

My Training Programme

Principles of Training

An individual who wants to improve in a given sport should train in order to improve. This could mean exercising the body and muscles, practising skills for a certain sport or just simply playing the sport more often. One way of improving ones ability is by designing a training programme, which is based around the persons ability so as little injury is made as possible.

The training programme should be appropriate to the sport and specific to the body type, depending on how fit the person is and the skills that are to be improved should be highlighted and outlined clearly in the programme. The principle of reversibility also affects the fitness of a person; as if you stop training then you are likely to lose your fitness quicker than you gained it. This is a disadvantage; therefore the training programme needs to be continuous or regular. The time of year is also important when training. For example, careful planning is needed if an event is approaching, as the person would not want to work too hard or the different weather could affect the outcome of the training depending on the sport chosen.

A training programme can be used to improve general fitness, skill, strength and stamina in a sport. The training programme could be designed and adapted in many ways; helping over a period of time to work the body to it's full potential. When creating a training programme the following suggestions could help get the best results:

1. The frequency could be increased - Doing more sessions a week.
2. Increasing the intensity - Giving the body a slightly harder workout each week.
3. Increasing the duration - Working out for longer helping stamina.
4. Varying the type of training - This would help work different muscles and make the training programme more interesting.

All of these could lead to an improvement if the person involved is willing to put in the effort.

There are also many different training methods, which could help depending on the sport that is being trained for. The five common ones are:

Weight Training:

Weight training involves series of exercises where each one focuses on a specific muscle or muscle group on the body. These exercises will involve the overcoming of a resistance or load. This can be done by using a machines or free weights by lifting and releasing

them. Weight training improves muscular strength, endurance, tone and posture. Weight training increases muscular size, bone density and the metabolic rate.

Circuit Training:

Circuit training involves a series of exercises or activities, with each one taking place at a different station. Each station involves an exercise aimed at a specific muscle group in the body. The exercises are arranged so that muscle groups alternate between work and recovery, to allow lactic acid to be rid of, and opposing muscle groups are worked for balanced strength distribution. Circuits can be organised on the basis of time or repetition and may include rest intervals or they could be non-stop. Circuits can also be designed to improve fitness, strength and endurance, sport specific actions, general muscle tone or personal targets.

Circuit training improves general muscular strength, endurance, muscle tone and posture. It increases bone density, metabolic weight and decreases the percentage of body fat.

Interval and Fartlek Training:

Interval training involves changing between fixed periods of exercise and fixed periods of rest for recovery. This needs to be planned around the person as careful planning is needed to match the duration and intensity of exercise with the level of fitness of the individual. This could be an appropriate method for running and swimming.

Fartlek training is very similar to Interval training, except that the intensity and type of exercise are varied through changes in pace and style. There are no fixed amounts of each exercise. Fartlek is also effective for running and swimming.

Fartlek training and Interval training both improve aerobic and anaerobic fitness and increase metabolic rate. They both decrease the percentage of body fat.

Continuous Training:

Continuous training involves long, slow, distance exercise at a constant rate without rest. At first the training should only be at 60% maximum heart rate and then progressing to 85% maximum heart rate as fitness improves and the distance involved is also increased. Continuous training also improves aerobic fitness and increases metabolic rate.

Pressure Training:

Pressure training involves a combination of skills and fitness. A skill is continually performed until the individual becomes more and more tired and with practice the skill level is improved. This is good for people such as footballers or a basketball player. It can help individual by a rough sketch of what to expect in an actual game. An example of a footballer's pressure training could be shooting over a set distance, a certain number of times for a certain time.

My Training Programme

I have chosen to do swimming for my five-week training programme. Each session should be about 45 minutes in total. I will be using some weight training and interval training throughout my programme as I am alternating my weeks. Some weeks I will use the swimming pool and other weeks I will use the weights room. I have chosen this sport because I enjoy swimming and I used to swim quite a lot. There are many skills needed in swimming such as:

Endurance – The ability of the body to maintain exercise over a long period of time without fatigue. This is needed to be able to swim excessive lengths without fatigue.

Muscular Power – The ability to contract muscles with speed and force in explosive movements. This is needed to create a stronger stroke which will help with speed.

Muscular Endurance – The ability to work muscles very hard for a period of time as they are constantly used, especially in the arms and legs.

Speed – The ability to move all or part of the body as quickly as possible. In swimming the main aim is to beat your competitors by speed so this is essential.

Strength – The ability to carry out tasks easily.

Flexibility – The ability to move joints through their full range of movement. In swimming this is needed mostly in the arms and legs for all the strokes.

I would like to improve my muscular power – especially in my arms as I feel this is my weakest spot in swimming. I also feel that arm strength is the most important factor in swimming as the arms are used to pull our body through the water and also need to work quickly. By hopefully improving my arm power, this could help with endurance and I also aim to improve my arm speed when swimming. I have five weeks in which to hopefully improve my arm strength and speed – 3 swimming sessions, and 2 weight sessions. Over the weeks I will increase the time of exercises and vary them. I need to increase the time of exercises to put more strain on my muscles and to be more challenging so the exercises do not become too easy. I also need to make sure the order of my exercise is suitable, so as not to wear myself too quickly.

I will assess myself at the beginning, middle and end of the programme by doing some tests, which will help me keep a monitor on my progress. My aims are to improve my times from the start of the programme and also to improve my muscular strength in my arms. If I use my sessions efficiently and work at my best I should be able to improve these things. Before I can plan my sessions I need to assess my current health and fitness so I can design my programme around myself. At the moment I do three hours of physical education at school and I walk home from school everyday, which is about a mile. I also do two hours running a week for a local club. I am in good health and have not been ill recently and do not have any problems, which could effect how I feel and act. During my training programme I should be able to work to my full potential without any

drawbacks. My age is also important when planning a training programme because as I am still young my muscles and body are still not fully developed so I need to take care so I do not injure myself.

Warm up/down

I will do my warm up/down before and after each session. When I am using the swimming pool I will also do an extra warm up in the pool before starting the session to get me prepared for swimming. A warm up is essential to prepare our mind, heart and muscles for the following exercise. A warm down is also essential to release any lactic acid build up in the body, which could lead to sore muscle if it is not released. The warm up should warm-up all of the muscles that are to be used in the training.

Out of pool warm up/warm down

Stretching (enables full movement and flexibility of joints) NEVER BOUNCE
STRETCHS

- Start with the head – look left for 5 seconds, look forward, look right for 5 seconds, look forward, look down for 5 seconds. Never rotate your head or put it backwards because the head is delicate.
- Then arms:
 - With one arm at a time, straighten your arm and rotate the arm in circles 5 times. Then use both arms 5 times forwards, then backwards. Then alternate your arms. This helps the muscle around the shoulder and makes the arms more flexible which helps when doing strokes such as butterfly, back crawl and front crawl.
 - Straighten one arm across the chest and bend the other arm round it tightly and push towards chest. This also helps shoulder muscle. Repeat for other arm. Hold for 5 seconds.
 - Rotate wrists both clockwise and anti-clockwise.
- Hips – Stand with slightly legs apart and rotate hips 360degrees clockwise 5 times and then anticlockwise 5 times. This helps the hips become more flexible.
- Legs
 - Stand on one leg and bend the other leg behind you, bending the knee and holding onto the foot. Keep the back straight and try to keep balance. Pull the heel as close to the body as possible. Repeat with both legs. This stretches the quadriceps by making them flexible. This stretch helps with swimming when there is fast kicking action. Hold for 5 seconds.
 - Then stretch the thighs. Stand with legs wide apart and lean the body weight over to one side. A stretch should be felt in the inner thigh. Repeat on both sides of body. Hold for 5 seconds.
 - Then stretch the calves. Stand with one leg in front of the other, both feet facing forward and bend the front leg. Lean body weight onto the front leg. Hold for 5 seconds. Then change legs.
 - Rotate feet both clockwise and anti-clockwise.
- Shake out body

In pool warm up/down

A specific warm up is needed for the activity to complete the warm up. It will help prepare the mind for swimming exercises. For this I will do a five-minute continuous steady swim, front crawl or back crawl. Then I will have a one-minute rest afterwards. As this is only a warm up it is not a good idea to do breast stroke or butterfly as the muscles are not fully warmed up and could be easily pulled.

Tests

At the beginning, middle and end of my training programme I will take tests to monitor my progress.

To test my arm muscle strength I will use a grip meter. This will be a test of my overall fitness. I will do this on weeks one, three and five. I will take 3 readings and then take an average so my results are as accurate as possible. To test my speed and arms in the swimming pool I will do one length of butterfly on the first and fifth week to see if my time has improved. This will test both arms together. I will also test each arm individually using a pull-buoy and doing one length with my right arm, and one length with my left arm. I will also test both arms using a pull-buoy. I will take times for all of these and see if I improve after carrying out my training programme. These tests are specific to my sport.

Exercises

In pool exercises

1. Using a float, do two lengths doing arms pulls with one arm. After the first length, change arms. After both lengths take a 15second rest. After two weeks increase to four lengths before resting.
2. Using a float, do two lengths doing four arm pulls, alternating the arms after each four pulls. After both lengths take a 15second rest. After two weeks increase to four lengths before resting.

(By increasing the lengths, I am increasing the intensity over the weeks of training to make my arms work harder)

3. Using a pull-buoy (or crossing feet), do two lengths each of arm pulls for the following strokes: Front crawl, Back crawl, Breaststroke and Butterfly. In-between each stroke take a 30second rest. After two weeks, decrease the resting time to 20seconds.

(By decreasing the resting time it will get me used to working harder for longer with little resting time. This will help with endurance and power)

Indoor exercises

1. I will do press-ups on the second and forth week. This will put strain on my arms, as I will have to put my weight onto them. I will decrease my break in between each set of press-ups.

Week 2: 1minute of press-ups, break for 2minutes, 1minute of press-ups

Week 4: 1minute of press-ups, break for 2minutes, 1minute of press-ups

2. I will use the rowing machine for two minutes and see how many repetitions I can do in two minutes. This will also put quite a lot of strain on the muscles in my arms and legs.

These exercises are appropriate as they can be carried out throughout the year, and will help towards improving my arm power. This could be an on-going programme for arm power improvement but it would be best pre-season before competitions and competing as strong arms and legs are needed for fast swimming.

Equipment and Safety

Equipment needed: stopwatch – to time laps/press-ups and rowing machine
pull-buoy – to use for exercises
Rowing machine
Grip meter – to measure arm grip and strength
Mats – to do press-ups on

Safety points:

General:

- Always warm up to prepare body for exercise and so no muscles are pulled
- Always warm down to relax muscles and rid lactic acid
- Tie hair back
- No jewellery is to be worn
- Use apparatus safely and properly – ask or read instructions
- Don't overwork the body so injuries are not caused

In the swimming pool:

- Never run around the edge of the pool – it is slippery and could fall and hurt yourself
- Wear tight streamline clothing in the water – no baggy clothes that are likely to get caught (swimming costume and possibly swimming hat)
- Stay within ones depth or where you feel most confident. Be careful of deep water
- Do not dive in shallow water
- In case of emergency, swim to the side of the pool and wait to be told what to do
- If someone is struggling or drowning, do not attempt to help as they could drag you under with them – wait for help

Original Training Programme

Swimming Pool

Exercise	Type	Session		
		1	3	5
Left arm only(pull-buoy)	No. of lengths	2	2	4
Right arm only(pull-buoy)	No. of lengths	2	2	4
Front crawl arms (pull-buoy)	No. of lengths	2	2	4
Back crawl arms (pull-buoy)	No. of lengths	2	2	2
Butterfly arms (pull-buoy)	No. of lengths	2	2	2
Breaststroke arms (pull buoy)	No. of lengths	2	2	2

Weights room/In-doors

Exercise	Type	Session	
		2	4
Rowing machine	Time	2mins	2mins
Press-ups	Time	1min, break 2mins, 1min	1min, break 2mins, 1min

I will monitor my progress each session by recording what I have done and how I felt during and after the sessions. I will also record any results from the sessions, which will help me when evaluating my training programme so I can see if I have improved. I will also record the differences in repetitions/times, whether they are increases or decreases.

Performing

Session 1 – Take tests, first swimming session

Tests: Grip meter

1 length fly

Left arm with pull-buoy

Right arm with pull-buoy

I used session 1 to take my tests so I had initial results to work on. I used the first 10minutes of the session to warm myself up. I found the exercises in my warm-up appropriate to what I was doing as I concentrated a lot on my arms and my legs (these are most used in swimming.) I found that I did not have any pulse raising activities in my warm-up so I added:

- 10 star-jumps
- Jog on spot for 15seconds

- 10 more star-jumps

Then, I took my first test. I used the grip meter on each arm three times and took an average reading. I used the grip meter by standing up straight and holding my arm down by my side and gripping as tight as I could. I found my left arm to be weaker than my right arm – but not by much. I thought this would happen as I use my right arm a lot more than my left arm, and is also my main arm. I use it for things such as eating and writing; therefore it should have more strength. I hope these results will improve. Here are my results:

	Left Arm (kj)	Right arm (kj)
	22	25
	22	25.5
	22	26
Average	22	25.5

I then got into the swimming pool and did the following tests:

- One length fly
- One length using pull-buoy (left arm)
- One length using pull-buoy (right arm)
- One length using pull-buoy (both arms)

Here are my results:

Test	Time/s
1 length fly	18.34
Left arm	23.47
Right arm	23.47
Both arms	18.15

I found it strange that my left and right arms had the same times. I would of thought my right arm would be faster. Also there is not much difference between butterfly and using both arms with a pull-buoy and I would of thought that butterfly would have been slightly faster as I had the advantage of using my legs. But, butterfly is a harder and more complex stroke.

From these results I can look back over my training programme and decide whether it is suitable for the level of my fitness. I feel that my training programme is suitable as these results showed I had average results, therefore I can work at a steady but improving pace during my training programme and overall hopefully improve these results. I have decided that the order I put the exercises in was also appropriate as I kept similar exercises together and I also do not keep changing from the swimming pool to the weights room in one session. Alternating the weeks gives me variety and also more time to spend on each exercise without having to rush and also being able to work to the best of my ability.

1st Swimming session:

2 lengths of arm pulls with pull-buoy (right arm, then left)

2 lengths of arm pulls with pull-buoy (change arm every fourth pull)

2 lengths of arm pulls with pull-buoy for the following strokes: front crawl, back crawl, butterfly and breaststroke.

I chose this order as I concentrated on separate arms at the beginning of the sessions and then progressed to using both arms before moving onto strokes.

I completed my first full swimming session; afterwards I used 10minutes for my warm-down. The session lasted about 45minutes including the tests, lengths, warm-up and warm-down.

I found it more difficult than I thought. I found it hard to keep to the rest times as my session progressed as I became tired quite easily but I kept to the times as much as I could. I have decided to increase the time by ten seconds for my next swimming session, but I will definitely decrease it in the final session.

I did find the session effective but also tiring. I found it effective as all the exercises I did involved mainly using my arms, which is what I want to improve mostly. I found that the next morning my arms ached a little, which is probably where I didn't warm down enough, as I thought it would be ok not to stretch as much. I found it tiring because I had little rests, and it was almost a continuous swim. I found that by doing different arm strokes with the pull-buoy was the most appropriate exercise as I was practising different strokes with my arms, which meant I had more variety and my arm power in different strokes would improve.

I am working safely as I did a warm-up and warm down and I was also careful in the swimming pool when there were also other people around. I am also working safely as I started my session at a good level to go with my fitness level. My next swimming session will be similar and in the last session there will be most strain as I would of increased the intensity of my exercises. That way I will be safer by gradually increasing the intensity – therefore not pulling any muscles. I did enjoy the session, as I had not swum in a long while and as I found some of it difficult, it gave me a challenge.

This session helped mostly with the endurance of my arms and the speed of my arms. It also helped the muscle in my arm as I was using my legs. This meant I needed to use more force in my arms to pull myself through the water – putting more strain on my arms.

Session 2 – Indoor exercises

Session 2 was my first of 2 indoor sessions. I did the following exercise:

1minute of press-ups, break for 2minutes, 1minute of press-ups

Rowing machine for two minutes

Session two was mostly strain on my arms and also to see how good my endurance was. I decided to use more time on my warm-up as in the previous session my arms ached a little after. I didn't include the pulse-raising activities this time because I was not doing any very active work involving any swimming or running etc.

I used the rowing machine first. I timed myself for two minutes and I managed to do 36 repetitions. I found it difficult to keep going continuously for 2 minutes and I had to stop for a few seconds as my arms ached. I also seemed to slow down nearer the end, as you can see my repetitions slightly decreased in the second minute:

Repetitions	1st minute	2nd minute
	19	17

I expected there be less repetitions and I also expected the decrease to be more than just two as I was becoming more tired.

I then had a 5-minute break to rest my arms before I moved onto doing press-ups. I did two 1 minute sets of press-ups with a 2 minutes break. I found the press-ups even more challenging than the rowing machine. I found it too difficult to do full press-ups during the first minute so halfway through I changed to do simpler press-ups where I crossed my feet and balanced my feet. This still put strain on my arms but there was less weight, which helped me a little. I then had my 2 minute break to rest my arms, and then repeated another minute of the simpler press-ups. Here are my results:

Repetitions	1st minute	2nd minute
	39	50

From these results you can see that I improved by 11 repetitions in my second minute. I feel this is because I changed the style of my press-ups to make it easier for me as I was struggling with full press-ups.

I found this session very tiring for my arms although very effective as I feel that another session of this will do my arms good overall and will help in the swimming pool. This session helped mostly with the strength of my arms. My arms ached a lot more than last week – maybe I need to take more rests in between each exercise.

Session 3 – Retake tests to monitor progress, third swimming session

I decided to take my third swimming session first before my tests. I found this to be a bad idea as you will be able to see. This week I used ten minutes for the warm-up and also ten minutes for the warm down.

The swimming session was the same as before, and I found it slightly easier and I kept with the rest times better as I had a slightly longer rest to recover from the lengths. I found I was getting tired easier because I was only using my arms. Overall I found it to be a good session and I feel by increasing the lengths and giving myself more challenge will be very helpful for a final week. Again it was helping my endurance and strength in my arms.

I then retook the same tests from before I started my training programme. Here are my results:

Grip meter:

	Left Arm (kj)	Right arm (kj)
	24	25
	23	27
	23	26
Average	23.3	26

Swimming tests:

Test	Time/s
1 length fly	19.78
Left arm	21.69
Right arm	22.56
Both arms	18.32

Both sets of results amazed me. I felt it was a bad idea to carry out the tests after the exercise because I was slightly tired from exercising, which meant that I probably did not perform to the best I could of done prior to exercise. I was happy that my grip meter results improved, this is probably due to the press-ups and rowing machine, which put much strain on my arms. By looking at the averages I improved my left arm by 1.3kj and my right arm by 0.5kj. I am proud that my left arm improved more, as this is my weaker arm.

I wasn't surprised that some of my swimming times were longer than before, as I before that I was tired when taking the tests although I had a 10minute break. My length of butterfly decreased by 1.44seconds and both arms with the pull-buoy decreased by 0.17seconds – which is hardly anything. I am still surprised that butterfly is slower than one length.

I was also surprised at the results of my left and right arms with the pull-buoy. They both improved – left arm by 1.78seconds and my right arm by 0.91seconds. I was surprised that my left arm was faster than my right arm as it is weaker.

By monitoring my progress at this stage of my training programme I can decide whether what I am doing is ok. I have decided that my exercises are good as I am improving slightly and as my next swimming session increases intensity it will hopefully improve me further.

Session 4 – Indoor exercises

I used this session and it was the same as session two except I added extra rest time between using the rowing machine and doing press-ups. Here are my results:

Rowing Machine:

Repetitions	1st minute	2nd minute
	23	20

Press-ups:

Repetitions	1st minute	2nd minute
	53	48

These results made more sense than my previous results from sessions two. This is because I did more repetitions in the first minute than the second minute, as I became more tired.

For the rowing machine, in the first minute I improved by 4 repetitions and in the second minute I improved by 3 repetitions. For the press-ups I improved by 14 repetitions in the first minute and decreased by 2 repetitions in the second minute. I feel in this session I made the most progress and as I had a bigger break between the rowing machine and press-ups, I felt more refreshed and as I used the simpler press-ups, which I stated before, I felt more able to do more in the time I had. This also made it safer for me as I wasn't putting too much strain on my arms as I felt I was before.

I probably found this session most effective out of all the sessions so far and I felt more confident whilst doing it. My results made me feel happier too as I improved by quite a bit.

Session 5 – Final tests, final swimming session

I found this session not to be as effective as the others because it was during a half term and I had to use different facilities to what I was using in previous weeks. But, I still tried to train as I had done before. I went with my friend who helped time my laps and watched my swimming session.

I did not have as effective a warm-up as usual and this did affect me the next day because my arms ached a lot more compared to previous weeks. This was also due to the fact that I had increased the intensity of my exercises to four lengths – double what I had done before. I also did not have as much time to do the session. Before I started my session I had to make sure the swimming pool was of the same length as the school swimming pool so I could keep the training as similar as possible. I didn't find this session as difficult as I expected. I was able to keep the resting times of 20 seconds, which I had decreased from before, and I found it more enjoyable being able to swim for longer. I was very pleased with this session and I feel pleased with the overall standard of my training programme.

I then retook my swimming tests. I could not take the final grip meter test, as I did not have one available to use, so I had to do that a week later.

Swimming tests:

Test	Time/s
1 length fly	18.68
Left arm	21.32
Right arm	22.12
Both arms	18.12

From the two previous sets of results these are the best – apart from the butterfly, which I was hoping to improve mostly in. From the first tests I took I improved/went down by:

1 length fly: went down by 0.34seconds

Left arm: improved by 2.15seconds

Right arm: improved by 1.35seconds

Both arms: improved by 0.03seconds

I am really pleased with the improvement of my left arm – my weaker arm. 2.15seconds is a lot when swimming. I also pleased with the improved of my right arm, which was also a lot. Although these improvements did not show so much overall when using both arms in butterfly and using a pull-buoy, I still improved.

Grip meter:

	Left Arm (kj)	Right arm (kj)
	24	26
	24	27
	23	27
Average	23.7	26.6

Overall, by using the averages I have improved from the start of my training programme by:

Left arm: 1.7kj

Right arm: 1.1kj

Again, my left arm improved mostly again but I cannot think of a reason why because the exercises were fairly distributed and they both carried out the same exercise. I can only say that maybe my left arm improved because it had most strain upon it because it was weaker, so improved quicker and more effectively. By taking this test a week later could of affected my results because exercise had not been done for a week but I still got rather accurate results.

Evaluation (monitoring and overall)

Alterations

The first two sessions (my swimming session and indoor session) helped me to decide whether the exercises I was doing were suitable for my ability and whether the intensity of them was good for me. I found that I needed more rest in between each exercise of swimming as I was swimming to the best of my ability for a better outcome. Therefore in the following swimming session I increased the time I had originally had to rest by ten seconds. By the final session I was able to decrease the resting time and also the increase the lengths – this shows how I improved.

I also found when I was doing press-ups I could not do full press-ups, which did not help my motivation because I found them difficult to do. Therefore I changed the press-ups to simpler ones where I crossed my feet and balanced on my knees. This still put a lot of strain on my arms but I found them easier to do and therefore I felt better whilst doing them.

I also found right at the beginning of my training programme that I had forgotten to include pulse-raising activities in my warm-up. This was vital, especially before swimming because that involved fast swimming action – even though I did warm myself up in the pool as well. I did not change my warm-up; I just added star-jumps and jogging, which I alternated.

I found that the rest of my training programme and exercises were suitable for my ability and I did not make any further changes and I was happy with it.

Feelings

Before I started the training programme I felt I would enjoy doing it because I was carrying out one of my favourite sports and doing things I do not usually do – such as using the rowing machine. Therefore I felt motivated each session because I had something fun to do. I also made sure the exercises in the swimming pool were ones I enjoyed and weren't too strenuous. I chose butterfly because I felt it was the stroke that used the most arm power and even though I am not very good at butterfly, I find it an interesting stroke. The indoor exercises I made sure concentrated on my arms and even though I was not very good at them it gave me more motivation to try harder even though I did have to change the style of what I was doing.

After most sessions I felt tired and my arms ached a little but I felt this was a good sign and had showed I had worked hard during the sessions. They especially ached after the indoor exercises. I feel that overall I included too many exercises on my arms and I should have included some simple leg exercises to break down the overall effect on my arms and also because legs are also important in swimming and this could of improved my times even more.

Appropriateness of the training programme

I feel I planned my training programme well and gave my exercise a good order. I also felt that it was good to alternate my training programme to give myself more variety and to help myself improve in different ways – not just by doing the sport itself.

I feel that a 5week time period was a good length to have to show an improvement from the original tests. I also feel that the exercises I chose were the right choice because they concentrated on my arms, which is what I stated as being the skill I wanted to improve in swimming – arm muscular strength and power. All of my exercises were based around my arms, therefore giving them full potential to improve.

I improved my arm skills by putting to use the principle of overload. Increasing the intensity and decreasing the time enabled me to improve and give my arms a more strenuous workout. I also improved due to the principle of specificity, basing my exercises around the skill to be improved and putting it to use in the sport – swimming. Another reason that I improved due to specificity is that all my exercise were suited to

my current level of fitness, which stopped me injuring myself and also allowed me to improve in a safe and steady manner.

I used the following exercises for the following reasons:

Exercise	Reason	Did it help improve?	Difficulty
Two lengths arm pulls with pull-buoy (1length right arm, 1 length left arm) 15seconds rest	Works each arm individually, helps with endurance	Yes- especially my left arm - also the arm that ached more	Just right for my fitness level. I found my left arm harder than my right arm
Two lengths arm pulls alternating arms every four pulls (with pull buoy)	Works arms together, to improve their pulling strength	Yes- my overall time for both arms increased and I benefited from alternating arms	Also right for my level of fitness. I felt a little out of breath after
2lengths each of: breaststroke, butterfly, backstroke and front crawl (using pull-buoy)	Puts arms into practice in strokes, helps to see arms improvement	Yes- it helped put my previous arm exercises into full strokes and improve technique	Fairly easy as I only had to apply my arms to different strokes. Helped tone down after previous exercises
Press-ups: 1minute, break for 2minutes, 1minute	Helps power, strength and endurance of arms	Yes, by the fifth week I did more reps and they became easier	Hard 1st week, so changed style. Slightly easier in 2nd week
Rowing machine: count no. Of reps in 2mins	Helps power, strength and endurance of arms	Yes, I did more reps in the fifth week and it became easier	I found it hard to keep going for 2mins, but 2nd session was easier

Overall effect

I found that the overall time period of the training programme was just enough time to assess whether improvement had been made. The only distraction I found was the half term week because I didn't feel as motivated and as I had different facilities I found it harder to keep to the same standard as previous weeks. I also could not repeat my final test until a week after my last session because I did not have my own grip meter; therefore that could have affected my overall results. As I made changes to my training programme it also changed the effect on my body.

In the first session I was out of breath because of not having enough time to rest between laps. My arms also ached as I had completed my first set of tests in the same session as the exercises. In the second and forth sessions my arms ached the most (biceps and triceps) because these sessions posed the most strain on my arms. I was not out of breath as much in the third session because I had increased my resting times and I also did not complete the tests before my session. But, this had an effect on my test results because I was slightly tired before taking my tests, which I believe led to the decrease in my times. In my final session I felt more at ease because I was in different surroundings and I didn't

seem to work as hard as previous sessions so I didn't become out of breath. My arms did not seem to ache any more than usual even though I had increased the intensity.

Appraisal of programme

At the beginning of my training programme I carried out one fitness test and one specific test to the sport I was doing. By doing this I am able to assess now whether I have improved and whether I am pleased with the improvement I have made.

On the grip meter I started with an average of 22kj in my left arm and finished with an average of 23.7kj – improving by 1.7kj overall. In my right arm I started with an average of 25.5kj and finished with an average of 26.6kj – improving by 1.1kj overall. I feel this is due to the press-ups and rowing machine mainly.

On my specified tests I improved as well. I took four simple tests to decide whether my exercises had helped me improved. My time for butterfly improved by 0.34seconds, my time for both my arms improved by 0.03seconds, my time for my left improved by 2.15seconds and my time for my right arm improved 1.35seconds and. As I did not improve much overall using both arms in to strokes I tested each arm individually to get a closer analysis. I improved by a great deal from when I started my training programme and to maintain progress I should carry on the programme more regularly.

How was fitness and health improved?

During this training programme my fitness and health was improved in many ways.

My fitness was improved by the exercises I did to improve my arm power. By doing these exercises it gave my arms a workout harder than they are normally used to. My stamina and strength enabled me to carry out these exercises with little fatigue. I also used exercises, which were correct for my ability and body type and this helped to give me a steady progress without hurting myself.

My health improved in the sense of mental health and physical health. During the training programme I felt good about myself and more active as I was doing sport for a reason and I had aims that I had set myself to achieve. My motivation was led by the fact I had attainable exercises and I chose ones for myself that I would also enjoy doing or could do. I did not enjoy the press-ups very much but I changed them to suit me and it gave me a challenge rather than doing everything that I enjoyed and found easy. I also improved in my press-ups therefore it was worthwhile including them. By having challenge and exercises I enjoyed, this made me come to each session motivated and not dreading the following exercise. I also liked the idea of being totally independent in what I was doing and I was not under too much pressure, which also led to my enjoyment.

Alternating my training programme gave me more variety therefore I felt more motivated because I was not getting bored, which also made me enjoy what I was doing more.

Enjoyment of Training programme

- difficult? Motivation? Did I enjoy the activities?

What happens next?

I feel it would be very useful to continue carrying out this training programme. My weakness in swimming is in my muscular arm strength and by more practice I can improve and hopefully equalise my arms if I concentrate on my left arm more.

If I wanted to improve my arm strength further I would have to carry out this training programme on a more regular basis by increasing the frequency of my programme. As I improve more and feel more confident I should increase the intensity of the exercises further by doing more lengths of each exercise and maybe changing the format of the indoor exercises by seeing if I can do a certain amount of repetitions in a given time. Therefore I can improve on that and hopefully I will be able to do more and more. I could also change the type of exercise – maybe involve my legs in some of the exercises and also including specific exercises for my legs like the running machine, or an exercise bike. This could improve my speed further because I would be exercising both my arms and legs. This would also break down the overall effect of my training programme by giving my arms a break and also introduce my legs, which had not been present previously.

I could also swim more in leisure time for enjoyment so it does not seem like I am only swimming purely for fitness. This could help with my motivation as well. I would have to use my own facilities rather than the schools, therefore I would not have a grip meter to test if I have improved but I can time myself and go to a local pool with friends to train. I would also feel better in myself if I carried on training and it could help relieve stress and tension from me and also give me a break from other activities. Overall I feel that this training programme has benefited me in many different ways.