

THE DEVELOPMENT OF EXCELLENCE:

A Common Pathway To The Top In Music, Art, Academics, And Sport

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Introduction

Excellence in performance shares common roots regardless of its form of expression. The concert pianist, research neurologist, and Olympic athlete are all products of sequential, multi-stage, development systems. The commonality among these pathways to excellence is surprisingly strong. Therefore, the greater understanding we as coaches have on fostering the development of competitive athletic excellence the greater our chances of success. Viewing athletic excellence as only one special case of manifesting talent will allow us to make programmatic decisions that promote systematic success.

In 1985, Dr. Benjamin Bloom in collaboration with other researchers from the University of Chicago conducted a study to understand how world-class talent is developed. They interviewed 120 people who had achieved world-class success in such diverse fields as art, athletics, music, and academics. Among those interviewed were concert pianists, sculptors, tennis champions, Olympic swimmers, research neurologists, and mathematicians.

The results of the study indicated that successful individuals had very similar learning and development phases. In his book, "Developing Talent in Young People," Bloom divided development phases into the early years, middle years, and late years.

In the early part of this century, educational researcher Alfred North Whitehead (1929) described a similar model of learning. He divided learning into three distinct phases: romance, precision, and integration. Bloom agreed this model accurately described the long-term development of the successful subjects in his study.

The purposes of this paper are to: 1) further describe the Bloom study about the development of talent in young people and 2) provide a parallel model of development in endurance sport from countries who have achieved international success.

Bloom Study of Talent Development

The romance phase is characterized with play, exploration, fun, and a time when children learn fundamental skills and develop a love for their chosen field, be it sport, music, art, or academics. Most of the children were introduced to a specific activity by convenience. For instance, parents would sign-up kids for lessons at the local pool or a neighbor might teach piano. These first coaches and teachers instilled a love of the activity in children. Throughout their careers, the passion of sport or music would always be firmly grounded in these athletes and musicians. Bloom's subjects came from child-oriented families where they learned the value of hard work. Parents would often say to their children, "If it is worth doing, then it is worth doing well." Parents encouraged children to be self-disciplined and responsible. All of Bloom's subjects commented that early success was primary factor for many of them to continue in their field.

During the precision phase, systematic learning takes place and a master teacher or coach promotes long-term development and instills technical skills. Four to six years was the typical period in which musicians and athletes were undergoing systematic training to prepare themselves for international performance. Athletes made a transition from "playing tennis to tennis player." The enormous sacrifice parents made in time and

money to provide training and competition opportunities for their children during this period cannot be understated.

During the final phase, integration, an individual continues to study with a master teacher or coach and train many hours a day. Often, athletes and musicians lived and trained with others who shared the same goals and commitment to sport and music. Each individual was able to translate training and technical skills into personalized performance.

For the 120 individuals who achieved international success, the three-phased learning and development occurred over a 15-20 year period. “Only ten percent of the talented individuals in the study had progressed far enough by age 12 for anyone to make confident predictions that they would be in the top 25 in their talent field by the ages of twenty to thirty.” Each person “graduated” from the romance phase before proceeding to the precision phase. Subsequently, each graduated from the precision phase before moving to the integration phase.

Bloom found moving too quickly to the next phase before completing the romance or precision phases left the individual without the necessary skills, physical development, or motivation to succeed in the new phase. This caused the rate of learning to be greatly affected in the new phase. For instance, a pianist needs a strong background in technical keyboard skills and vocabulary before attempting a complicated piece of music. This analogous to the Olympic swimmer who needs years of training to perfect stroke mechanics and develop world-class physical capacity. One example highlights a pianist who had been studying music diligently for many years, but had to go back to the romance phase and have fun with music before successful learning occurred. The length

of phases and learning rates were different for each individual. Either dramatic transitions or gradual changes marked phases. What is most important to remember is that learning occurred without long pauses or delays. There was a rhythm of learning.

Parallel Model of Development in Endurance Sport

Figure 1 illustrates the parallels between the Bloom study and data from German and Swedish sport school programs in developing internationally successful biathletes and cross-country skiers. Bompá (1994) and Drabik (1996) have identified the importance of multi-lateral development (romance phase) in youth - participation in a variety of sports can provide optimum psychological, physical, and motor skill development. This properly prepares the athlete for the demanding loads of training that are present in the precision phase. In addition, motor skills developed in the romance phase benefit the athlete by providing a technical foundation from which to perfect technical skills during later phases. Athletes who develop a deep love for a sport and are not pushed into heavy competition schedules too early have the proper groundwork to flourish in later phases.

Data from German and Swedish sport school programs strongly suggest that systematic training needs to begin around the age of 16. Age of specialization for German and Swedish biathletes and cross-country skiers are 14 and 17 years old, respectively. The sport schools in these countries provide highly developed programs coinciding with the precision phase. Each sport school program has highly educated and experienced coaches that direct systematic training programs for nine months of the year. Below are characteristics of sport school programs in Germany and Sweden.

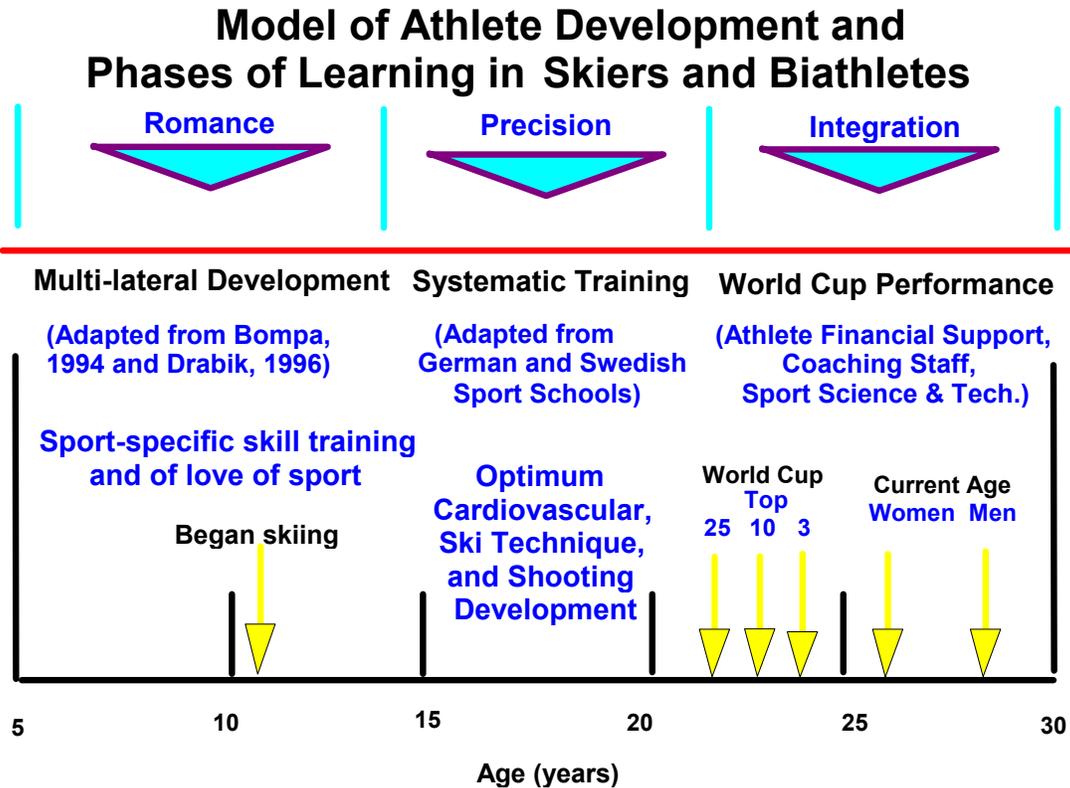


Figure 1. Parallel models of development and learning from Bloom and German and Swedish Sport Schools.

Characteristics of Sport School Programs

- Daily contact with coach from age 16-20 for nine months of the year.
- Periodized training programs that improve performance over long-term period.
- Talented pool of athletes working and training together while each is attempting to achieve the common goal of reaching top-level performance.
- Athlete education is given in training theory, ski technique, sport psychology, nutrition, and ski preparation.
- Excellent training facilities during summer and winter to enhance training.
- International competition opportunities.
- Highly educated and experienced coaches.

These characteristics are the critical success factors that provide the physical and technical foundation for athletes to be successful on the Biathlon and Cross-Country Ski World Cup.

In the final phase, athletes continue to work with a master coach and learn to fine-tune training to achieve high performance on the World Cup. With the assistance of sport science and technology and an experienced coaching staff, athletes “integrate” the knowledge and skills from the two previous phases to achieve success. Athletes are then able to personalize athletic performance at the World Cup.

Bloom has succinctly captured the essence of long-term talent development with this statement, “The study has provided strong evidence that no matter what the initial characteristics of the individuals, unless there is a long and intensive process of encouragement, nurturance, education, training, the individuals will not attain extreme levels of capability in the particular fields.” The examples of the German and Swedish Sport School programs demonstrate that this process can be systematically applied toward athlete development. The challenge for American coaches, athletes, sport organizations and parents is to develop and nurture similar systems in the United States.

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