Technical should account for the majority of practice work. These skills can be incorporated into both games and the skating program as well. Once the Athlete reaches the A group the skill level should be high enough that the athletes share the responsibility of Technical advancement with themselves, their peers, and their coaches. Programs at the A level are tough and athletes should be prepared to focus on technical through all their laps and not only in specific technical practices. Therefore athletes are encouraged to focus in all skating intervals and not just when told to by the coach.

Prioritizing Meets

Throughout the year each meet has a different level of priority especially with the older skaters. For the B and C skaters the meets should be looked at a very much an equal place to concentrate on Technical, tactical, and time performance. For those meets that PBs will be difficult athletes are encouraged to focus on both race tactics and technical.

For the A group the Yearly structure is much more specific. The year is broken down in to segments called *Microcycles and Macrocycles*. The science behind these programs is the building blocks of the NCCP Level III, the Level IV program, and sport science. Meets are prioritized based on time of year, level of competition, training goals, performance goals and historic conditions.

For a *Loading Competition* the athlete focuses on working hard up to and during the competition. This is the time when the athlete may feel tired during the competition but continues to work as the training goals will outweigh the performance goals, Examples of these competitions are PEI, Caraquet, Can Am #1, Saint John, and Saint Croix (for those who have already qualified for Nationals). At these competitions the emphasis will be skating good technically and tactically while no major emphasis is put on time goals. It is

possible to get PB's at these competitions but skating well is the main goal- Any PB's are sugar on top.

There are two types of *Tapering* Competitions. A *complete Taper* is seen before a Major competition when focus is on having the best performance. During a Complete taper the athlete does no off ice training and does only excels and speed on ice. Very little quantity but superb quality is emphasized. Examples of a complete Taper would be the Nationals, North Americans, Atlantic Challenge, and Can AM #2.

For an *Incomplete Taper* the goal is very much the same, as a complete taper but time cannot be afforded to put yourself through the "negative" of a taper. With a taper the only down turn is that the body typically takes a few weeks to recover after the competition. Therefore if too many tapers occur the athlete will spend less time working at the level of intensity needed to perform well within our sport. Examples of an incomplete taper is the Harold Joyce meet (for non Can AM athletes), Easterns, Can AM#3, and Saint Croix (for those A's close but without their National standards).

The Many Traits of a Successful Speed Skater...

To finish I would like to make the point that to be a successful skater it is a combination of skill, technique, mental ability, finances, physical ability, coaching, independence, humor, commitment, dedication, rest, team, mechanical, biomechanical, and at times luck. The best athletes are rarely the best in any one of these areas but indeed the best at combining these traits. To celebrate one as being any more important than the other is a mistake and assuming that the best athletes are stronger in overall personality than the skaters who come 2nd, 3rd, or 205th is to forget what should be most important. The Person.

Thank You for taking the time to read and any discussion is welcomed,

Derrick MacLeod
Coaching Director for FASSCI
Bkin (Sport Science/Psych), CFC, NCCP Level IV
Member of CPCA and NCI