Contents

Talent Identification in British Judo

Introduction

What is Talent identification? Talent identification is a process that involves making a judgment about a performer's qualities and offering that individual an opportunity to do something for which he or she is suited; talented youngsters must be identified on their ability to be the best players in the future, not their current abilities (Davids, Lees & Burtwitz, 2000). There are five common terms that should be considered at this stage; Talent, Talent Detection, Talent Identification (TID), Talent Selection (TS) and Talent Development (TD).

Talent is a marked innate ability defined as artistic accomplishment, natural endowment or an ability of a superior quality. Talent in sport can be defined as an individual's special aptitude that is above average for specific functions. Physical talents may be functional, expressive or athletic (Peltola, 1992; Williams & Reilly, 2000).

Talent detection refers to the detection of athletes who are not currently participating in the sport (Williams and Reilly, 2000). For example in judo, it may be possible to recruit athletes from wrestling, rugby, or gymnastics aged between 12 and 16 years and put these athletes into a specific development plan. This concept requires further investigation (relating to how sports interact, how can this be achieved, at which age etc) but this is beyond the scope of this booklet.

TID refers to the process of recognising current participants with the potential to become elite players (Williams and Reilly, 2000). In British Judo this is done through entry onto the World Class Start Programme; the criteria for which is discussed below. TS would take the process a stage further. Players that have been identified as "talent" and are participating in the World Class Start Programme will be selected for various competitions and training camps based on physiological and performance criteria. This process is, in effect, choosing the top player in each weight group from a talent pool. TD should take place from the point of entry to World Class Start through to the highest level. According to Williams and Reilly (2000), several researchers

have suggested that there has been a shift in emphasis from Talent Detection to Talent Development in recent years. This is certainly possible in British sport as the focus moves from detection to development in the lead up to the 2012 London Olympics. This booklet will focus on the process of TID and TS. Peltola (1992) defines talent identification as the process by which children are encouraged to participate in sports they are most likely to succeed in based on results of testing selected parameters.

Where is British Judo now? The earliest stage of TID in British Judo is at World Class Start/World Class Talent (WCS/WCT). The criterion for selection onto WCS/WCT is under review - the current system is based upon the results of players at two major events (The Heart of England and the Junior Age Banded Nationals). Players are awarded points for gold, silver, bronze medals and fifth place. Players who are not successful at these events can be selected through regional programmes based on one or two day training sessions led by WCS/WCT coaches (BJA, 2006a). Figure 1 shows how the current system in British judo relates to the scientific approach of TID, TS and TD.

Figure 1: Adaptation of the British Judo Associations (BJA) performance pathway to show points at which Talent detection, Talent Identification and Talent Selection should take place. It should be noted that this is a continuum.
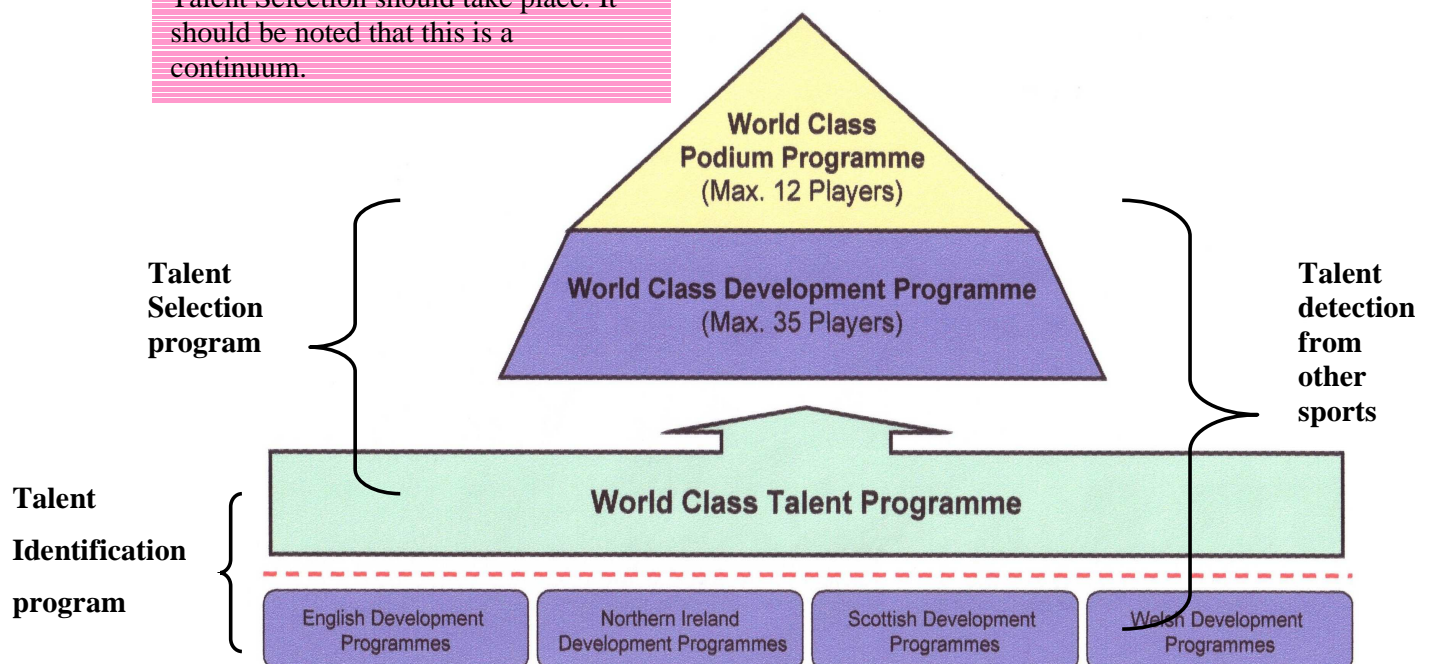
The aim of this document is to create the beginnings of an integrated system and propose areas of research that will enable:

- o The correct identification of players for WCS
- o The correct selection of players for the World Class Development scheme
- o A system of TID that is fair to all members and is based on scientific criteria
- o Unbiased selection of players
- o Early detection of players that allows development in a high performance environment

Why Do We Need Talent Identification?

Traditionally in the UK, participation in sport is based on locality, tradition, desire to participate, parental pressure, school teacher's specialty etc. This can lead to more popular sports having a plentiful supply of athletes whilst minority sports struggle for participants (Peltola, 1992). We must question if "waiting for the right person to come through the door" is good enough in a modern sporting era. Early identification of future elite performers would allow the best youngsters access to the best coaching and training from a young age thus increasing the likelihood of success (Morris, 2000; Williams and Reilly, 2000) and allowing coaches to focus their training time on athletes with higher levels of talent and abilities for their sporting resources (Petola, 1992) whilst eliminating the frustrations of participating in a sport one is not suited too (Ghita, 1994). It has also been suggested that efficient TID procedures should play a major role in modern sport as international competition has become more intense and involves ever-younger players (Pienaar, Spamer & Steyn; 1998). Furthermore it has been suggested that TID programmes are more likely to be successful in sports when the standard and depth of competition are mediocre when compared to other sports (Hoare & Warr, 2000)

Issues in Talent Identification

There are few models of talent identification and talent nurturing that are globally accepted at present (Pienaar, Spamer & Steyn; 1998). Below are some of the controversial issues in TID.

Age- At what age should TID take place? This is a sports specific question that should be answered from a physiological and psychological perspective. Physiologically TID

in judo should take place around 12-16 years, the time of adolescence. This is because judo is a late speciality sport (McIver, 2006) and up until this age players would be focusing on learning the fundamental skills. There are two main thoughts as to the ages at which TID should be conducted. Bompa (1985), suggested that TID should take place over a number of years in the following three phases:

1) 3-8 years – Physician's examination aimed at recognising malfunctions and physical deficiencies that may hinder athletic performance.
2) 9-17 years – These ages will vary dependant upon the sport and maturation of the athlete. Testing is conducted on athletes already participating in sports and is based on physiology and anthropometry.
3) 16 years and over – This area of TID is concerned with high calibre athletes and is very sport-specific. Focusing on physiological adaptations to training and potential for further improvement is recommended.

Peltola's (1992) theory is possibly more pertinent to British Judo and describes the first phase of TID at 10-12 years of age and involves easy to administer tests. Phase two (between the ages of 13-16 years) is also based on easy to administer field tests. Athletes identified at this stage may be selected for elite junior programmes for their sport.

From a psychological view, cognitive research suggests that children younger than 11 years are unlikely to be able to learn and retain knowledge of a technical, tactical and strategical form (Smith, Cowie & Blades, 2005). Indeed, according to Piaget (1951) children reach the "formal operations phase" of their cognitive development from 11 years onwards. This means that they can now consider a variety of solutions to a problem without having to act them out (Piaget, 1951).

Considering the above and the fact that initial screening by coaches takes place by coaches at around the age of 10 years, it can be postulated that the current selection ages in the British Judo Association (BJA) are correct.

Early versus Late maturation - There is a wealth of research that suggests early maturing individuals are more likely to be selected through TID programs than late maturing players (Davids, Lees & Burwitz, 2000; Malina, Peňa Reyes, Eisenmann, Horta, Rodrigues and Miller, 2000; Morris, 2000; Williams & Reilly, 2000). The use of physiological and psychological testing means that there is an inherent bias towards

stronger and more cognitively developed athletes. Whilst this can lead to late maturing athletes missing out on top quality coaching and/or dropping out of the sport at an early age (Williams & Reilly, 2000), the use of weight categories and two-year age banding at competitions does help to limit this problem in British Judo. The majority of research suggests that young players should be selected on skill and future potential rather than physical ability. In this respect, this could be compensated by a longitudinal approach to TID - athletes should be physically tested on initial TID and then monitored for improvement rather than against a baseline figure. Players who do not improve should have their training program reviewed or possibly be removed from the program. Caution should also be placed on "identification events" being in the same part of the year, as suggested by Helsen, Hodges, Van Winckel & Starkes (2000) in relation to soccer where they state that the advantage of being born early in the selection year may relate to physical precocity; that is, players have up to a 12-month advantage in physical maturation over their peers born at the end of the selection year. Hence individuals in charge of TID should be aware of this issue.

Coach versus Science - The initial TID in most sports is based upon the recommendation of talent scouts and coaches (Williams, 2000). This process is speculative, with predictive success being based on intuition rather than objective criteria. It is important therefore, to generate scientific observations that might compliment intuitive judgments about young talent (Reilly, *Williams, Nevill & Franks,* 2000). An interesting comment on this issue was written by Helsen *et al* (2000) who suggest caution in supporting the notion that sport expertise can be predicted on the bases of any specific measure of talent. In a sport where scientific predictions on anthropometry and physiology are likely to hold less significance, more emphasis should be placed on the opinions of coaches. One area where this could prove prolific is in the assessment of game intelligence as described by Falk *et al* (2004). This should be complimented by measurable variables such as agility, perception, will power, and motor skills.

Genetics - Heredity is another ambiguous factor that should be considered in TID, as children tend to inherit physiological and psychological characteristics from their parents (Bompa, 1985). There is strong evidence of genetic involvement in individual differences in sport-related performance attributes (Hoare & Warr, 2000). A

particular area that heredity could be useful in TID is that of training limits. If an athlete has reached the limits set by his inherited physiological characteristics it would be pointless for that athlete too attempt to reach a higher level of performance (Thomas & Beavis, 1985) although detecting this limit may prove very difficult.

Methods of Talent Identification/Talent Selection

TID is approached from many perspectives including physiological, psychological, sociological, technical ability, and game intelligence to name just some. Many also believe that TID is something that should only be done by the experienced coach (Abbott & Collins, 2004; Helsen *et al,* 2000). Good systems incorporate elements of all of these although researchers are not in agreement as to the importance of each aspect (Falk, Lidor, Lander and Lang, 2004; Hoare & Warr, 2000). Although there is a general acceptance in the scientific community for such a multidisciplinary approach to TID, current knowledge in sports science with particular reference to judo precludes the inclusion of some of these variables (Hoare & Warr, 2000). This is possibly due to the lack of empirical inquiries that have been undertaken to explore the most advantageous methods, strategies and techniques to be used in searching for gifted athletes in any sport (Falk *et al,* 2004).

Physiological testing - Many studies have looked at the physiological responses to a single judo contest (*Degoutte, Jouanel & Filaire* 2003; Pulkkinen, 2001; *Wolach, Falk, Gavrielli, Kodesh & Eliakim,* 2003) but in reality, competitive/successful judo athletes must fight several judo contests in succession. Further to this the demands of training in judo are high and as such, judo athletes need a level and type of fitness just to be able to train at a higher enough intensity and duration.

Physiological testing is common in TID (Bar-Or, 1996, Bompa, 1999; Helsen *et al,* 2000; Pienaar, *et al,* 1998; Reilly *et al,* 2000; Williams & Reilly, 2000) but these tests are often based on the standards produced by elite athletes in that particular sport. In a sport such as judo where so many physical attributes can be functional, the identification of athletes based on physical parameters can be precarious (Davids *et al,* 2000; Hoare & Warr, 2000). Team sports traditionally find TID difficult due to the diversity of physical attributes in different positions on teams and as such are now moving towards a more technical and psychological based approach (Hoare & Warr, 2000).

Physiological testing may be prevalent in the development of identified athletes as it may ensure that athletes on development programs are improving whilst enabling more in-depth laboratory testing due to the small number of individuals. This is not to say that mass field-testing does not have its place. One area where it may be used is in TID screening. If athletes were to attend a "TID day" rather than looking for the few who reach this high standard set by elite athletes it may be more productive to look for the masses who do not meet the minimum standard established for future success in a similar way to methods used by the military, police and fire brigade for screening. Such tests might include the achievement of certain base line scores in the multi-stage fitness test, sit and reach test, two minute press up test, or two minute sit up test.

Psychological testing- This area of testing can be split into two areas: personality and perceptuo-cognitive skills. The former includes self-confidence, anxiety control, motivation, task orientation, commitment and use of imagery (Abbott & Collins, 2004) whilst the latter can include attention, anticipation, decision-making and game intelligence aspects (Reilly *et al,* 2000).

Tests already exist for some of these criteria, such as the "Task and Ego Orientation in Sport Questionnaire (Duda, 1989) and the Competitive State Anxiety Inventry-2 (Jones & Swain, 1995). Indeed, Smith & Christensen (1995) found their Athletic Coping Skills Inventory (ASCI-28) to be a much better predictor of athletic success in basketball than an assessment of physical skill. Judo specific tests should be created for decision-making and such game intelligence is discussed below. No judo specific motor test or perception test was identified during this study. It should be emphasised that these tests would be beneficial, as they will alleviate the issues of late versus early maturing individuals discussed above (Williams, 2000).

Anthropometric testing-

Reilly *et al,* 2000 used anthropomtry to assess soccer players and found that three of their measures - namely skinfolds, percentage body fat, and endomorphy - successfully discriminated between sub-elite and elite players. However, the age group studied was older than currently used in judo TID (mean age= 16.4, range 16.2-16.6) and judo has a far more diverse population in terms of body composition. Despite this, Claessens, Beunen, Wellens & Geldof (1987) stated that outstanding judo players can be characterised as robustly built athletes with a rather "thick-set"

stature with large breadth and girth measurements and little development of subcutaneous fat. Anthropometry based on current top-level judo players will potentially be of little use in modern TID due to the potentially diverse nature of the sport and the multitude of different somatotypes. Selection based on somatotype /anthropometry would be unethical although one area of use may be in talent selection where older athletes are tested - body composition can be used to check whether athletes can make the weight they have been selected for and if they will be able to keep making this weight in the future.

Game intelligence- Any identification of physical and mental attributes necessary for success in sport is likely to be limited in value unless complimented by information about proficiency in the skills of the games (Reilly *et al,* 2000). According to Falk *et al* (2004), the ability of a player to anticipate, respond and focus attention in order to produce the appropriate response is a key factor in performance success. Game intelligence cannot be measured directly by laboratory cognitive variables and is therefore speculative in nature with predictive success being based upon the experienced opinion of a coach rather than objective criteria (Falk, *et al,* 2004; Williams, 2000). It may be possible to test game intelligence with simple tests; video footage of contests could be utilised whereby players are asked about their actions in particular situations ranging from winning/losing in the last 30 seconds to more complex situations where players would be expected to fight for a penalty rather than a score. They could also be asked to watch opponents and be questioned on what they would do if fighting them next – this is similar to the video analysis that is currently conducted at competitions. Their ability to assimilate this information and act on it could enable a player's ability to be predicted.

Sociological considerations-
If an athlete does not have the necessary facilities or simply cannot afford to participate in a sport, TID will be of little benefit (Bompa, 1985). This has some weight in British judo, there were 850 clubs in the UK in 2005 (BJA, 2006b). Although there is no published evidence, it is estimated that less than 100 clubs produce players that are on WCS, the development squad or the podium squad. Therefore TID developers should consider this when identifying potential athletes. In the long term the BJA should also make efforts to ensure that there are as many clubs

as possible – suitably geographically spread – to facilitate selection from all over the UK. This will involve developments in facilities and coaching.

Furthermore, supportive parents are seen as integral to future success (Bompa, 1999, Williams & Reilly, 2000). Davids *et al* (2000) suggest that elite athlete, who had been successful in the transition from junior to senior, acknowledge retrospectively the essential support provided by one or more coaches during this critical period.

Another issue is that of schooling. With the new set up in the UK of specialist sports colleges it may be possible to ensure that players have links with them as this would allow access to a more flexible attitude to sports performance, the Junior Athlete Education Programme and a more comprehensive sports network (DCMS: Game plan, 2002).

Talent Identification in Judo

There is no doubt that judo is a complex sport in which to attempt TID. There are huge variations in the anthropometric measurement of elite players, a multitude of physiological qualities and the majority of psychological qualities are difficult to measure. TID in judo occurs in the former Eastern bloc, Cuba, China, Korea and many other countries (Bompa, 1999) but most of these countries are very secretive of their systems. Other counties such as France, Germany, and UK have a less scientific approach to TID and are less successful as judo nations.

Other sports in the UK are already processing athletes through TID. These include gymnastics, netball, hockey, rugby league and rugby union (Moore *et al,* 1998). During his investigation Moore observed the use of performance in trials to select future elite athletes in athletics, cricket, cycling, rowing, judo, sailing and swimming. Although British judo claims to be using regional training sessions led by WCS coaches to identify talent based on coaches' perception, it is worth noting that none of these coaches have received any formal training in TID. Currently 200 players are on WCS and the top two to four of each weight group are selected from 54 weight groups leaving little room for the co-opted players. Despite this, the suggestion from the long-term Player Development Plan (McIver, 2006) is that our future Olympians may not be medalling and these junior events.

Bompa (1999) suggest the following criteria for TID in judo:
- o Coordination
- o Reaction time

- o Tactical Intelligence
- o Long reach and large biacromial diameter

It is suggested the following should be added based on the information reviewed during this research:
- o Concentration span
- o High aerobic and anaerobic capacity
- o Perseverance
- o Courage

Implementing Talent Identification in British Judo

The implementation of TID in judo should be viewed as a long-term objective. This paper proposes a 4-phase approach to formulating a TID program in the UK:
- o Phase 1 – The introduction of TID based on performance at UK based training camps. These camps should be open to all and the aim would be to allow high quality, experienced coaches to observe athletes in a high quality, demanding environment.
- o Phase 2- Research into an exact event analysis on competitive judo to include the demands of competition and training.
- o Phase 3- Based on the above event analysis criteria for TID in Physiology, Psychology, motor learning, game intelligence and perception should be introduced. This should include sports specific agility and motor tests. Testing should be closely monitored and recorded to aid phase 4.
- o Phase 4- Bench marks in the above tests should be established based on a longitudinal research.
- o Phase 5- The introduction of TID and TS based on the above test, training camp performance, sociological factors and competition results.

Phase one would be costly but very productive. If conducted in the near future it may even prove rewarding for London 2012. Week long training camps at the regional Institutes of Sport i.e. Bath, Wolverhampton, Sheffield, Edinburgh, Cardiff and Jordanstown, could have several roles including TID, education of massed numbers of junior players, education of coaches in TID, as well as base line measurements for research. There are currently approximately 200 players identified for WCS in one

year with 50 players on each camp, each facility above holding 1 – 2 camps in one year the BJA could screen 300-600 junior athletes, educate them, educate their coaches and their parents. This would mean either two camps in the summer holidays or one in the summer and one at half term. This phase would be based more on coaches' intuition; simple tests in game intelligence and agility could be conducted. At present regional WCS events are conducted over one day but over a week you learn more about an athlete such as their interaction within group environments, long-term ability, assimilation of technical information, diary-keeping and self-sufficiency. Performance at a young age has been shown to be a poor indicator of eventual attainment of high performance at a senior level. Motivation, learning strategies and determination do appear to be clear indicators; coaches can observe all of this over a week-long period (Abbott & Collins, 2004). Coaches would also have the chance to discuss the sociological issue described above with the athlete and their parents.

Phases 2, 3 and 4 could be linked into research being conducted at the University of Bath of the FDSc in Sports Performance (EJU), particularly if routes for MSc and PhDs are made available.

Phase 5 would be the introduction of a comprehensive TID and TS program, leading to a more streamlined and cost effective approach to the identification of future elite performer in British judo.

Conclusion

Bompa (1999) reported that 80% of the Bulgarian competitors who won medals at the 1976 Olympics had previously been identified as potential elite athletes; this is a fact that should not be ignored. Likewise, Cuba has a judo population of approximately 500 athletes yet won 5 bronze medals and 1 silver medal in the Athens Olympics in 2004. If talented youngsters are to be provided with the best coaches and training from an early age, the likelihood that they will become elite players will increase (Morris, 2000; Williams & Reilly, 2000).

For any sport that is conducting TID programmes there needs to be an ideal accepted model for both the factors that influence sporting performance and TID that athletes and coaches can compare their own qualities with (Bompa, 1985). British judo has a long way to go in terms of talent identification but this is possibly the last opportunity for talent identification for the London 2012 Olympics. With public support and

money flowing into sports from the sponsorship and the government now is the time to strike. Great Britain automatically qualifies a full team for 2012 and it would be unthinkable not to send one, now is the time to identify that team so that it can have the support and coaching it requires to succeed.

A TID programme is pointless without a united talent development plan. The current Long Term Player Development Plan (McIver, 2006) should be looked at to see how the two systems could be integrated.

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