

# Identification and Guidance Scheme of the Rowing Association of the German Democratic Republic

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## 1. Rowing Talent in the German Democratic Republic

What do we, in East Germany, regard as a talent in rowing? In the dictionary "Sport A to Z" talent in sport is described as "the level of ability to achieve high performance in sports." For rowing in the German Democratic Republic (GDR) and probably most other countries, the standard of high achievement in sport is winning a gold medal at the Olympic Games (OG) or World Championships.

Based on this formula, GDR rowers have won 73 gold, as well as 66 silver and bronze medals in the men's events between 1966 and 1988, taking into consideration that they did not participate at the 1984 OG and the 1965 European Championships. Within this period of time only 15 boats missed out on the finals. In 1988, GDR, for the first time, was not represented by an eight in the men's event. Similar records have been achieved by GDR women at the OG and by juniors at FISA (Fédération Internationale des Sociétés d'Avion) Junior Championships.

What are the characteristics of successful GDR rowers? The following are examples of individual rowing careers of talented athletes:

*Thomas Lange*, SCC Halle: born in 1964, 190cm tall, 93kg body weight, medical student. Started rowing in 1973 (at the age of 9). National children's champion in the single scull and quadruple scull in 1975 (age of 11); FISA junior champion in the double scull in 1980 (age of 16), and single scull in 1981 and 1982; World champion in the double scull in 1983 (age of 19) and 1985; winner at the International Rotsee Regatta in 1984 (GDR did not participate at the Los Angeles OG) and 1986 (subsequent hand surgery); World and Olympic champion in the single scull in 1987 and 1988, respectively. This is a classical career of a rowing talent.

*Siegfried Brietzke and Wolfgang Mager*, SC DHfK Leipzig: both born in 1952, 191 and 190cm tall, respectively. Started rowing in 1967 (age of 15). FISA Junior champions in the coxless four in 1969 and the coxed pair in 1970; Olympic champions in the coxless pair in 1972 (age of 20), and the coxless four in 1976 and 1980 (without Mager who had surgery on his finger). Brietzke was a three time Olympic champion and four time World champion (75, 77, 78, and 79).

*Olaf Förster*, SCE Dresden: born in 1962, 196cm tall. Started rowing in 1982 (age of 20), previously a swimmer. Member of the 1984 national team (no participation at the OG); third in the coxless four in 1985 and coxed pair in 1986; stroke of the World and Olympic champion coxless four in 1987 and 1988, respectively.

*Karsten Schmeling*, SG Dynamo Potsdam: stroke of the 1988 Olympic champion coxed four. Born 1962, 200cm tall. Started rowing at the age of 13. Third in the coxless four at the FISA junior championships in 1979 (age of 17), FISA junior champion in the coxless pair in 1980; second in the coxed pair and eight at the World Championships in 1981 and second again in 1982 and 1985 in the eight; third in the coxed four at the World Championships in 1985; World and Olympic champion in the coxed four from 1986 to 1988.

The above serve as some examples of GDR rowing talent or, more precisely, the development stages of successful rowers in Olympic categories. As can be seen, the GDR has educated Olympic champions in many different ways (Table 1).

*Table 1: Recruiting (as a % of Total) of National Team Members from Different Educational Rowing Programs over the Last Few Years.*

Year	Starting as a School Rower		Starting as a Youth Rower	
	Male	Female	Male	Female
1980	26	28	74	72
1985	59	57	41	43
1986	48	33	52	67
1987	52	33	48	67
1988	63	48	37	52

*Youth rowers normally start their rowing training at the age of 14-15 years.*

## 2. Talent Requirements to Achieve High Performance

To be able to recognise talent for high performance rowing, it is important first to define the goals for talented athletes to be identified. The Rowing Association of the German Democratic Republic (DRSV) clearly decided to concentrate on Olympic rowing events for men and women. As a consequence, the GDR selects and prepares athletes for the "heavy" boat categories and does not identify talent for lightweight rowing.

A statistical analysis of former world and Olympic champions gives valuable and clear information (Table 2). This available information clearly defines some anthropomorphic requirements of successful rowers. Additional requirements to height and weight include:

- The capacity to perform long arcs of motion (determined by the athlete's height and length of arms and legs). The rowing arc for sweep oar and sculling is 85 to 90 degrees and 105 to 110 degrees, respectively.
- An extraordinarily high strength endurance needed for the drive (400-500 Nm/FIHD).
- An extraordinary endurance capacity of the cardiovascular system, e.g., VO<sub>2</sub> max of 6.0 to 7.0 litres.

This suggests that a world class rower must have a body height above average and well proportioned body weight. Based on these physical parameters, the athlete must be able to perform correspondingly.

*Table 2: Average Height and Weight of Former GDR Olympic and World Champions\**

Gender		Year	Average Height	Average Weight
Men	Olympic Games	1980	1.92 m	90 to 100 kg
		1988	1.95 m (1.90 - 2.0 m)	
Women	Olympic Games	1980	1.79 m (1.72 - 1.88 m)	75 - 85 kg
		1988	1.82 m	71 - 85 kg (average 78 kg)

\*The average age of winners from the GDR has been 24.8 years for men (1970 to 1984), and 22.2 years for women (1972 to 1984). The average number of years of training for the two groups has been: 9.5 and 12 years for men for sweep oar and sculling, respectively (increasing slowly to 10 years in the case of male sweep oar); and 8.0 years (increasing to 9 to 10 years) for women.

The athlete's performance must be proportional to his/her physical condition. Of course, it is pertinent that athletes are able to bring into action the above mentioned requirements for high performance. For this reason the GDR does not neglect to further the athlete's personality, including his/her intellectual abilities, way of sporting living, and level of motivation. The sum of all these characteristics will finally show up in talent and will be responsible for good performances in the boat in situations where it really counts.

Often smaller and lighter rowers adapt more quickly to a certain rowing technique and engage themselves in more training and competition. However, in the end, motivated heavyweights of the open categories will be superior to lightweights due to the physical limitations of the latter.

Any athlete in the GDR can become a rower. However, in the light of the above mentioned aims and requirements directed towards Olympic boat categories, not all of them will be chosen as talent for rowing. This is consistent and logical for our talent identification scheme.

### 3. Organisation of the Talent Identification Scheme and the Guidance of Talent

In general, sport in the GDR is supported greatly by the government, and, for this reason, it is possible to place sports at a high level within the organisational structures of the society. Rowing too can profit immensely from the resulting high social status of sport. Although this kind of support seems objective, it is important that the possibilities such a system offers are used in a proper sense. For example, while these excellent and objective conditions effect some sports in a positive way (e.g., rowing, swimming, track and field, cycling, canoeing, and sailing), they fail to do so in other sports (e.g., soccer, wrestling, volleyball, skiing, and others). It is obvious that the latter sport disciplines have failed to develop an effective mechanism of action to develop talent.

Rowing in the GDR uses all the advantages the country offers in the search for talent, its identification and development. Big sporting events, such as the *Spartakiade* (national games) for children and youths, and the gymnastic and sport festivals form the classical and social backgrounds for mass sporting activities. For example, villages, cities, councils of smaller and larger regions, as well as the GDR as a country, organise annual championships and *Spartakiade* for children and youths every second year. This support of sport together with schools (ministry for education, sport councils of smaller regions) organise huge sporting competitions

for all sports at a smaller (every year) and larger regional and state levels (every second year for children aged 10 and above). Schools and regional governments have to provide support and help in the organisation of these events. The results achieved at these sporting events are regarded as social happenings and judged on a regional basis (point scoring system, awards, etc.).

Rowing events also take place within this structural framework, and the DRSV uses them to scout and recruit children for our sport. Through additional promotions, leaflets, exhibition windows, personal approaches, and talking to parents, the DRSV aims to have constantly about 1,500 to 2,000 ten to 14 year old children in rowing centres. This goal is achieved largely due to hard work in scouting.

What are the characteristics of young talent? The GDR tries to recruit and care especially for those children promising to reach the ideal size needed for rowing. As only 3% of the population in the GDR are going to be 1.90 m or taller, a major problem exists to recruit these children into rowing, especially as other sports (e.g., European handball, swimming, volleyball, track and field, canoeing, etc.) also require tall children. Youths are first selected according to given height norms (Table 3).

Table 3: Height Norms (in cm) for Children.

Gender	Age (years)				
	10	11	12	13	14
Early developed					
Male	152	160	166	174	183
Female	156	165	171	174	176
Normally developed					
Male	149	155	161	169	175
Female	150	156	165	170	174

To ensure we reach tall children, we use various different approaches, especially:

- Advertising and scouting in schools;
- Relocating children from other sport disciplines where they haven't succeeded;
- Reviewing schools at a later time to recruit slow developers;
- Scouting on the streets (for those who have not yet been recruited);
- Scouting children who live in an area without established rowing facilities.

Recruited children are brought to boys' and girls' sections of rowing clubs where they are coached. It is the aim to guide children in a way that ensures a long lasting bond between them and rowing. Coaches or clubs try to involve parents of young rowers in the process of coaching by informing them about the progress their children make. That way they can get them more interested in supporting their children's ambitions.

There is a rather high general burden on selected children. They have to do their classes and homework, they have to get good results at school, and they also have to travel to each training session. All this has to be in agreement with their own and their parents' interests. As the results at school decide university entrance or an apprenticeship for a chosen profession, the training is quite often stopped if a child starts to perform poorly at school. For these reasons, the GDR tries very hard not to lose any talented school aged children. The aim is to send about 120 to 140

talented children (80 boys and 60 girls) to special sport schools for children and youths (KJSs) once they have finished grade 7. Between grades 8 (13-14 year olds) and the final year of high school (grade 12), or until finishing an apprenticeship, the government starts supporting children and youths to a greater extent. At this stage talented young athletes are gathered for the first time in sport schools (i.e., KJS). All KJSs are affiliated with high performance centres of various sport federations (sport clubs). KJSs have as many classes as there are disciplines in a particular sport (rowing: eight), and the syllabus is identical to that of other government schools. Talented athletes are coached by club coaches. As the capacity of KJS classes is normally filled to only about 60 to 70% by primarily selected talent (e.g., Thomas. Lange), there is a second round of scouting. Those children in grades 7 and 8 (12-14 year olds) who have not yet been recruited are screened again. Although children from this second draft still need to learn how to row, they are kept together with the primarily drafted children in grade 9 (second grade in the KJS).

The novices most often come with a basic preparation obtained in other sport disciplines so that by the end of grade 9, or by the time they are 16 years old (grade 10), they have reached the same level of performance as children from the first draft. The statistics of national teams clearly show that it is possible to obtain similar results by going either way. However, to continuously provide the numbers of talented young athletes required at the senior level, both ways are necessary.

The large number of junior World champions coming from the GDR shows that this is the right track in developing talent. After the junior age, about 40 to 50 male and about 30 female rowers change every year from the KJSs to the senior level. As the KJSs are affiliated with the sport clubs, these rowers have been training in sport centres (clubs) for several years and hence guarantee a consistent supply at the senior level.

Although the GDR tries very hard in advertising and educating, it is still very difficult to provide the numbers of young rowing talent required for all of the Olympic boat categories. The decline in birth rate from 300,000 (15 years ago) to 170,000 today does have its influence on the various squads. Since more rowers are not available for the squads, it is important to choose talent even more carefully.

#### **4. Methods for Guiding Talents**

As mentioned earlier, the selection and guidance of talent to the top is based on a unified general concept of the DRSV, Sports Association of the GDR, and the government institutions (e.g., schools and technical education). This work is based on a general programme applicable to all talent of the different high performance sports. This is one of the advantages in the GDR. Specially prepared and educated coaches are responsible for the guidance of talent. Schools and parents are actively involved in this process. Medical care and selection is guaranteed by a well-organised medical programme, while regular schooling and professional education is guaranteed by special schools based at sports institutes.

Ten to 14 year old talented students usually remain in their normal classes. Those who encounter difficulties at either school or general education still remain in their classes but will be relieved totally or temporarily of their commitments as sport talent.

Talented students in KJSs (i.e., members of centres for high performance) are eliminated from sport programmes if they fail to reach set goals, have medical setbacks or encounter personal problems. They either finish their schooling at the KJS or return to the school they originally came from (there is the same syllabus up to grade 10 for all schools in the GDR). Apprentices, high school and university students finish their education independently of their performance in sport. These obligations concerning both sides guarantee each athlete that he/she does not encounter any disadvantages in his/her schooling or profession after terminating his/her sporting career. Responsible people at the coaching centres take care of this process at the children's level, whereas at the KJSs it is the responsibility of the centres for high performance. There is legal support for this process.

#### **5. Training of Talent**

##### ***5.1 The Training of Talented Children***

In the GDR and in the DRSV there is long-standing experience in the training process of talent. The training and control programme is based on scientific analyses of previous training processes. The main essence of the programme is a precise knowledge of the progress made during training. The aim of the first level of training with 10 to 14 year old children is to develop the following foundations:

- Securing a continuous squad of suitable talent;
- Developing a closeness and bond with rowing;
- Establishing rowing skills and abilities;
- Emphasising further development of general sport abilities as a prerequisite for a career as a high performance athlete (co-ordinated fitness, and motor abilities and skills).

Table 4: Training Guidelines for Children (45 weeks of training)

<b>Age group (in years)</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>
Sessions per week	3	3	3-4	3-4	4
Hours per week	3-4	4-5	4, 5-6	4, 5-6	5-8
General fitness training (hrs per year)	90	110	120	120	120
Rowing training (hrs per year)	60	70	80	80	100
Rowing training (km per year)	-	-	500	600	800

A training session as the basic training unit represents an entity regarding its content, time and organisation. General fitness training comprises games, gymnastics, strength exercises, running, and jogging. Exercises are conducted in a way that aims for a general training preparation for rowing. Rowing includes: 1.) the development of sculling technique in the single, double, and quadruple scull up to a level that allows competition, and 2.) rowing training that primarily develops special fitness and racing abilities according to planned race tactics. The basic training method during the preparation stage is the endurance method at the stimulating level.

Experience has shown it is not advisable to put too much emphasis on rowing skills at this stage. Though children should compete in rowing events when they are 11 to 14 years old. It is more important to establish their general athletic foundation for the later development in that special discipline (talent development). The DRSV has uniform and general guidelines for training that apply to all coaches. According to this scheme, general fitness comprises 60% and special rowing 40% of the overall training during the season, with more special rowing training in spring and summer, whereas in winter (November to March) there is more general fitness training (Table 4).

## **5.2 The Training of Talented Youths (14-16 years)**

Athletes in this age group are gathered in centres for high performance (KJSs). School and athletic training are co-ordinated. Any shortage in the numbers of talented youths will be filled with newly scouted children. Therefore, there are often two groups of athletes aged 14 to 15 years:

1. athletes already educated in rowing programmes for children;
2. recently selected athletes who show good athletic condition but who do not have any rowing experience. This group has to be brought to the technical level of the other group as quickly as possible.

In general, athletes of the KJS should achieve a rowing technique that enables them to compete successfully in rowing events. At the age of 16 they have to be able to scull competitively in all sculling categories and should be familiar with sweep oar rowing. It is not intended to have them specialise in sculling or sweep oar rowing. After having emphasised small boat rowing, we then train and compete again more often in big boats. The emphasis on training and competing in small boats does not always show the expected results. At this age it is important for all athletes to develop individual as well as team boat rowing technique and performance for all boat categories. Sculling is chosen primarily for competitive events as it allows a symmetrical strain on the body. In consideration of the fast acceleration of young athletes, the development of general fitness and co-ordination takes up a large part of the training process (about 50%). Young athletes start strength training by using

bar bells whereby most emphasis is put on the development of strength endurance [50 to 60% of maximal strength (maximum force: Fmax) with a high number of repetitions] or power (50 to 70% of Fmax). Jogging, swimming, gymnastics and games (to develop co-ordinative abilities) make up a large part of the entire training. After grade ten, athletes who are 16 years of age finish polytechnic high school and start a new phase of educational and athletic training.

### 5.3 The Training of Talented Juniors (17 and 18 years)

Individuals possessing rowing talent start a new part in their training upon completion of grade ten and reaching junior age. There are two professional avenues to follow: they either go to college within the KJS to prepare for the university entrance exam (*Abitur*), or they start an apprenticeship.

The training is co-ordinated with the demands of schools or professions. Important conditions for a new and unified training process are already given as most juniors live in boarding schools at the KJS. The training is now becoming more and more specialised with further training as either a sculler or a sweep oar rower. The GDR aims for proficiency in rowing technique in either sculling or sweep oar categories at the competitive level. A lot of emphasis is placed on the rowers' proficiency in rowing small boats (1x and 2-) so that training, competition and selection can be performed in the boat. All tests and selection regattas for juniors are in the single scull and coxless pair.

The general fitness training still comprises close to 50% of the overall training and is conducted primarily between November and March. During this time most training is carried out indoors because of weather conditions (cold temperature, rain, snow, and ice) and short days (during November, December, and January daylight is between 8 am and 4 pm). Strength training takes up a special position in the general training of junior men.

Priority is given to strength endurance and maximal strength training using barbells (2 to 3 times a week). In addition, rowers do a lot of running, cross country skiing, cycling and games to develop the necessary endurance capacity. In spring and summer, rowing, of course, takes larger parts of the training while the general fitness training is reduced. During this period, general fitness training is used as additional training or training to conserve strength. The amount of training increases with the age according to a systematic plan and its intensity is also increased according to the principle of stimulus adjustment. The rowing training gets more specific and more purposeful in its application of general training methods (Table 5).

Table 5: Training Guidelines for Youths and Juniors (45 weeks of training)

Years	15	16	17	18
sessions per week	8-10	8-10	10-12	10-12
hours per week	12-15	12-15	15-18	15-20
general training (hrs)	300	325	400	400
rowing training (hrs)	300	325	410	450
rowing training (km)	2,900	3,200	4,000-4,500	4,500-5,000

After talented young athletes go beyond the junior age, they move to senior training teams at centres for high performance. The training programme of the talent development programme is now completed.

## 6. Forms of Competition, Test and Control

The DRSV prepares an annual regatta calendar with events open for all rowers. In the spring, a long distance event is organised in the quadruple scull (rowing marathon of Berlin):

Age 12 years	5,000m
Age 13 years	8,000m
Age 14/15/16	12,000m

Table 6: Distances and Boat Categories for Age Group Regattas

Age	Distance	Gender	1x	2x	4x	2-	2+	4-	4+	8+
11	500m		x	x	x					
	250m SZ		x	x	x					
12	1000m		x	x	x					
	500m		x	x	x					
13	1000m		x	x	x					
14	1000m		x	x	x					
15	1500m		x	x	x					
16	1500m	male	x	x	x	x	-	-	-	x
		female	x	x	x	x	-	x	-	-
17/18	2000m	male	x	x	x	x	x	x	x	x
		female	x	x	x	x	-	x	-	x

The following additional tests are carried out to assist coaches in the development of young talent:

*On water:* test for the distance covered per stroke (*Vortriebsstest*), control of rowing technique and ratings.

*On land:* 30m sprint (speed), 800 and 1500m running (endurance), obstacle course to test co-ordinative abilities, triple jump with both legs, 'triathlon' with medicine ball to test leaping and throwing strength.

Test results are evaluated using point lists which specify points earned for each performance. The aim of these rowing competitions and tests is to control and regulate the development of talent as well as their training methods.

## 7. Medical Control

In the GDR the process of talent identification and development receives medical support that has to be provided by the sport medical service of the public health care system. A well organised sport medical system of institutions supports athletes in a preventative and caring way. Most of the doctors involved are specialists in sports medicine. For the talent identification, the sports medical staff of the appropriate community are responsible for medical supervision.

Starting at the age of 17, top rowers are tested 3 to 4 times per year on a rowing ergometer, and all test results are entered in a central diagnostic file of performance. Tests are conducted with stepwise increasing work loads to determine the anaerobic threshold and the maximal potential of performance. For

members leaving the KJS, a special medical programme including several training methods guarantee a systematic build-down depending on the number of years of previous training (to avoid syndromes of reduced work load).

## **8. Educational and Professional Training of Talent and Their Financial Support**

Principally there is the same syllabus at the KJS as in government schools. The same applies for professional education, technical colleges, and universities.

Up to grade ten, talented rowers have the same curriculum (with regards to time and content) and final exams as students in government schools. Therefore the term "talented athlete" also refers to an intellectually and academically well developed person. A person who wants to excel in sport cannot be just a talented athlete. Considering the high demand arising from high performance sport, it is necessary that children don't have any problems at school. Only the period between grade 10 and final exams at high school (*Abitur*) or professional schools is extended by one year. As the successful completion of all educational programmes is required for general life in our society, we don't allow a reduction in the quality of education. Besides, parents and children would not agree to reduce education, as this could create a major problem for those athletes who have to give up their career in sports. Even after terminating their sporting career, youths that have entered the KJSs finish their education according to contracts.

Athletes at universities study according to special contracts until the completion of their degrees while employers temporarily relieve professionally working athletes for training and competition. Their salary is paid for. Athletes have to pay for food and training clothes (which are offered to them at a reduced rate). University students receive a scholarship and additional support if their studies need to be extended. The amount of money paid can reach the salary corresponding to that after completion of the degree.

It has been demonstrated that in the GDR talent identification system, parents, government, sport institutions, and athletes work together to support the talent. Parents support their children with great enthusiasm. Regarding financial support, parents have to pay about the same amount for talented as for other children up to 18 years of age.

## **9. Support of Athletes (Talent) After Completion or Interruption of Their Rowing Career**

It has already been demonstrated that the unity of sports, school, government, and parents plays a vital role in the process of talent identification and development. As long as the career of the talented athlete develops normally, i.e., in accordance with the personal interests and those of the society, there will be no problems. If there are any problems in a selected athlete's development, such as those related to health, development of character, results at school, or if the physical development does not meet the expectations, the GDR solves the problems with adequate means.

As talented athletes between ten and 14 years of age enter the process of training without big changes to their normal life, there aren't any problems if the career

ends at this stage. Special training stops, or the athlete's coaching is reduced to a degree acceptable to both parties.

Some remarks on the rate of failure in the process of talent development. About 15 to 20% (about 100 talented athletes) of the children's programme reach the KJSs, contributing about 70% of the desired numbers of students. The (second) draft from 14 to 15 year old children comprise talent who in general have trained in other sports (about 50 children enter at this stage). About 110 students enter the junior level at the age of 16 (60 male and 50 female - loss 25%). Sixty to seventy squad members enter the senior level (40 male and 30 female - loss 25 to 30%). Every year about 8 to 12 members of the senior level reach the top (about 15%). World class rowers are scarce. The main problems causing dropouts are stagnation in growth, lack of performance development, lack of motivation, problems concerning health, or professional problems.

Translated by I. and R. Stocker

*Editor's note: This paper was presented at an Olympic Solidarity Seminar in 1989 (of course, East Germany still existed as a country then). Many elements of society in East Germany were structured to strongly support sport. Some of the elements presented in this paper couldn't have happened without societal support. Therefore, we do not recommend that the East German system be copied. However, many good ideas can be obtained by studying and understanding their system.*