Contents

Purpose/Aim of the programme

Personal Fitness Profile

Introduction to the training programme, purpose and duration

I am undertaking this training programme to improve my performance in my chosen sport. I am aiming to do this by firstly testing my current standard in the main components of fitness, the identifying which of these are relevant to my chosen sport, and which of these I need to improve on. I will then formulate a training program that concentrates on these specific areas.

I am aiming to achieve a marked improvement in fitness, reflected by improved performance in the fitness tests. I am also aiming to generally improve my performance in netball, but specifically, be able to keep up a high level of play until the end of a match.

I will aim to do 8 sessions – 2 sessions a week for 4 weeks. However, I recognise that if I see a marked improvement in my fitness over the course of these 4 weeks, the frequency of my training sessions may increase.

Personal Introduction

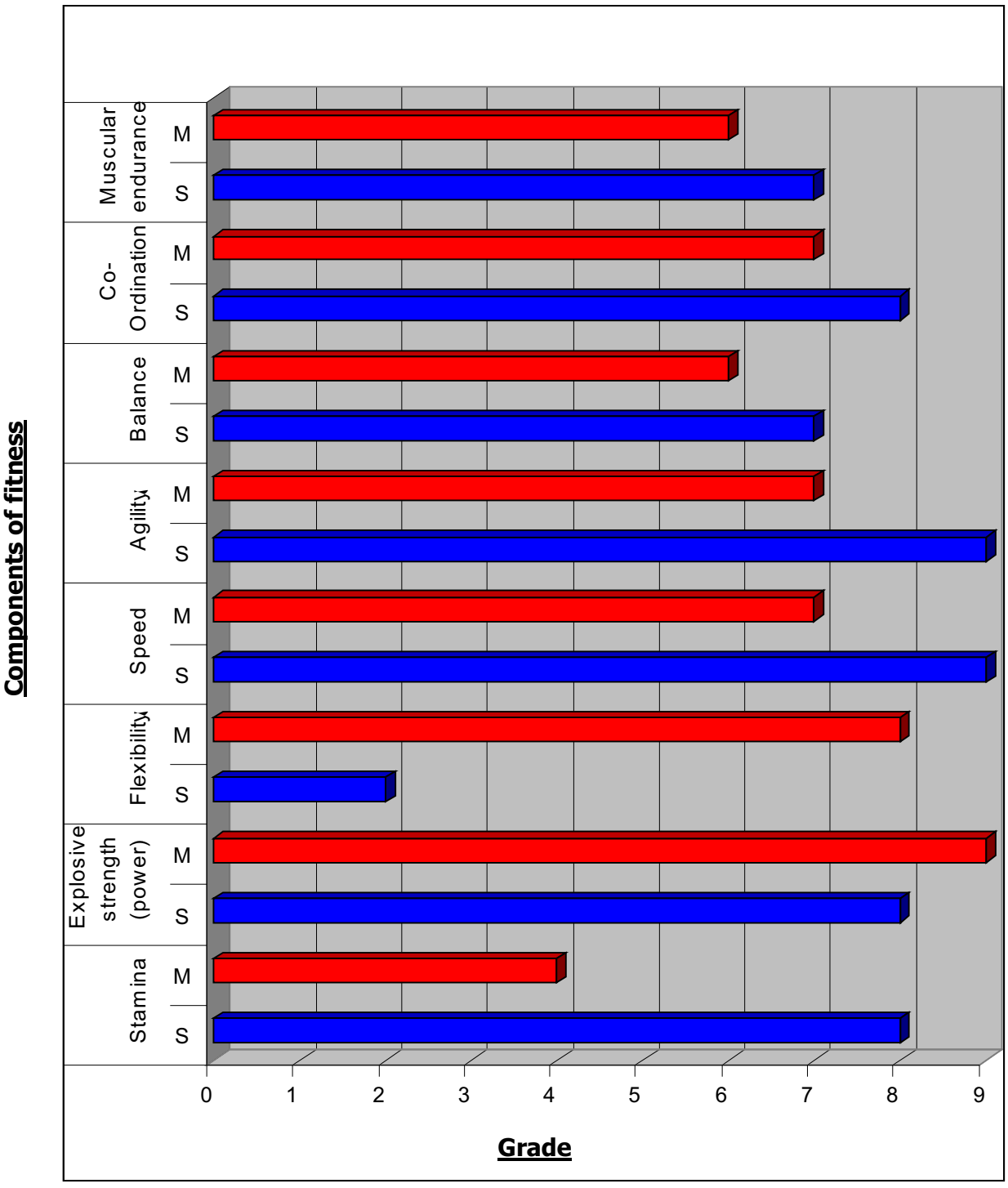
The sport I have chosen is netball. This is because it is a sport I enjoy, play regularly and one in which I have developed good kno wledge and understanding. During the netball season (winter) netball is the sport I play most regularly. On average, I for play between 1 and 4 hours a week (this includes training sessions). I have played netball for my school team since year 5 (aged 10) and have captained my secondary school team since year 7.

When I first began playing, in year 5, I played the position of Goal Shooter (GS) then in year 6, I was Goal Attack (GA). In year 7, I made the transition from shooter to centre (C), ad have played in this position ever since.

I hope that my training programme will improve my endurance, which will help me keep up a maximum level of effort for the duration of a netball match (40-60 minutes). I would also like to join my regional netball team next ye ar, and hope that improving all the components f fitness such as speed, agility, balance, co-ordination and explosive strength, will improve my all round performance and help me progress to this higher level of play

I will now create a graph based on what I perceive to be the demands of my sport and my performance in the pre-program fitness tests (see page 8). This will help me with the specificity (which components to focus on) of my training programme.

Graph to show the importance of the components of fitness in netball against my performance in the fitness tests



Key

M = How important the component of fitness is to achieve success in netball
S = How well I achieved on the test for each component of fitness
Grade (1= lowest -- 10= highest)

Sohna Jawara

Netball is a very demanding sport. Agility is very important, to get free from defenders, and due to the fact that the direction of play is always changing. Muscular endurance and stamina are also important due to the length of the matches. Co – ordination is important to allow accurate throwing and catching. Speed is also important as it gives a huge advantage to both attaching and defensive play. Therefore I will aim to include mainly these components of fitness in my training programme.

Personal Details

I am a female of 15 years old. Therefore I will plan a fitness programme that someone of my age and gender will be able to cope with, but that will not be too easy.

Presently, I am injury free, therefore there are no specific limitations on the type of exercise I will be able to do. I think my current health is excellent, and I am free of disease and ailments, do not smoke or drink alcohol, and am in good mental health.

I feel my current fitness level is generally reasonably high, as I play a lot of sport (usually over 6 hours a week). The off-season for netball is the summer (April- August inclusive) and I feel my fitness (especially stamina) decreases during this period, due to a decrease in aerobic exercise. Therefore, my training program will help me achieve a higher fitness level for the start of the netball season.

In addition to this training program, I will also be playing sports such as tennis and swimming recreationally. I may also go to the gym and do some running, to improve my stamina further, which is one of the main aims of the programme. However I will make note of these activities in the programme.

Current fitness profile (fitness testing)

In order for my training programme to be worthwhile, I will need to show how I have improved each of my selected components of fitness. In order to do this I must have a record of my fitness before starting my training, and then another record once I have finished. The difference in performance should show me how much I have improved and how effective my training was.

To measure my pre programme fitness, we did some fitness testing to gauge our fitness by focusing on 8 of the components of fitness and measuring them with a series of specifically designed tests. The results should tell me the areas of fitness in which I am strong, and the areas which are in need of improvement. My best sport is netball and to be good at netball you need agility, speed, endurance and co -ordination amongst other things, so I will be looking to either be strong in these areas, or identify how to improve in them.

Muscular endurance

This is the ability to use the same muscle/group of muscles for an extended period.

Muscular endurance is important for activities where the muscles are exerting force for a long time such as sit-ups, running and yoga.

Muscular endurance is important for netball because you have to keep running up and down the court for the duration of the match. However it is not essential in the abdominal area or arms.

We tested our muscular endurance by recording the number of sit-ups we were able to do in 30 seconds. We had someone holding our legs down, to make sure they were carried out properly, and timing with a stopwatch.

My score was 24. This was high when compared with the averages. However it would only have been average if I were a boy. It was also high when compared with other students in my class of the same sex. As muscular endurance in the abdominal area is not essential for performance in netball, I would expect it to be very high when compared with other netball players. However, it would probably be low compared to a gymnast because muscular endurance is more vital in that sport. I have identified muscular endurance as an area of strength and although there is room for improvement, it is not necessary for my sport.

Explosive strength/Power

Explosive strength is the ability of your muscles to exert a force in one explosive action.

It is important for sports where jumping especially is required, or explosive bursts of speed.

It is important for netball because some attacking techniques require sudden explosive bursts of space. Jumping is also important for receiving the ball in attack and defence, and for shooters and their defenders.

We tested our explosive strength by doing standing broad jumps and then measuring them with a tape measure.

I scored high in this area, with a jump of 1.75m, when compared with the performance indicators. It was also high when compared with most other students in my class, though many of the boys scored higher. I think the reason my explosive strength is so developed is as a result of playing a lot of netball. I have identified this as an area of strength but I still think an improvement in this area would improve my performance in netball.

Stamina/Endurance or Aerobic capacity

This is the ability of the cardiovascular system to supply the body with blood and oxygen whilst exercising and the muscles to carry out aerobic respiration. High levels of stamina and endurance allow athletes to keep going during sport for long periods.

Stamina is important for activities where a steady level of effort has to be maintained for long periods, such as marathon running, invasion games, cross-country skiing etc.

It is necessary to maintaining performance in netball during the latter stages of games, which can last 40-60 minutes.

We tested our stamina/endurance by doing the multistage fitness test (bleep test). This is a progressive 20m shuttle run, in which a subject runs between 2 lines, judging each run so they reach the line at or before a pre-recorded bleep. As the levels get higher, the bleeps get closer together and the subject drops out when no longer able to keep up with the bleeps.

My score on the multistage fitness test was 6.7. Compared to the national average for netball players, this is below average. It also was lower than for most students of the opposite gender. Compared with the long distance runners at my age,

it is a very low score; however it is quite high for some rugby players or weightlifters. I have identified stamina as an area where improvement is needed.

Flexibility/Suppleness

Flexibility is the degree of movement possible in muscular contractions around joints.

Flexibility is important in sports that require bending and stretching such as yoga, gymnastics and dance.

It is not one of the main skill areas vital in netball. However, flexible quads and hamstrings allow bigger and further jumps, which can improve performance.

We tested flexibility by doing the 'sit and reach' test. In this test, the subject has to sit on the floor in front of a bench and reach forward, pushing a ruler. The distance the ruler has moved is measured. It measures how flexible your hamstrings and lower back are.

I managed to move the ruler 23cm. This was above average when measured against the performance indicators. It was higher that the majority of boys in my class. This is because boys tend to be less flexible than girls are. It was high when compared to other netball players my age. I think this is because I gained improved flexibility from other areas such as dance and yoga, not netball. So people who do not do those sports would probably be less flexible.

Speed

Speed is the ability to perform a movement or cover a distance in a short period.

It is important in many sports, most obviously sprinting, but also in longer distances running, as a final sprint in the home straight can decide a race.

It is important in netball because being able to cover short distances quickly can allow an attacker to loose a defender, and reach a pass. It is also important for defenders to be able to keep up with their attackers.

We tested it with a sprint across 60m and measured the time with a stopwatch.

I scored 10.45 seconds. I did not have the performance indicators for this test but my score was slightly above average when compared to most girls in my class and low compared to most boys.

Balance

Balance is the ability to remain stable whilst still or moving and to control the body.

It is important in sports which require body shapes to be help, of one or both feet removed from the ground, such as dance, gymnastics and yoga.

It is important in netball because to achieve maximum power and accurate aim when throwing the ball, you need good balance. Also, when jumping in the air, it is important to be able to control your body when you land.

We tested our balance with the 'stork stand' test. In this test the subject has to stand on one leg and balance on the tip of the toes of the foot that is on the ground.

I managed to hold it for 31 seconds. This was average when compared to the performance indicators for girls my age, and quite high compared to most of my classmates.

Agility

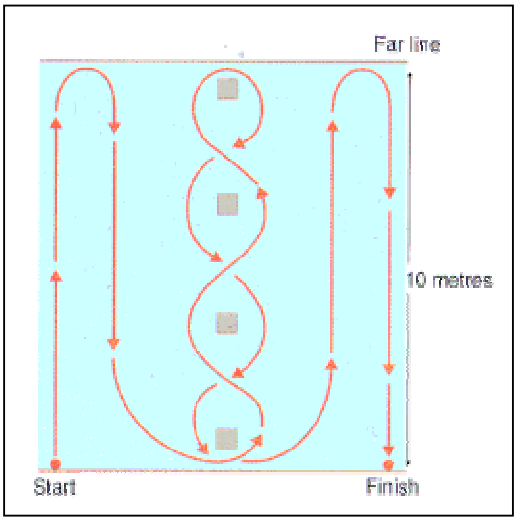
Agility is the ability to change direction quickly.

It is important in many sports, especially invasion games such as football, netball, basketball and hockey because it is a successful way or loosing a defender and advancing an attack.

It is important in netball because when your team gain or loose the ball, you have to change direction quickly to keep up with play.

We tested it with the Illinois agility run. In this test, the subject has to run to and around a series of coloured cones. The time taken to complete the course is recorded.

The course took me 15.43 seconds, which is high when measured against the performance indicators. It was high compared with other people in my class. Although it is an area of strength, I think any improvement in this area would improve performance in netball.



Coordination

Coordination is the ability to link different things such as sight sound balance and different parts of the body, to perform an action or series of actions.

It is important in sports which require the utilisation of several different body parts together such as coordination of arms and legs to perform a dance move, or acrobatic move in gymnastics.

It is important in netball because throwing and catching whilst moving takes co-ordination and so does moving whilst not breaking the footwork rule.

We tested for it by doing the 'alternate hand wall toss test'. In this test the subjects stands by a cone in front of them wall and records how many times they can throw and catch a tennis ball in alternate hands.

I scored 34 catches which was above average for my age and sex. However it was around average in my class. It would be average compared to most invasion games but low compared to a tennis player for example.

Heart rate

As another measure of my aerobic capacity, I conducted a measure of my heart rate before, during and after 5 minutes of aerobic exercise. I will conduct this test again after the training program, and I will aim to have a lower pulse and return to my resting pulse quicker after exercise.

	Rest		Exercise					Recovery			
Minute	0	1	2	3	4	5	6	7	8	9	10
Pulse	84	84	87	98	109	130	130	111	96	84	84

General trends

I have found that in general I did well on the fitness tests and am quite fit. I scored just below average on 1, above average on 2 and high on 3. I think the performance indicators are quite low for a GCSE P.E class, as I found many of my classmates scored above average or high in most of the areas. I also found that the performance indicators for the boys were higher standards than for the girls, except for flexibility. This is because traditionally, boys score higher in these areas.

Analysing the Fitness tests

I thought the fitness tests were quite accurate and fair in general. This is because they were always kept the same. Also, the performance indicators take into account age and sex, because these are major factors in a person's performance. However, most of them have very slight problems and biases.

I think the multistage fitness were slightly unfair because to do well in them, a subject needs a degree of muscular endurance in their legs. Therefore it is not a true test of aerobic capacity.

I think the endurance test were accurate. However, it takes more energy for someone who is heavier to do a sit up than someone who is lighter. They both may have the same muscular endurance but the latter would probably score higher on the test.

I think the explosive strength tests were biased in favour of light people because if you weigh more, it takes more effort to cover the same distance as someone who weighs less.

I think the flexibility tests were very limited because they only tested flexibility in one area of the body. Also, if your arms and torso are long in proportion to your legs, you are at an advantage. Also, because there is a bench in front of you, it limits the distance you can move forward, if you are extremely flexible.

I think the speed tests were quite accurate but the results can be influence by the timer's reaction time, as the stopwatches are manually operated. In addition, after about 50m, a certain degree of muscular endurance may come into play.

The balance tests were fair but a subjects performance was subject to external factors such as background noise etc.

The agility tests were slightly inaccurate because they were manually timed. In addition, the results also depended on basic speed, so it was not a true test of agility.

The co-ordination tests were also a bit unfair because tennis balls were used and people may not be used to throwing them so it could take a few tries to get the best results.

However, despite these slight problems, they were probably the best way of conducting the above fitness areas without specialised equipment.

The tests can be used to inform us about health and fitness and setting targets to make improvements. This is because they allow us to identify areas where our

fitness is lacking, so we can do specific training exercises to improve them. The test can be repeated to measure how much, if any, improvement has been made.

In the army, for instance, combinations of the fitness tests we have undertaken are used to establish a quick indicator of an individual's general fitness. Applicants have to go through assault courses, where several areas of fitness are tested such as aerobic capacity, speed, agility and muscular endurance. In addition, they have to do the multistage fitness tests to indicate their endurance.

There are different fitness requirements for athletes competing at different levels. A boy in a school football team would have extremely different training from someone in a Sunday league or e premiership footballer. Generally, as the level of competition increases training becomes, more intense – a lot more time is spent. In lower levels, most practice is done my playing the sport itself. However top athletes will use specialised exercises and even other sports to improve their performance. For example, premiership football players may take dance classes to improve their balance and coordination. It also becomes more wide ranging and things such as diet are included in training.

Mental and physical fitness are both important in sport. For instance, sports like darts rely heavily on concentration and focus and only slightly on physical fitness, as coordination is the only factor you need. In sharp contrast, contest like the iron man are extremely physically gruelling and require extremely high levels of fitness. However they also require mental fitness, because participants need to be slightly nervous as a bit of adrenaline can improve performance, but not so nervous it hinders performance. However I do not think that with the knowledge and resources available, I could test or improve my mental fitness, so I will concentrate on the 8 physical components for my training programme.

Results (pre-programme)

Results (pre-programme) Component	Importance	Test	Result	Standard (against performance indicators)
Agility	1st	Illinois agility run	15.43 seconds	High
Speed	2nd	60m sprint	10.45 seconds	Above average
Explosive strength	3rd	Standing broad jump	1.75 metres	High
Co-ordination	4th	'Alternate hand to wall test'	34 catches	Above average
Stamina	5th	Progressive shuttle run (multistage bleep test)	Level 6.7	Below average
Muscular endurance	6th	Abdominal curl test	24 reps	High
Balance	7th	'The stork stand'	31 s	Average
Flexibility	8th	'Sit and reach for lower back and	23cm	Above average

		hamstrings'		

Resting pulse: 84bpm
Aerobic training zone: 120-160
Anaerobic training zone: 165-205
Maximum heart rate: 205

Awareness of safety aspects

Safety precautions

To ensure I do not injure myself, and my training programme is carried out safely, I will take the following precautions:

Clothing
- Wear appropriate clothing – loose fitting t-shirt and comfortable trousers/shorts in the right size
- Wear reflective clothing if I am running outside in the dark or dusk
- Wear shoes that are specifically designed for sport and do not give me blisters. Also ones that support my ankle and arch, and absorb impact which could hurt my back or knees
- Always wear clean clothes for good hygiene

Equipment
- Make sure my equipment is not old or faulty, and check its condition before use.
- Use a mat when necessary, to protect myself from the concrete during any outside circuit training
- Use appropriate weights when doing bicep and tricep curls
- Use a skipping rope of appropriate length

Environmental Factors
- Run on routes that are well surfaced (tarmac, concrete, grass)
- Wear clothing suitable to the environment e.g. a hat if it is very sunny, waterproofs if it is raining or gloves if it is very cold

Personal safety
- Make sure my family know where I am if I need to leave the house to carry out my programme
- Carry a mobile phone with me in case of emergency
- Make sure I consume enough calories in a day to give me the energy required to carry out my training programme
- Make sure I consume enough fluid to prevent dehydration

Training programme

When I am selecting my exercises, I will take into account the components of fitness I want to improve. Therefore each exercise will be targeted at a specific muscle group. I mainly want to improve my aerobic capacity, so a significant number

of my exercises will be aerobic. There are also some specific muscle groups I would like to concentrate on. These include mainly the muscles in my upper and lower appendages. Therefore I will do exercises that mainly focus on th ese.

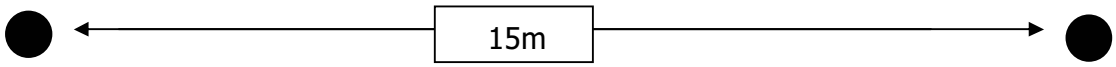
During the programme, I will order exercises so that they ideally stress different muscle groups each time and that there is an alternation between aerobic and anaerobic exercise.

I will try to avoid overuse injuries by leaving at least 1 day to recover between each training session, and longer if I feel it necessary. I will avoid sudden injuries by using proper technique in all my exercises, using appropriates weights where applicable, and properly warming up and cooling down before and after each ses sion.

Warm up

Before each session, I will do the warm up outlined below. The purpose of a warm up is to get the muscles ready for the action by increasing the speed at which they contract and relax. Warming up raises the body temperature which improves th e oxygen supply to the muscles, and it stimulates the blood sugar and adrenaline readying them for action.

A good warm up will do 3 things: raise heart rate; stretch the muscles; include some activity that mimics the activity you are about to perform. This is because it has not been proven that you gain anything from doing all the three components separately. Plus, in netball, you rarely have to stretch your muscles whilst static. Therefore I am going to combine the first 2, and most important in an 'active' warm up. Then do skills practises afterwards.



Start

Active warm up (1 =15 m)

1. Jogging x3
2. High knees x2
3. Heel flicks x2
4. Sideways jogging x2 (reverse direction I am facing)
5. Lunges x2 (hold 4 5 seconds)
6. Circling arms x2 (reverse direction)
7. Jumping x1
8. Sprint x1
9. 20 short distance chest passes
10. 10 long distance with 1 arm
11. 10 long distance with 2 arms

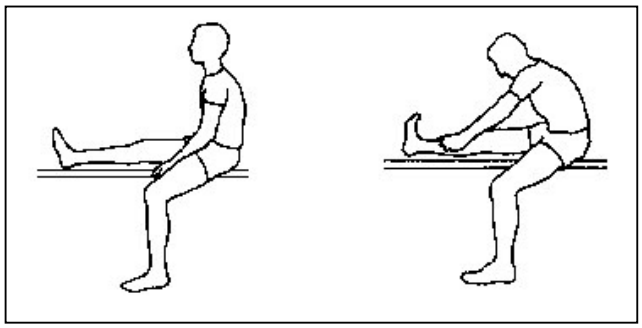
(If I can't find anyone to practise with, I will do 10, 11 and 12 against a wall)

Warm down

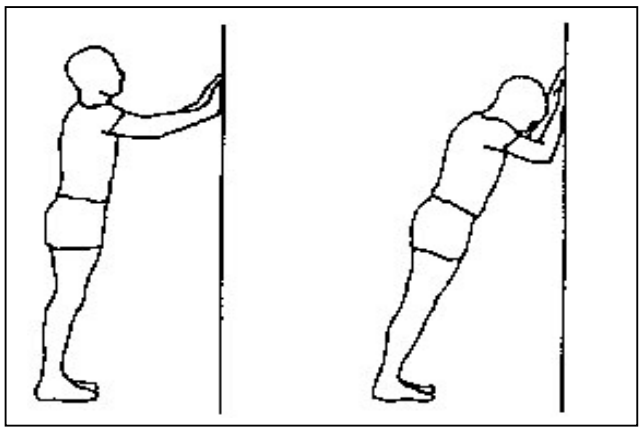
The warm-down is as important as the warm-up; however, it is often ignored. Abruptly stopping an activity may cause pooling of the blood and slow the removal of waste products in an athlete's body. It may also cause cramps, soreness and other problems. The cool-down gradually reduces the body temperature and heart rate, a nd speeds the recovery process before the next training session or competitive

experience. Therefore, I will do the following 10-minute cool down at the end of each of my sessions.

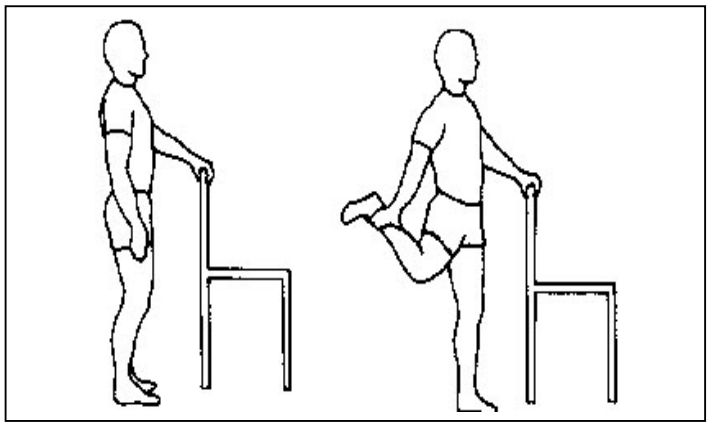
1. Slow aerobic jog for 5 minutes
2. Light stretching (as pictured below)



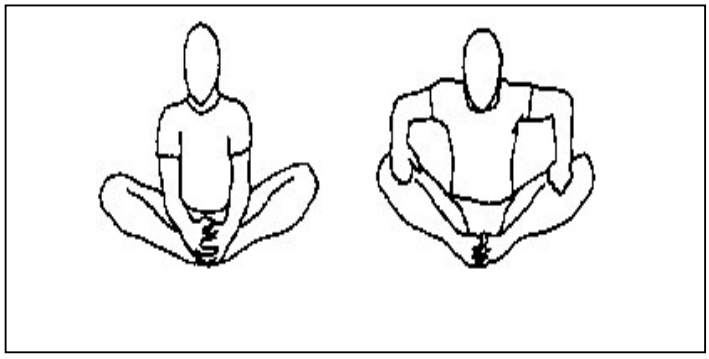
Posterior thigh stretch



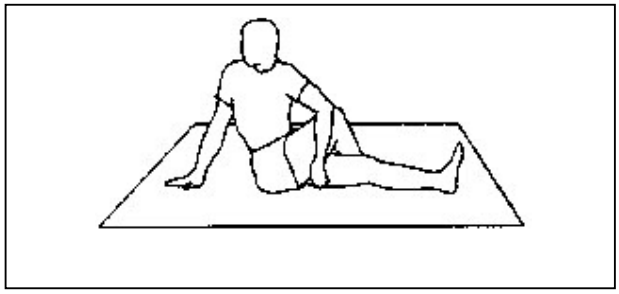
Calf stretch



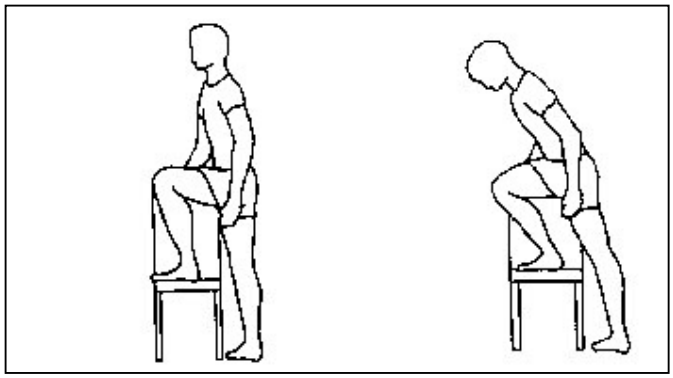
Anterior thigh stretch



Inner Thigh Stretch



Lateral thigh Stretch



Soleus

These stretches are designed to stretch all the muscle groups I will be exercising and I will hold each for five seconds then repeat for the opposite side.

Awareness of chosen exercises

Each session in my training programme will follow the following structure:

1. Warm up
2. Aerobic and anaerobic training
3. Sport specific fitness exercises
4. Sport specific skill practises
5. Warm down

Selected methods of aerobic/anaerobic training (2)

The three methods of training are Continuous, Interval and Fartlek. Continuous involves a long run, with the majority being at the same speed. This is the kind of training required for sportspeople such as long distance runners.

Interval training involves heavy bouts of fast running with recovery periods of slower jogging. During the run lactic acid is produced and a state of oxygen debt is reached. During the interval (recovery) the heart and lungs are still stimulated as they try to pay back the debt by supplying oxygen to help break down the lactates. The stresses put upon the body cause strengthening of the heart muscles and improved oxygen uptake. All this leads to improved performance, in particular within the cardiovascular system.

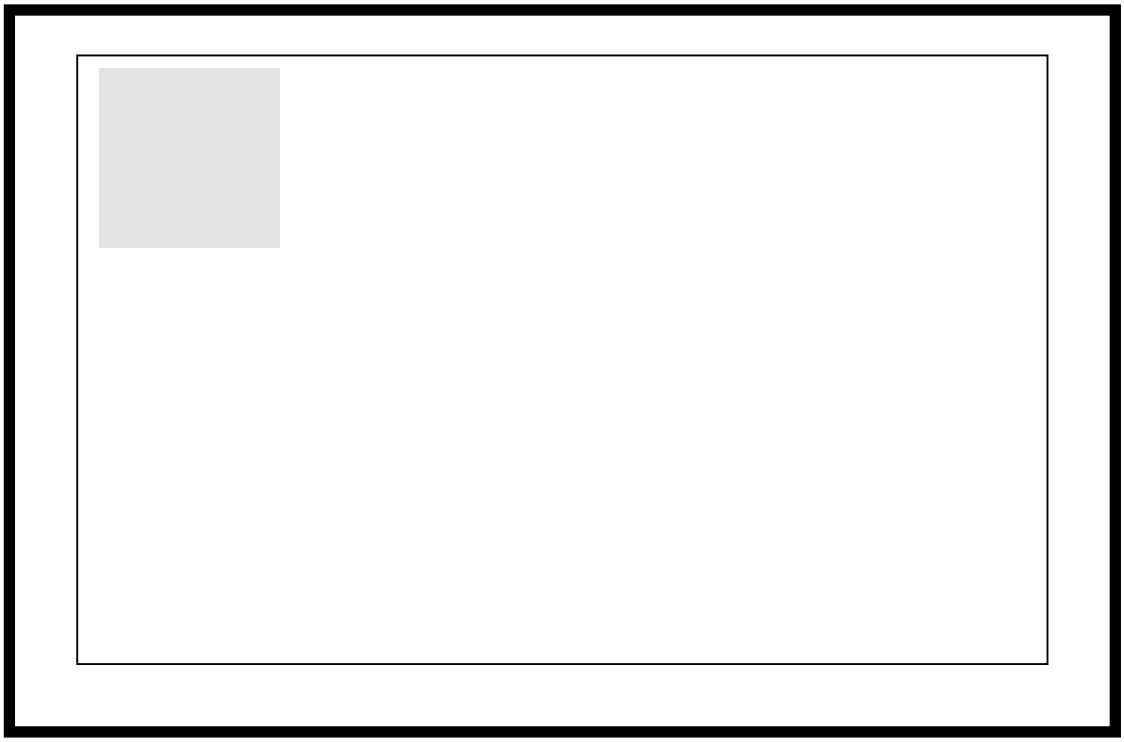
The name Fartlek comes from the Swedish for 'Speed Play' and combines continuous and interval training. Fartlek allows an athlete to run whatever distance and speed they wish, varying the intensity, and occasionally running at high intensity levels. This type of training improves both the aerobic and anaerobic systems.

Continuous training only works on the aerobic system, and netball involves both systems. Interval training does work on both systems, but involves continuously running in one direction, and netball involves many changes in direction and type of movement, as it is played on a court and not a track. Therefore, I have decided to do Fartlek training because it mimics the varied pace of netball the most, allows for changes in direction and movement type, and improves both the aerobic and anaerobic systems, which are required in netball.

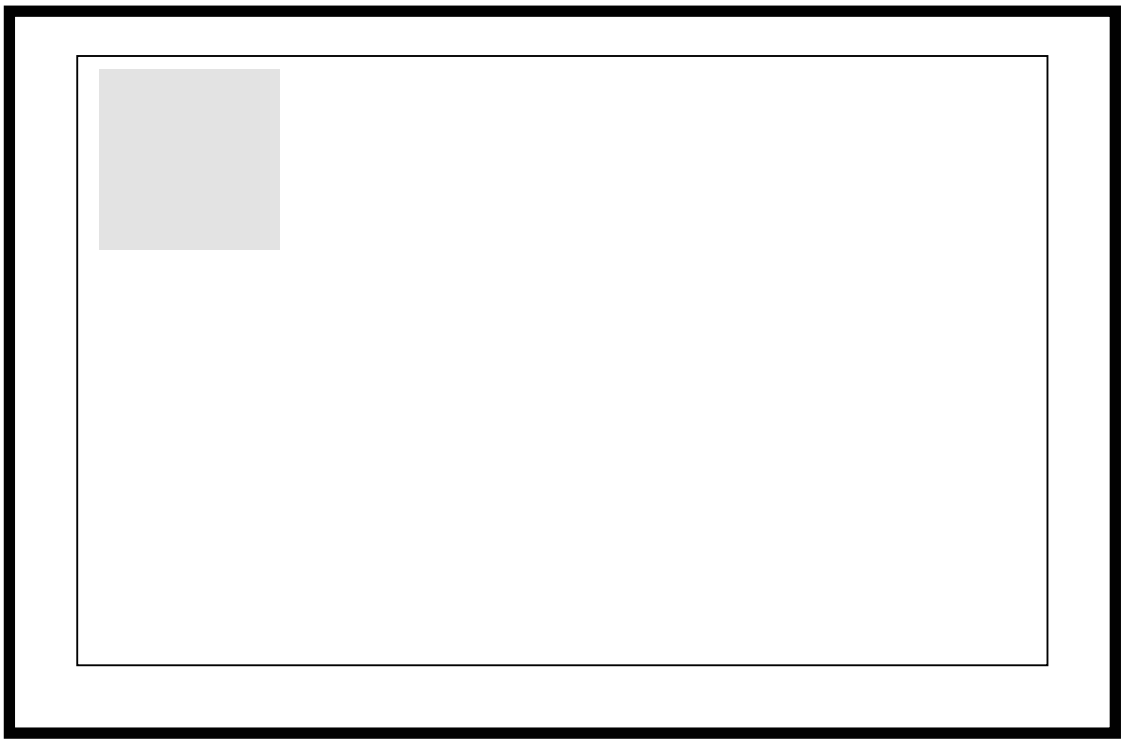
I will try and run in the morning or evening, and not when the sun is at its peak so that I don't get too hot. This is also for safety because I will be carrying out my programme in the summer, and so I could get dehydrated.

I will follow the following routes during my Fartlek training:

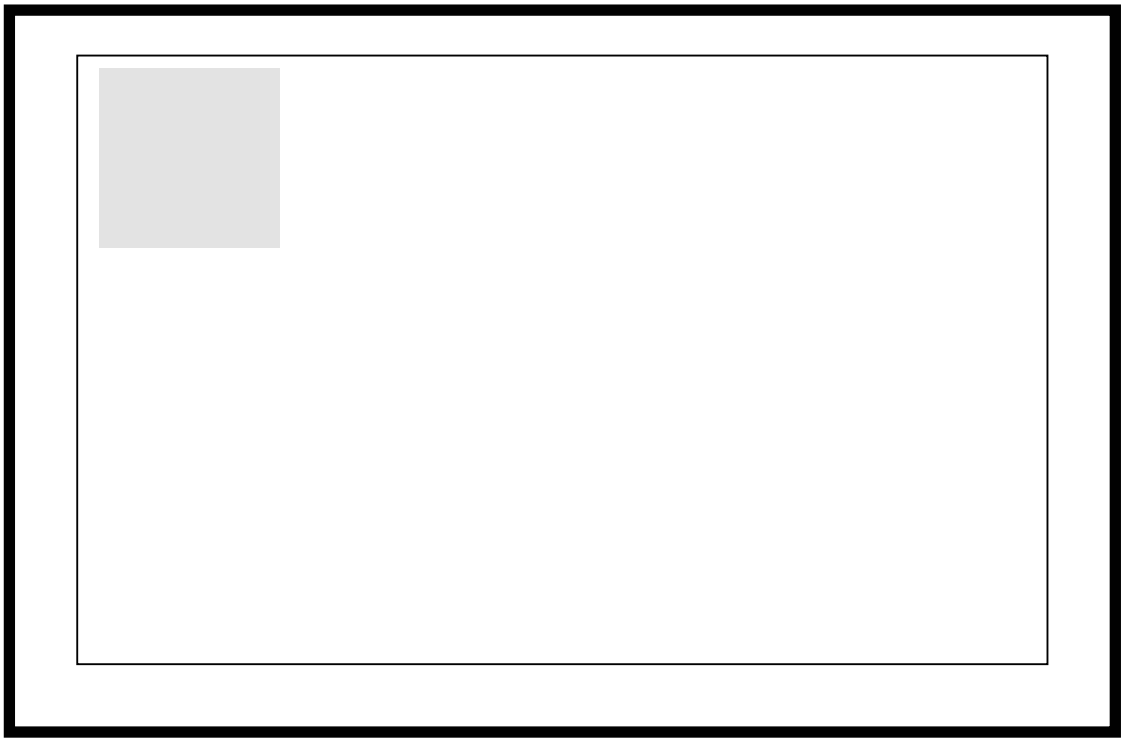
Route 1



Route 2



Route 3



Key

1. Jogging (50%)
2. Jogging (75%)
3. Sprinting
4. Side Stepping (left)
5. Side stepping (right)
6. Walking (recovery)

* Big Jump

Selected sport specific fitness training exercises (3)

After the Fartlek training I will do some sport specific exercises that will work on the specific components of fitness I feel need improvement in order to improve my performance in netball. Each will have a controlled variable which I will use to progress my circuit and one I will use to measure my performance.

	Exercise	Equipment	Controlled variable	Measured variable	Aerobic (a) or anaerobic (an)	Component of Fitness	Muscle group
1	Press-ups	mat	Time	Repetitions	An	Muscular endurance	Biceps / triceps
2	15m Shuttle runs	2 cones	Time	Repetitions	An then a	Muscular endurance / speed / aerobic capacity	Quads / hamstrings / calves
3	Squat thrusts	mat	Time	Repetitions	An	Explosive strength / muscular endurance	Quads / hamstrings / gluteus
4	Tricep dips	Chair	Time	Repetitions	An	Muscular endurance	Triceps
5	Skipping	Skipping rope	Time	Repetitions	A	Aerobic capacity	all
6	Chest / shoulder pass practise	Size 5 netball	Time	Repetitions	An then a then an	Co-ordination	Biceps / triceps / trapezius
7	Bicep curls	Dumbbells	Weight	Repetitions	An	Muscular endurance	Biceps
8	Figure 8's	2 cones	Time	Repetitions	A	Agility	Quads / hamstrings / calves
9	Burpees	Mat	Time	Repetitions	An then a then an	Muscular endurance / explosive strength	Quads/ hamstrings
10	Calf raises	n/a	Time	Repetitions	An		Calves

I carefully considered the activities to include in my programme so that they would develop the specific fitness demands of my sport. For example, I chose to do press ups, bicep curls and tricep dips as two of my activities because they will strengthen the muscles in my arms necessary for powerful throws. I chose figure 8's to help with my agility when moving around the netball court. I chose skipping, burpees and squat thrusts to strengthen the muscles in my legs that are needed for all the jumping in netball. I think this will help improve my performance in netball, as being able to jump higher will improve intercepting.

I carefully ordered the exercises into an order that ensured muscle groups were alternatively stressed. My activities are not evenly distributed between ones that stress the lower and upper body, due to the nature of my sport and its requirements. However I have tried to space them as evenly as possible.

Before starting the circuit, I will ensure that none of my equipment is faulty, and that there are no hazards in the training environment, e.g. broken glass on the floor etc.

My circuit will remain essentially the same for each session; however the length of time I spend on each activity will increase.

Principles of Training

To make my training programme successful, I am going to apply the principles of training, as shown by the acronyms S.P.O.R.T and F.I.T.T

Specificity

I have made my Fartlek training specific to netball by varying the pace a lot, to try to mimic the different rates at which I would work in a netball match. I also included jumps at regular intervals, to mimic the action of intercepting or catching the ball.

I have made my circuit training specific to netball my working on the muscles groups mainly needed in a game, and on the components of fitness I identified as key for success in my sport. I also included some skills practices (chest and shoulder passes)

Progression

I am going to develop my training, as I get fitter by doing the following:

Frequency

I will start by doing 2 sessions a week and will progress to 3.

Intensity

I will increase the intensity of each activity by trying to achieve a higher number of repetitions in the circuit training, and having less rest/recovery periods in my Fartlek training and more sprinting.

Time

I have made each progression of my Fartlek training route longer, so they will take more time each time. I will also increase the time I spend on each activity in my circuit every few sessions.

Tedium

I will try to motivate myself by giving myself targets in my circuit training. I will always attempt to better previous scores. I will also run on the road instead of on a treadmill.

This is a table to show specifically how I am going to progress my training sessions:

Session	Date	Fartlek route	Time on circuit (secs)
1	26 – 7 – 0 5	1	30
2	29 – 7 – 05	1	30
3	3 – 8 – 05	1	30
4	6 – 8 – 05	2	45
5	10 – 8 – 05	2	45
6	13 – 8 – 05	2	45
7	17 – 8 – 05	3	60
8	27 – 8 – 05	3	60

Overload

By making my body work hard, I will force my muscles to adapt and during recovery, become stronger. This should help me cope with the demands of a higher level of intense game play

Reversibility

I weeklong gap between sessions 9 and 10. This is because I was on holiday. Therefore, I have slowed down the progression of my circuits, as I now that this break will leave my slightly less fit than when I left; therefore I need to ease back into it.

Time/Tedium

I have made each progression of my Fartlek training route longer, so they will take more time each time. I will also increase the time I spend on each activity in my circuit every few sessions. I will try to motivate myself by giving myself targets in my circuit training. I will always attempt to better previous scores. I will also run on the road instead of on a treadmill.

Heart rate

I am going to use my heart rate to monitor the effectiveness of my programme. I will record immediately after exercise and for every minute after that until I reach my resting rate. I would hope to see that my recovery time is decreasing, as this would be indicative of a greater level of fitness.

Performance in Circuit Training Sessions

Exercise	Session	1		2		3		4		5		6		7		8	
	Circuit	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Press-ups		4	4	9	11	11	13	16	17	18	20	20	21	24	24	22	-
15m Shuttle runs		9	10	10	10	9	10	13	14	14	14	14	14	18	18	14	-
Squat thrusts		58	64	67	69	69	73	99	102	110	111	110	110	125	127	119	-
Tricep dips		18	19	19	22	23	26	35	38	40	43	44	43	47	48	43	-
Skipping		55	67	78	79	81	88	126	127	134	136	137	137	166	163	164	-
Chest / shoulder pass practise		15	15	15	16	18	18	23	23	25	26	26	25	31	31	31	-
Bicep curls		15	15	16	17	18	20	26	25	25	26	26	27	35	33	34	-
Figure 8's		24	25	30	33	35	39	55	58	63	59	60	60	75	73	72	-
Burpees		20	19	23	23	24	22	26	24	24	23	22	24	43	39	35	-
Calf raises		40	47	49	50	55	61	85	88	94	97	97	97	112	117	119	-

Heart Rate after each Training Session

Session		Pulse (beats per minute)														
	Time	Rest	Exercise	1	2	3	4	5	6	7	8	9	10	11	12	13
1		82	164	159	148	139	122	114	106	95	87	82	82	82	82	82
2		82	168	161	150	141	129	117	103	98	91	86	82	83	82	82
3		84	167	163	150	142	127	116	101	99	95	91	89	89	84	84
4		82	165	159	148	140	125	113	102	99	93	88	85	82	82	82
5		83	164	156	146	134	121	110	99	96	93	86	83	84	83	83
6		82	163	153	144	130	124	111	95	87	85	82	82	82	81	82
7		81	162	150	140	131	119	108	97	86	81	81	81	82	81	81
8		81	164	155	149	138	126	114	99	96	89	85	81	81	80	81

Post-session Comments

1. I found the Fartlek training very hard. I was completely out of breath when I finished and by the last section, I had a stitch. I think I allowed myself too long a break before starting the circuit training. Because it was the first time, I was unsure what to do and I had to change the order of my circuit around, as previously, the first exercise was the shuttle runs and I did not want to do more running. I do not think I pushed myself hard enough today.

2. I feel I did much better. The Fartlek run was still hard, and I was still a bit stiff from the last time I did it so I was a bit slower. I was much more motivated with the circuit training, and improved dramatically in most of the exercises. My skipping was the biggest improvement because our lawn has been mown, so the rope didn't keep being caught in the grass.

3. I made a significant improvement with my time in the Fartlek run, and I did not feel so out of breath and sore when I finished it. I was determined in the circuit training, and pushed myself very hard especially in the second round. I was very worn out after wards.

4. I did a longer Fartlek route today. I had to keep st opping and looking at my route map because I was unsure, so I probably did not get the most out of it. I found the longer circuit training session quite challenging and after the 30 seconds that I am used to, I found it took a lot to keep going.

5. Today was an extremely good session. I found the Fartlek training much easier. And when I was doing the jumps, I could put a lot more effort in. I am used to the circuit now, and feel I am performing better each time. I can feel a huge improvement in my fitness and my recovery time has reduced.

6. Today was another good session. The Fartlek training was much easier, and I felt so good at the end that I did an extra loop of jogging. I think I have reached my peak with the circuits, as I am not improving my as much as I did last session.

7. I did a longer Fartlek route. I had to keep stopping and looking at my route map again. I feel it was too hard. I found it extremely difficult to complete it and I had to stop and walk at the end. It took me ages to recover. Because I was so worn out, I don't feel I did very well at the circuits.

8. I have been ill, so I have not been doing my training programme for over a week. I still have a bit of a cough, and it made the Fartlek run hard, especially as it is a harder route than I'm used to. I gave up on my circuits after one round because I felt too ill to carry on. I also feel as though my fitness has dipped because of reversibility.

Evaluation

Planning

I feel that by doing this training programme, my fitness did improve slightly. I was not able to conduct the same tests I did at the beginning, however my performance in the circuit training improved, and I think my endurance did as well. My recovery rate also improved aver the sessions, which shows me I have gotten fitter.

I feel that the programme was mostly at the right level for me. The only part I found too difficult was the third Fartlek route, but I only did it once so I probably would have improved if I had carried on.

I think in my original plan, the exercises were not in the correct order in the circuit training. This is because I had shuttle runs first. I did not take into account that I would be doing a long Fartlek run just before that. However, apart from that I think I planned the order of my exercises carefully because they stretched alternate muscle groups and were a good mix of aerobic and anaerobic exercises. I am also glad I did the Fartlek run before the circuit training because it was the harder of the two; therefore I had the most energy to do it.

I applied the principles of progression in my Fartlek training my moving onto longer and harder routes after every 3 sessions. I also made my circuit training 15 seconds longer every 3 sessions.

I am pleased with the activities I chose. Did not find them too easy or hard, and they were all based on skills I would use in netball. For example, the figure 8's and skipping helped my agility, which is one of the most important skills in netball.

Performing

I think that my programme was quite easy to manage. I did not need any equipment for the Fartlek run, just a route map. There was a fair bit of equipment for the circuit training but it was all easy to access because I made sure only to use

things I had at home. I stored it in the shed between sessions and I was the only person using it. Because I had to be outside to carry out my sessions, weather played quite a big factor. There were two occasions when it rained and I couldn't do a session, but it wasn't that big a problem because I just did it the next day. I was quite busy during the holidays, so I generally did the sessions in the morning. This also helped with the weather because it was not as hot in the mornings.

I do not feel I always worked to my limits, especially in the first and last sessions. I can tell this because my scores did not improve when I was not working hard enough. I also did not enjoy the sessions as much because I was doing them b y myself.

The only change I made with my programme was to put the shuttle runs second instead of first because my legs hurt from all the Fartlek running I had just done. I did not change anything else because I feel the rest of it was well planned out.

In the first session, performing had many effects on me. I was very out of breath after the Fartlek running, and my nostrils were a bit flared too! My heart rate increased dramatically after exercise and I suffered from muscle fatigue and cramp, especially in my legs. The effects almost entirely reversed after about 15 minutes though. After the circuit training I had much the same effects, but less dramatic.

The results I achieved were largely what I expected, except for the fact that my recovery time got slower before it got faster. I was also surprised at how my fitness decreased after only a week of not performing. However when I applied the principles of S.P.O.R.T, I realised it was because of reversibility.

Overall, my fitness improved. I can tell this because my recovery time, resting heart rate and heart rate after exercise decreased over the four weeks.

I found it difficult to record how I was doing. This is because I was fatigued after exercise and it was a bit inconvenient having to record my heart ra te and write down how many reps I had done.

I think I have improved in all the fitness areas I have set out to. Overall, my progress in all the specific areas in the circuit training improved, and only rarely did I fail to match or improve on my previous score. The thing I am most proud of is the press-ups. When I started, I could only do 4. By the end I could do 22. This shows that my upper body strength improved.

I found the programme physically challenging, however that made it slightly more enjoyable (though it was pretty boring) because I could set myself goals and feel proud when I achieved them. I did not always work as hard as I could, but that was only in the beginning when I wasn't sure what to do and at the end when I was feeling a bit ill.

If I were going to continue with the programme, I would do it with somebody else. This is because it would make it more enjoyable, and force to push myself harder because I would have a bit of competition. I would also try to do part, or all of it at the gym, because then I could get expert help in monitoring my progress and setting new targets.