Task 1 Fitness testing

Flexibility – the sit and reach test.

This test involves sitting on the floor with legs stretched out straight ahead. Shoes should be removed. The soles of the feet are placed flat against the box. Both knees should be locked and pressed flat to the floor (the tester may assist by holding them down). With the palms facing downwards, and the hands on top of each other or side by side, the participant reaches forward along the measuring line as far as possible. When pushing forward the participant must ensure that their hands remain at the same level, not one reaching further forward than the other, as the distance is measured with the hands together. After about 1-3 practice reaches, the participant reaches out and holds that position for 2-3 seconds while the distance is recorded. The movement must be controlled and unstable movements won't count. Also scores are recorded to the nearest centimeter or half inch as the distance reached by the hand.

Advantages of this test:

The sit and reach test is easy and quick test to perform. If using a standard procedure, which is easy to replicate. Also there is a lot of data for comparison. The test is also fairly reliable. It is also a fairly cheap test to run and isn't time consuming. It also has a fairly low skill requirement.

The test being easy and quick to perform is an advantage as it means that's it can be set up by any athletes who wish to test this component, simply and effectively on their own, which saves time for them to concentrate on other commitments. Also this leads to it being easily replicated as it is easy to remember and set up again. Furthermore when athletes test in groups or in their teams their results are easy to compare with others and with the national average, which is seen as an advantage as it educates the athlete promptly allowing them to be aware of their results and being able to analyze whether it is a strength or weakness. This test also shows that it is reliable as it is a controlled measures test which gives clear results which can be compared. Nevertheless it can be argued that warming up properly and not warming up will have an effect on the results and its reliability. This test is cheap as it just involves using the sit and reach bench, which is a one off investment and then just an apparatus which is needed to be looked after. This is an advantage as athletes will be able to test more frequently to help note progression on any previous weakness.

Disadvantages of this test:

There are variations in arm, leg and trunk length in individuals which can make comparisons between individuals misleading. This test is specific to the range of motion and muscles and joints of the lower back and hamstrings, and may not be relevant to other part of the bodies' flexibility. This test also has poor validity.

Variations in the arms, legs and trunk lengths will have misleading comparisons between athletes as it makes it unfair as people with long arms and/or short legs would get a better result, while those with short arms and/or long legs and therefore it's not fair to compare these results . Also the test is specific to the range of motion, muscles and joints of the lower back and hamstrings, and this may not be relevant to other body areas, therefore the results may not be specific enough or accurate for athletes, to get a right feedback which may not help for their progression. This is why this test can be considered to have poor validity as it's only testing specific muscle groups, which doesn't give a accurate overall measurement of flexibility

Strength- hand grip dynamometer test

The purpose of this test is to measure the maximum isometric strength of the hand and forearm muscles. Handgrip strength is important for majority of sports in which the hands are used for catching, throwing or lifting. Therefore this test is often used as a general test of strength.

This test is done by the participant holding the dynamometer in the hand to be tested, with the arm at right angles and the elbow by the side of the body. The handle of the dynamometer is adjusted if required - the base should rest on the heel of palm, while the handle should rest on middle of four fingers. When ready the participant squeezes the dynamometer with maximum effort, which is maintained for about 5 seconds. No other body movement is allowed. The best result from several attempts for each hand is recorded, with a minimum 15 seconds recovery between each effort.

Advantages of this test are:

This is a fairly cheap test. It is also requires a low skills and doesn't take long to do. It also doesn't need to be done in a specific place and can be done anywhere. This is also simple and therefore an easily replicable test.

This test is fairly cheap as it just involves having a dynamometer which is a one off payment to have the device, which can then be used as much as you want. This is an advantage as athletes can test their strengths as much as they want and can keep track of any strength related training, making sure its working or not. Furthermore the hand dynometre requires low skill requirements to run, which means that athletes just need to be able to read the metric units on the scale which are in kilo grams and then refer to a national average grid to see what there score means. This is easy and can be down by anyone without any difficulties which makes it a great advantage to the test. This test can also be done anywhere as it doesn't require any equipment or particular space. This is an advantage for athletes as they can do this test anytime and anywhere. I.e. after training in the gym athletes may wish to test themselves or before training sessions. Overall the test is simple and easy to understand and take part in which makes it easy to replicate, which allows athletes to test themselves through out there season.

Disadvantages of this test are:

The dynamometer must be adjusted for hand size, how successfully this is done will affect the accuracy of the measurements. Also this test has poor validity and reliability can be questionable.

Hand size and adjusting the dynamometer are seen to be disadvantage as not every participant will have the same grip which means the results will vary which can be unfair and have impacts on the results achieved. This test also has poor validity because as a measure of general strength it mainly consists of the strength in the forearm muscles does not necessarily represent the strength of other muscle groups and there are other specific tests that can be performed to find out the strength of specific muscle groups which would be more useful for athletes as they get a more precise and accurate measurement of strength. This test is not completely reliable either as the dynamometer may need to be calibrated regularly to ensure consistent results. Having consistent technique and adequate rest is required to ensure reliability, and this may not be the case as the test isn't done in such controlled measures, however if it was it would improve the reliability.

Speed – 30 meter sprint.

The purpose of this test is to determine acceleration, maximum running speed.

The test involves running a single maximum sprint over a set distance of 30 meters, with time recorded. After a standardized warm up, the test is conducted over a distance of 30 meters. The starting a stationary position with a foot behind the starting line, with no rocking movements. The front foot must be on or behind the starting line. This starting position should be held for 2 seconds prior to starting the run across the 30 meters which is marked out. Your time is recorded by a stop watch and measured in seconds, and then compared to the national average.

The advantages are:

The sprint test is a simple maximal test that can be carried out quickly, and the equipment for the test it readily available. It is a fairly cheap and easily redone. This test also has a low skill requirement. Furthermore the 30m sprint test is also fairly reliable in testing speed.

This test is simple as it doesn't require a lot of equipment to conduct, as it just requires two cones 2 stop watches and a measuring tape to mark out the distances. This means that it's fairly easy set up and also reduces the time taken in performing the test. It also is a maximal test as it makes the athlete work hard, which means the results are accurate, which is beneficial to athletes testing their speed. Alongside being simple to set up, this test also requires low skill level, as you just need to run from a to b as constructed by the time keeper. This is an advantage as athletes can replicate this test whenever they want to test it and they can get help from any one as it's easy to explain.

The disadvantages are:

The disadvantage with this test it that it is affected by the running surface and the starting position, therefore to ensure a consistent and reliable test these factors must remain the same each time the test is carried out. You should also consider the time of day with regard to meals and other activities which might influence performance. Furthermore reaction time of time keepers and athletes also affects the final score.

The surface is a disadvantage because it is held on inside sports hall surface which can be slippery which doesn't allow the participants to accelerate as they may not feel comfortable or in control.

Power - Sargent Jump

The sargent jump is where the participant stands side on to a wall and reaches up with the hand closest to the wall. Keeping the feet flat on the ground, the point of the fingertips is marked or recorded. This is called the standing reach height. The athlete then stands away from the wall, and leaps vertically as high as possible using both arms and legs to assist in projecting the body upwards and then attempting to touch the wall at the highest point of the jump. The difference in distance between the standing reach height and the jump height is the score. The best of three attempts is recorded. The jump height is usually recorded as a distance score.

The advantages are:

This test is simple and quick to perform, and also has a low skill requirement. Furthermore it doesn't cost much to perform and is easily replicated.

The test is simple and quick to perform as it doesn't involve setting up lots of apparatus, plus it has a simple procedure and a straightforward manner of comparing measurements to tell you what your component is, which isn't hard to perform and record. This also means the skill required to run the test is low as it doesn't involve using any complex equipment and just involves reading numeric's. This is important as it means athletes can have this tested whenever they like. Also the low cost is beneficial as athletes can test whenever and as many times as they want, which can be beneficial as they know where they stand in orders of the fitness component.

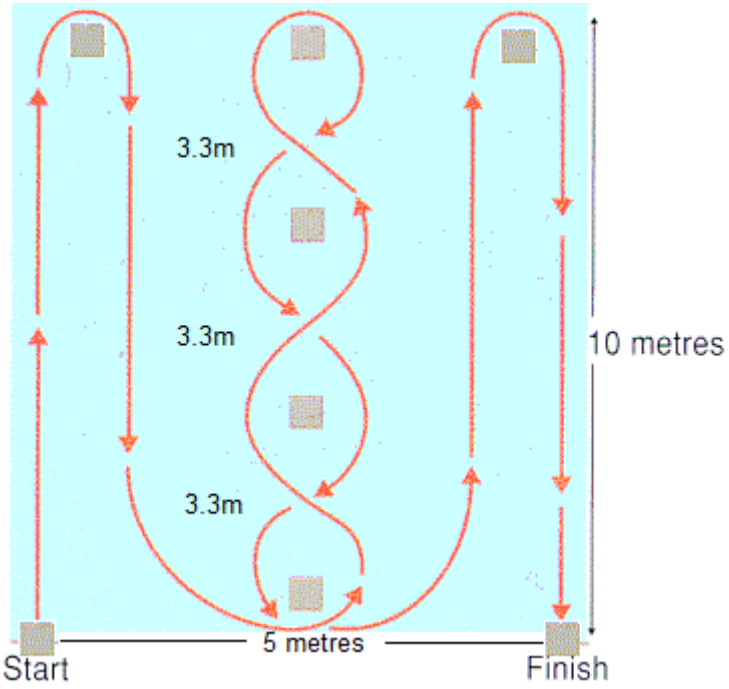
The disadvantages are:

Technique can affect your final score, as the athlete must time the jump so that the wall is marked at the peak of the jump. This means that the reliability of the test is dependent on how strictly the test is conducted. The surface being slippery is also a disadvantage. Furthermore the validity of the test can be questioned too.

Technique can be seen as a disadvantage in this test as not everyone will have the same method of jumping, i.e. some participants will use their knees and some won't. This will affect their maximal result which makes the test unfair and unreliable. Also the timing of the jump and measurement of the reach is also a disadvantage as it's not an accurate procedure as the score keeper may not get the exact reading, and this will cause the score to fluctuate either higher or lower to the actual result. The surface being slippery is also a disadvantage as it will prevent the participant from jumping in their comfort zone with dear of injury as they won't have good grip and worries of injury will prevent them getting their best attainable score. The validity of this test is questionable as it measures the power in the lower body and therefore cannot be used as a general test for power, however it can be used as a specific test for power in the lower body.

Illinois Agility Test

The objective of the Illinois Agility Test is to monitor the development of the athlete's agility. The athlete jumps to his/her feet and runs the course around the cones following the red line route shown in the diagram to the finish. The assistant stops the stopwatch and records the time when the athlete passes the “Finish” cone



Test reliability refers to the degree to which a test is consistent and stable in measuring what it is intended to measure. Reliability will depend upon how strict the test is conducted and the individual's level of motivation to perform the test.

Test validity refers to the degree to which the test actually measures what it claims to measure and the extent to which conclusion,and decisions made on the basis of test scores are appropriate and meaningful. This test provides a means to monitor the effect of training on the athlete's physical development.