

## Talent Recognition and Development – Elaborating on a Principle Model

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### Abstract

Correctly adjusted system of Talent Identification is often regarded as the first step to international success. Talent identification, orientation within wide variety of sports and events, and further selection is a complex multidimensional process.

Purpose of the study was to scrutinize the systems of Talent Identification and Development available worldwide and to suggest the one fitting the sports development scenario of the countries with limited human resources.

Methods of the study included examination and evaluation of the available literature and systems of talent identification and development existing in the world's leading sporting nations.

Thorough analysis of talent identification and development approaches from around the world has brought out number of special features either to follow or to dismiss. Ultimately, besides other important factors determining the approaches to Talent Identification, one kept overweighing all others by drastically changing the process. That one was: availability or absence of human resources to pick the talent from.

Countries with limited human potential might need to develop their own versions of Talent Identification generally based on the erstwhile GDR principle model; however the present study instead of narrowing the process to Talent Detection and Talent Identification only has suggested a five-component Talent Recognition system effective throughout the long term preparation in sports.

It is also suggested to pay more attention to Pre-Talent Identification Talent Development, not to just Post-Talent Identification Talent Development alone. In Post-Talent Identification Talent Development practical aspect of Talent Handling are addressed and within Talent Development it is suggested to pay special attention to Talent Migration / Transfer and to Talent Retention / Recycling.

### Introduction

Inadequate International performance level, scarcely few number of medal hopefuls and only few, custom made champions – are the common reasons for sports administrators to blame the system of Talent Identification in the country.

True, correctly adjusted system of Talent Identification is often regarded as the first step to become an international athlete.<sup>1</sup> Talent identification, orientation of identified talent within wide variety of sports and events, and further selection is a complex multistage and multidimensional process.<sup>2,3</sup> It is organised in stages (or phases),<sup>4</sup> occur at different age and stages of long term training and vary significantly from one sport to another.<sup>5</sup>

Talent detection refers to the discovery of potential performers who are currently not involved in the sport, as opposed to talent identification (TID) that refers to the process of recognizing current participants with the potential to become elite players.<sup>2</sup> This process of talent detection and talent identification has to be followed concomitantly with the talent development program in order to direct those potential performers towards the sports to which they are most suited.<sup>6</sup>

Then, formula of success in the conversion of raw talent into excellently trained champion is often presented as *Talent Detection* followed by *Talent Identification* with subsequent *Talent Development*.

This approach however seems putting an end to the process of ***Talent Recognition*** the moment talent is identified. But is this approach correct?

### Organization of Talent Identification

Evolving through the decades of development of sport approaches to talent identification changed multiply. Thorough analysis of talent identification approaches from around the world has brought out plenty of special features either to follow or to dismiss. Ultimately, besides other important factors determining the TID approaches there was always one which kept overweighing all others by drastically changing the process, and by giving origin to the two quite opposite approaches to talent identification. That always was and still is:

Availability or absence of human resources to pick the talent from

In other words, do we have statistically sufficient number of subjects to brush through in order to identify substantial number of talented children for the needs of the reserve and top performance sports?

Accordingly, the choice of Talent Identification system in the first approximation could be as summarized in Table 1.

Table 1: Options of TID system depending on the availability of human resources

| For the countries with unlimited /considerable human resources | For the countries with limited human resources |
|--|--|
| 'Bulk and numbers' – few specific tests                        | Tailor made TID – comprehensive testing        |
| Natural selection at the early stage                           | Scientific selection from the start            |
| Coaches – selectors  | Scientists – selectors                         |
| Scientists – assistants/observers                              | Coaches - advisors                             |
| Specific testing and assessment                                | General testing and assessment                 |
| TID for one sport/event  | TID for group of sports                        |
| Decentralized, easy initial training                           | Centralized training, boarding schools         |

### Influencing factors

Historically and geographically number of approaches was developed on the scene of talent identification. They emerged in different countries in different times and were determined by number of ideological, social, financial and political factors.

### Geography of TID

Talent Identification approaches (especially at the initial stage of training) differed from time to time and from country to country and can be described by listing brief characteristics and combinations of previously mentioned factors in the adopted system of talent identification.

### ***TID in erstwhile Union of Soviet Socialist Republics (USSR)***

With practically unlimited human resources at hand, talent identification system especially at 'detection' level was not really scientific but rather relied more on 'natural selection' phenomenon. Although, there were basic fitness tests and respective fitness standards recommended for talent identification procedures, TID used to be specific, resembling natural selection, related more to casual 'circulation' of talent in and out within the group of novices, with new recruits periodically

stepping in. Certainly, coaches were at lead, quite often combining the responsibilities of a coach and a physical education teacher. Well adjusted and governed by numerous normative documents and age wise fitness requirements, system of school Physical Education played significant role in the identification and development of a talent. Socially –passive life style but good basic attitude to sport due to bright career opportunities through it.

### ***TID in erstwhile East Germany (German Democratic Republic)***

System of talent identification quite opposite to the USSR one, though led by the same ideological motives, plus the unstoppable desire to beat West Germany in every field and especially in sports.

With very limited human resources, TID system was general and based on scientific selection (related more to tests and measurements of basic motor qualities). Scientists were surely at lead, with coaches involved as assistants. Other features were well adjusted system of school Physical Education, active life style, good traditions of 'sports for all family' and good attitude to sport with bright career opportunities through achieving top performance in sports.

Other features included wide TV broadcast of the Major sporting events, festivals, school and students' competitions. It also featured widest possible promotion of the healthy life style, family values and family unity in and through sport and physical activities and shows like „Mach mit, Mach's nach, Mach's besser“ - the 1964-1990 weekly program of GDR National Olympic Committee.

### ***TID in China***

With unlimited human resources, TID in China was specific, based largely on natural selection but with consequent comprehensive testing of all humanly possible contributing factors further down the line – genetically determined and acquired. Scientists played leading role, with coaches actively involved as well (more on USSR pattern). Other features – well-adjusted system of school Physical Education; reasonably active life style; good attitude to sport and career opportunities available through it.

### ***TID in India***

In India with unlimited human resources and millions of parents willing to place their children in special sports schools and hostels, number of children usually reporting to be screened and tested was huge.

TID was general, reasonably scientific, with scientists and coaches almost equally responsible for the end product – identification of true talent.

Although with unlimited human resources, it was a mixed GDR/USSR pattern.

On the other hand, system of school Physical Education was not well adjusted, life style - reasonably active with generally good attitude to sport with bright career opportunities and possibility to beat the poverty through sports.

Achievement of National or International level of performance was not only opening International exposure to athletes, it helped them to get stable and reasonably well paid jobs, no-one bothered much about education.

What made Indian system of TID quite sound was parity between coaches and scientists in the decision making.

India besides well-adjusted system of Talent Identification used to run number of unique talent detection and talent development programs.

***TID in Australia***

So attractive to countries yet to adopt solid system of Talent Identification and Development, Australian model is based on general, scientific selection, with scientists at lead due to limited human resources (more on GDR pattern) on one hand and to well-developed segment of sports science on the other. Among other features are: well-adjusted system of school Physical Education, active life style and good attitude to sport.

***TID in South Africa***

General, scientific selection, scientists at lead, unlimited human resources combined with limited access to the pool of talent, mixed situation with the system of school Physical Education, life style dependent on the socio-cultural background and mostly good attitude to sport.

**Controversies**

Literature often states that at primary stages of talent identification it is preferable to observe harmonious physical development.<sup>7</sup> If comprehensive testing is meant, than it is surely preferable, but if the search itself is aimed at 'harmoniously physically developed' children, another problem should be anticipated: children identified as talented would be well overall developed kids, but with no extraordinary qualities available with them whatsoever.

In case a kid is selected by a coach for particular sports or event, which is recommended,<sup>8</sup> then development of the talent (read training) begins with all training means available with coach (i.e. general, auxiliary and specific) in certain recommended proportions. Leading role especially at the beginning of sports career would certainly be played by general and auxiliary exercises with specific training means present in lower proportions.

**Age precision**

Talent recognition is a continuous process, and in certain sports various stages of talent recognition happen at certain ages. So how accurate time wise should those stages be?

East European concept of talent recognition operates with three tier TID procedures: initial talent identification, intermediate and final selection<sup>9</sup>.

Quite obviously most attention in international literature is paid to initial talent identification. Possible explanations to that usually cover the necessity of early specialization (so popular 'catch them young' doctrine), relatively simple (seemingly simple) set of tests and measurements to assess children's potential without going deep into coaching science; simplicity of suggestions and recommendations and, honestly speaking, attractive absence of any responsibilities as far as correctness of talent identification is concerned.

Other two, namely intermediate and final selection are neither well developed nor well described in the scientific literature. This can surely be explained by the applied nature of the intermediate and final selection and by the fact that they belong more to coaching science rather than to sports science in general. This automatically leads to quite a lot of discrepancies in the theory of talent identification.

One of those discrepancies relates us with the age when athletes need to be exposed to the talent identification/talent selection practices. So the question comes: "How strict the age requirements should be at mentioned stages of talent identification/selection"?

Apparently, while intermediate and final selections can well vary age wise, initial talent identification/detection has to happen with certain age precision.

In other words, certain sports require children to begin training at particular age - neither earlier, nor

later (Table 2).

Table 2: Enrollment age options for various sports

| Age of the beginning of training |          |          |            |           |         |           |        |            |
|----------------------------------|----------|----------|------------|-----------|---------|-----------|--------|------------|
| 7 yrs                            | 8 yrs    | 9 yrs    | 10 yrs     | 11 yrs    | 12 yrs  | 13 yrs    | 14 yrs | 15 yrs     |
| Gymnastics                       | Tennis   | Swimming | Football   | Athletics | Fencing | Boxing    | Kayak  | Equestrian |
| Acrobatics                       | T.Tennis |          | Rugby      | Cycling   |         | Wrestling | Canoe  | Pentathlon |
| Diving                           | Squash   |          | Hockey     | Archery   |         | Judo      | Rowing | W-lifting  |
|                                  | Wushu    |          | Volleyball |           |         |           |        |            |
|                                  |          |          | Basketball |           |         |           |        |            |
|                                  |          |          | Badminton  |           |         |           |        |            |
|                                  |          |          | Handball   |           |         |           |        |            |
|                                  |          |          | W. Polo    |           |         |           |        |            |

Practically, it is expressed in reasonably simple logic sequence:

- Seven to eight years old children are only in the sphere of interest of the coaches belonging to gymnastics (artistic and rhythmic), acrobatics, diving and few more early specialized sports.
- Same kids are of no interest to coaches from any other game because it is too early for them to begin training in other sports.
- Similarly, ten years old children could be of interest to the games of football, volleyball, hockey, badminton etc.
- And, at this particular age same kids are of no interest to boxing, wrestling or weightlifting because training in those starts way later.
- They are at the same time completely gone case for gymnastics, acrobatics and diving because it is too late for them to join there.

In such scenario, the popular and catchy slogan ***"Pick them young"***  
appears to be nothing else but serious mislead

The correct one should really read: ***"Pick them at right age"***.

Traditional age of recruitment to various sports differ a lot and being age-late at initial talent identification stage may cost a kid and his parents dear: they can well be losing the chance to join especially early age specialized sports.

### **Talent development**

When the field is narrowed and talented children are retained in a sports specific environment, they step into the long term training through its first stage - Initial Training with certain recommended features, volumes of training and training contents (Table 3).

Those features later materialize in particular distribution of loads among various components of training which have to be arranged in a way to provide selected children with multilateral training<sup>10</sup> which is preferably implemented within sports specific environments.

Table 3: Recommended features of the Stage of Initial Training

| Training Stage   | Duration    | Age ranges     | Sessions per year | Hours a week | Session Duration |
|------------------|-------------|----------------|-------------------|--------------|------------------|
| Initial training | 1 – 2 years | 6–8 9–11 12-14 | 120-130           | 3.5 - 6      | 1 – 1.5 hrs      |

At the same time, they keep getting their portion of multilateral development, arranged and delivered to them through physical education classes at school.

Children, who for whatever reason were not selected to practice any sports, keep getting their share of multilateral development in school physical education classes and wait for another chance to be identified as talent for other sports in another age group (Fig. 1).

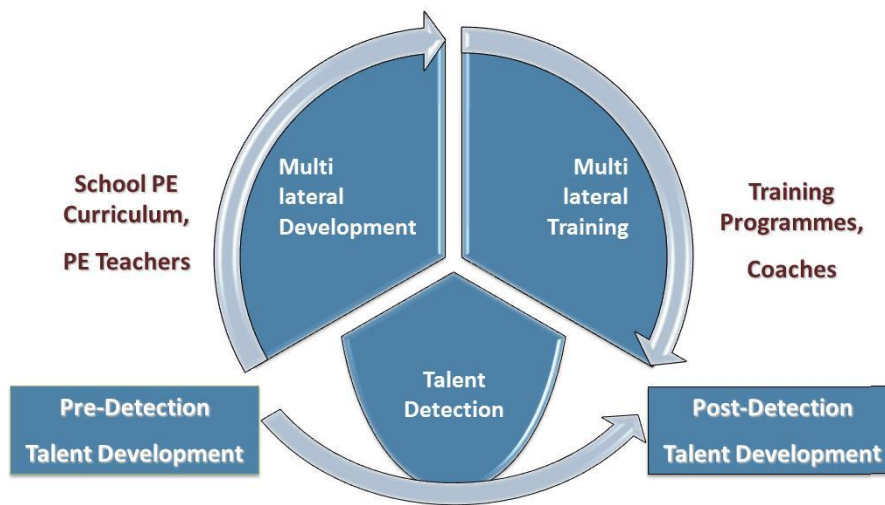


Figure 1: Relation between Multilateral Development, Talent Detection and Multilateral Training

And although Talent Development traditionally relates to development of a talent through sports, we introduce here for the first time the concept of

**Pre-Talent Detection Talent Development**

Naturally, after talent is detected and placed in the chosen sports environment, begins what we suggest to term as

**Post-Talent Detection Talent Development**

**Advanced stages of Talent Recognition (East European Model)**

***Intermediate Talent Recognition***

Next stage of Talent Identification, (which we suggest to term as **Talent Confirmation**) happens further down during the Stage of Basic Training.

In different principle models available in TID practices, next stages are progressively more specialized in relation to the chosen sports.

Intermediate Talent Identification, as usually called in East European models of TID and development is in fact talent confirmation and placement. Main question to answer is: whether potential of a child is sufficient to reach Junior National level (means he/she has no limiting factors in health, motor qualities, skills, psychological sphere etc.).

In Western Models it sounds as directing athletes to the sports in which they are likely to succeed and pointing out inherent limitations in their capacity.<sup>6</sup>

Tests and measurements have to reflect both general and specific fitness. Similar to the initial talent identification battery of tests (for general fitness) could be retained with induction of some additional specific tests reflecting level of skills, gained during acquired training.

Ratio of general and specific tests must be around 50:50. Basic tests along with progress assessment will give clear picture of improvement in motor qualities. Specific test results should be taken into consideration while clarifying the discipline and event for further training. Physiological tests are of great importance because of forthcoming period of increased loads & tougher training. Physiological tests - what event a person is inclined to functional systems-wise (sprints / speed - strength / long distance events / endurance etc.).

Rephrasing a bit – intermediate selection is sort of confirmation of initial talent identification. After intermediate selection is over selected children proceed to basic training.

### ***Final Talent Recognition***

Roughly by the end of basic training after about 3 years of training coaches and selectors expect some sort of reasonably high performance at Junior State / National level. The age would vary depending on the event and will be in the range of 11-12 years for 'young sports', 13-14 for 'normal' and 16-17 years for 'old' ones. At this age and with above experience in sport one should reach certain performance level. This round of Talent Recognition process we suggest to term as **Talent Orientation**.

Two major questions need to be answered at this stage of selection. The first one is: which event or game role/position within chosen sport is to be identified for further deep specialisation?

Another question is: whether an athlete possesses physical, technical, tactical, functional and psychological reserves, developed or inherited<sup>11</sup> to reach International level of performance in seniors' level?

Thus, thorough examination of motor qualities, specific abilities and skills, physiological, psychological reserves as well as actual performance is highly advisable.

The decision bares serious financial investments as well – especially in the countries where top performance sport is funded by the state, meaning, tax payers' money involved.

Tests should be of a very specific nature. Some of the tests though, should reflect general physical fitness as well. Ratio between general and specific tests reaches about 30:70. Moreover, general tests are selected only from among the contributing to the performance of the chosen event.

Final decision has to be taken after obtaining the opinion of experts in respective events.

When the final talent recognition is concluded and decisions approved, comes the time for the selected individuals to get into the stage of specialised training. And the main event for this specialised training has to be precisely identified at the described stage of talent recognition.

### ***Talent Selection***

What happens with a talent next is in fact **Talent Selection** of successfully performing athletes in a rather task (performance) oriented manner. It is occurring on periodical basis when best of the best need to be selected either to the camp, squad or a team.

Those actually have nothing to do with talent identification as such, but are rather related to picking the right ones from among the best available for preparations to perform in particular high standard competitions.

### **Applied Talent Identification projects**



In late eighties – early nineties number of concepts emerged around the world related to talent identification and development. They had one idea and ultimate aim in common – to narrow the field for talent identification in order to maximise TID efficiency and to shorten the way from the novice to the champion.

### ***Erstwhile USSR: Navy Talent search***

One of the official projects related to TID and Development was born in erstwhile USSR Navy. Traditionally, sailors had yawl rowing as mandatory part of their training. So the idea was as simple as genius – to select potential rowers from among the sailors / navy recruits. There was no official statistics summary on the implementation of this project, but even though selected in the age of 18+, many of the selected individuals reached National and some – International level in rowing competitions in the record breaking time. This was actually easily explainable: huge physical potential was already there clubbed with skills of certain degree of similarity with competitive rowing.

## ***India***

### ***National Sports Talent Contest (NSTC)***

Started in 1985, this scheme attempted to identify talented school children in the age group of 9 to 12 years. Children were selected in 10 Olympic disciplines: Athletics, Basketball, Badminton, Boxing, Football, Gymnastics, Hockey, Table Tennis, Volleyball and Wrestling through a series of tests and contests held at various levels.

Following selection, these children were admitted in Sports Authority of India adopted schools where their board, lodging and tuition fees were met by SAI. SAI also provided coaches and special infrastructure facilities to these schools, along with recurring grants for maintenance and equipment.

### ***Army Boys Sports Company (ABSC)***

Boys Sports Companies - a part of the combined project of the Army and Sports Authority of India for overall improvement of sports standard in the country as Boys Companies served as nurseries from which many outstanding sports persons in the past were spotted and trained to advance level in sports.

The concept of the scheme was to make use of the excellent infrastructure, efficient administration and disciplined environment for sports training, available in various Regional Centers of the Army.

The boys were put into Regimental Schools. On attaining the age of 17 years and on completion of 10th standard, the boys could be absorbed in the Army, if they so wished. Thereby, a job was guaranteed to them.

### ***Special Area Games (SAG)***

In addition to the standard talent identification projects like NSTC (National Sports Talent Contest), India was running number of rather daring applied projects.

The most amazing ones were developed under the Special Area Games project of Sports Authority of India. Among them were:

- Talent search among the tribes of the state of Bihar, which were famous in centuries for their archery hunting skills (For archery)
- Talent search among the tribes of Siddhi, who migrated to India from Africa centuries ago and maintained their tribal entity till day (For long distance running)



- Talent search among fishing communities in the state of Kerala, known for their advanced skills of boating very much resembling kayaking and canoeing. (Author was involved in this project while working for Sports Authority of India).
- Talent search in the state of Rajasthan, known as 'Height Hunt' entry criteria for which was minimum height of 6 feet for boys aged 14 to 18 years (For sports where height is among major performance determining factors). Author was involved in this project while working for Sports Authority of India.

Out of four, three were a definite success: Archery related project brought in number of talented athletes including Limba Ram and Shyam Lal.

Two latter projects brought in number of talented kayakers and canoeists who won silver and bronze medals in number of Asian Championships in 1997-2000.

### ***UK: Talent Transfer Programmes***

In 2003 UK Sport and the EIS initiated the move of recalling sportsmen and women who might have the talent to transfer from their originally chosen to another sport in time to win medals in London in 2012. A number of retired gymnasts were invited for assessment based on the assumption that gymnasts can transfer their acrobatic skills rapidly into diving because the physical and skill attributes required for both are quite similar. It was also stated that athletes have international experience, know the unique environment of having to perform perfectly, are comfortable in a high performance culture and climate, are aware of the sacrifices needed to successfully reach the top performance in elite sport and in some sense of the word are ready-made.

In particular, group of former artistic gymnasts, tumblers and gym performers restarted their training towards potential success in the diving pool at the 2012 Olympics under UK Sport & English Institute of Sport (EIS) Talent Transfer Programme.<sup>12</sup>

Another applied project here is "Pitch2Podium" programme created by UK Sport, the English Institute of Sport (EIS) and partners within the UK football authorities (Football Association, Professional Footballers' Association, Premier League and Premier League Learning, The Football League, and League Football Education).

The aim of the programme is to provide young footballers who have been unsuccessful in securing a professional football contract, with a second chance opportunity to succeed in a new Olympic sport.

Programme was based on the fact that over the years of training in football young players have acquired excellent skills, abilities and athletic qualities. And with elite coaching and the right scientific support, many of these attributes could be successfully switched to targeted Olympic sports, where they could achieve Olympic success in 2012 Olympics in London.<sup>13</sup>

### **Suggesting a new Principle Model of Talent Recognition**

Looking at the process of talent handling in the broader perspective, it looks logic to suggest certain changes to the traditional definition of 'Talent Identification' as such. And since Talent Identification is actually just a part of continuum, corresponding to a very particular stage in the much broader process, it seems right not to generalize it but to treat as a stage in the Talent Recognition process.

Therefore, suggested multistage principle model of ***Talent Recognition*** may be presented as in Figure 2.



**Figure 2:** Principle model of Talent Recognition

### **Talent Development model**

Comprehensive Talent Development model should address the issues of:

- Talent development through one sports (straight forward one early sport career)
- Talent migration/transfer) in case original talent identification wasn't successful (dual to multiple early sport career)
- Talent retention/recycling (transfer of talent in later stages of sport career)

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