Higher PE

Mandatory Skills, Knowledge and Understanding Booklet

What's in this booklet?

This booklet contains the mandatory skills, knowledge and understanding that form the basis of the Higher PE course. The content in this booklet is based around questions that could be asked in the exam.

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**The Use of Model Performers**

*“A model performance is the perfect way in which a skill or performance should be carried out”*

Who could be a model performer?

* A class mate
* Teacher/Coach
* Professional sportsman/woman

The Characteristics of a Model Performer

|  |  |
| --- | --- |
| **Physical**   * They can play a wide range of shots and link skills consistently. Their play is automatic, which means they can perform skills without thinking. * Their movement around the court/field/area is economic and graceful. They are in complete control of their actions. * Excellent physical fitness tuned to the demands of the activity e.g. CRE, Power, Agility, Flexibility. | **Mental**   * They make fast decisions and execute skills effectively based on these decisions. * They have excellent tactical awareness and can exploit their opponent’s weaknesses. |
| **Emotional**   * They can control their anger during a performance and not allow their emotions to cloud judgements. * They do not allow fear/anxiety to impact their performance. By controlling this emotion they can execute skills effectively, make the right decisions and be fluent in their movements. | **Social**   * They provide detailed information to team mates through verbal speech, signalling and their actions. * They have a clear understanding of their role and specific responsibility within the team. |

**Analysing your performance against a model performer (badminton example)**

|  |  |
| --- | --- |
| The characteristics of a model performer in **badminton** | My performance when playing/participating in **badminton** |
| 1. They can play a wide range of skills, which can be linked together automatically and consistently.  2. They can play both touch and power shots.  3. They can move quickly, gracefully and efficiently around the court, which allows them to reach shots early and not use up as much energy.  4. They make decisions quickly, which allows them to attack space on the court and out manoeuvre their opponent.  5. They do not allow their anger to cloud their judgements on court. If they have played a bad shot, they forget about it and focus on the next point. This reduces the number of unforced errors they play. | 1. I can play a wide range of skills, however, my shots lack consistency and I am prone to unforced errors. 2. My skills are not as refined as the model performers, especially my touch shots. I often play my net shot and drop shot too high over the net, giving my opponent an easy kill. 3. After playing a shot in the game I am slow to return to the middle of the court, which means I am not ready to receive my opponents return. 4. Because my skills are not automatic I still have to think about the technique when hitting the shuttle. This means my decision making is slower, which means my play is more reactive than proactive. |

**How have you used model performers to gather information on your performance?**

Technique Analysis Observation Schedule

To gain more focused data on my performance I used a **Technique Analysis Observation Schedule**. Before looking at my own performance, I observed a model performer execute the skill as many times as necessary to gain the set criteria (P.A.R). This painted a picture of how the skill should be performed. Having written criteria in the form of a technique analysis observation schedule my shot was observed. An observer sat at the side of the court and observed me in a feeder practice whilst a partner racket fed to the back of the court as many shuttles as necessary. The observer put a tick or cross next to each criteria for the identified shot as I moved from base to the back of the court and recovered quickly back to base after striking the shuttle.

Video Analysis

I watched a video of a model performer in my chosen activity. Whilst watching the video I analysed their performance carefully and noted down their characteristics in relation to the four factors (Physical, Mental, Emotional, Social). I then watched a video of me playing in my chosen activity. I compared my performance to the characteristics' of the model performer and then recorded what I felt were my strengths and weaknesses.

**The Benefits of Comparing your Performance to a Model Performer**

* They help to create a “picture” in your mind of how a skill or performance should be carried out. By watching them practice you get a better understanding of the correct techniques to use. By watching them in a game you can watch and copy their movements and decision making.
* By watching the model it motivates you to want to reach that automatic standard and therefore gives you the determination and drive to progress your performance.
* It allows you to identify your own strengths and weaknesses by comparing your performance to the model. This allows you to pin point and focus on areas of weakness such as having a low elbow when hitting the shuttle in badminton.
* This also allows you to set realistic but challenging individual goals and targets to strive for. This should give you the confidence and determination to improve and reach that high standard of an automatic performer.

**The Limitations of Comparing your Performance to a Model Performer**

* If a performer has limited knowledge of the game or a skill this may lead to an inaccurate comparison. Subsequently, progress will be limited as they are working on the wrong areas for development.
* The model performer you are watching might be at a level that is too advanced for you. This could lead to you setting unrealistic targets and goals. Also, you could become demotivated as you realise you will never reach their level.
* In certain activities there might be a lack of model performers for you to observe. Your class mates or teacher might not be playing at a level which allows for a strong comparison. Also, it may be difficult to get a video which clearly highlights a strong performance.
* The time involved in collecting and analysing your results in comparison to a model performer may be disproportionate to the benefits. Your time might be better spent focussing on developing your performance through other approaches.

**Qualitative, Quantitative, Objective and Subjective Information**

This area relates to the type of information generated by data collection.

**Qualitative Data**

This relates to someone's thoughts, feelings and observations. It is non numeric information which is very much based on someone's opinion.

**Quantitative Data**

This is information that can be directly measured and can be seen as factual information rather than opinion. The information collected is number based and provides hard facts.

Where possible a combination of quantitative, objective data, with some qualitative/subjective information provides a good starting point for planning performance development. This is because it gives a wide, detailed picture of the whole performance/factor.

The benefits of Qualitative Data and Subjective Information

1. This type of information provides a more detailed analysis of performance e.g. the teacher/coach providing feedback on your play. The performer can build a more accurate picture of their strengths and development needs and use this to create realistic goals and a development plan.
2. This type of data is useful for collecting information on Emotional, Mental and Social Factors that impact on performance. In comparison to quantitative data and objective information it can provide clearer information on human behaviour, interaction between team mates and motivation levels. When monitoring and evaluating performance this allows you to confidently adapt your programme or reassess goals as the data is more accurate and reliable.

The benefits of Quantitative Data and Objective Information

1. The data collected is easy to analyse e.g. by performing the 12 minute cooper test you can easily compare your score to the norms of people of the same age and gender to evaluate your cardio respiratory endurance.
2. Comparing your score to standards for example in the Illinois agility test makes it easier to make accurate comparisons later on. The test conditions always remain the same and are easy to set up which makes it easier to benchmark performance and gain reliable data.
3. Easy to collect information from large groups, quickly, which means that comparisons can be made and norms established to check for progress and adapt next steps if required.
4. Data that is counted or measured and given a value can help set targets/development priorities.

**Reliability, Validity and Practicability**

Reliable Data

* It needs to be consistent with your "normal" situation so you can re-test and compare.
* The data is dependable and it will give the same outcome every time.
* Many factors can impact reliability such as mental state, amount of sleep prior to test, time of day, energy levels, test environment , people present, athletes prior experience etc

Valid Data

* A test is valid if it measures what it claims to measure. For example an Illinois agility test only tests agility.
* Validity is impacted by the Subjective, objective nature of data collection, lack of honesty, equipment, different people, different players, players not prepped beforehand etc.

Practicability (Appropriateness)

* Suitable or right for a particular situation or purpose.
* Individualised to look specifically at you
* Why have you chosen this method?

**Principles of Training**

For a training programme to be effective you need to apply certain principles of training to your performance.

**SPECIFICITY**

This is the key principle in training and is crucial to performance improvement. Your training has to be specific to your performance needs for your chosen activity and must be relevant to your own levels of fitness and ability.

In order to ensure that you are selecting the correct type of training for your activity, you would need to look closely at the activity and assess the areas of fitness which are crucial to performance in the activity and your role within it. All basketball training will be carried out in a basketball context to reflect the movement patterns, skills and physical demands of the game.

To develop **cardio respiratory endurance**, the drills will be performed continuously at a **moderate intensity** for a long period of time (20 minutes) whereas for **speed endurance** the drills will be performed at a **higher intensity** for a **shorter** period of time with a rest for recovery in between.

**PROGRESSIVE OVERLOAD**

Progressive overload occurs when you exercise at increasingly greater levels. You progressively add to the demands of your fitness programme as your body adjusts to the benefits of your current fitness programme.

The underlying fundamental principle of training is that whatever demands you make of your body, the body will adjust to cope with the demand. If you ask your body to work for a longer time without rest, it will become more endurable etc.

Regardless of the initial level of work rate, the group of muscles will slowly adapt to the increased intensity of work.

**To overload we adapt one of the following principles:**

**FREQUENCY**

The number of training sessions per week is generally known as **frequency of training.** This should be at least **3 times per week** (Monday, Wednesday and Friday) although elite performers train much more than this.

***Frequency depends on:***

* Your initial level of fitness
* Time and facilities that are available to you
* Type of improvement desired

**INTENSITY**

You must train at an appropriate level so that you will OVERLOAD your body (put more pressure on your body than normal). In aerobic endurance training, your heart rate must be at 70% of maximum in the training zone. For speed endurance work your heart rate must be at 85% of maximum heart rate (180bpm or more). In speed endurance work, the intensity of work is always high but can be varied by adjusting the amount of recovery time you allow between bursts of activity.

**DURATION**

This refers to the length of time that a performer trains for, for example:

* The length of each session should be at least 20 to 30 minutes to reflect the activity
* The length of the training programme e.g. 8 week programme

Aerobic endurance training requires a longer training programme of about 10 weeks.

Speed endurance training requires a much shorter 8 week programme.

**REVERSIBILITY**

All the alterations that the body, group of muscles or energy systems make, can slowly reduce or not be maintained if the training programme is not carried out regularly. The adaptations that the body makes during training can be lost if training is interrupted for any length of time. This of course may be an unforeseen problem such as injury or illness. However, the longer the performer had been training before the set back, the slower the loss of training and the quicker he/she will regain their fitness level after resuming training. If you exercise less than usual, your fitness decreases; and if you exercise the same as usual, your fitness stays the same.

***“Use it or lose it!”***

**Command Word: Explain**

**Key Content: Principles of Training applied to Cardio Respiratory Endurance**

|  |  |  |
| --- | --- | --- |
| **Principle** | **Why?** | **Justify?** |
| [http://t2.gstatic.com/images?q=tbn:ANd9GcQwPibRIDmiqzyHggNfGiHzTLYenISUQNmGwcsOkJZbc6K2NLKn](http://www.google.co.uk/imgres?q=stopwatch&um=1&hl=en&rlz=1T4ADFA_enGB461GB462&biw=973&bih=478&tbm=isch&tbnid=ahzqksvAAOVKqM:&imgrefurl=http://www.freeclipartnow.com/household/time/stopwatches/blue-stopwatch.jpg.html&docid=qumV6Qo8r16bYM&imgurl=http://www.freeclipartnow.com/d/26887-1/blue-stopwatch.jpg&w=281&h=350&ei=ZnMyT779DI_R8QPTpYiKBw&) **Duration** | * 8 weeks – adequate time scale to bring about training effects * 20 minutes recommended time to ensure specific energy system is developed | Fewer weeks training would result in less progress and longer to reach Cardio Respiratory endurance training goal. We would get fitter naturally by simply playing but working to a specific training programme using the principles of training would waste less time and speed endurance would develop quicker. |
| **Frequency** | * 3 times per week at the start of the programme (Monday, Wednesday and Friday) * Rest days allows the body to recover * Muscles adapt to the workload | Overtraining results in injury, fatigue and lack of motivation which is counter productive  Training fewer times would take longer to bring about any training effect as the body would not be under any stress. |
| http://sk-lifefitness.co.uk/wp-content/uploads/2011/05/heart_rate_monitor.jpg  **Intensity** | * 70-75% max heart rate ensured I worked the appropriate energy system. * 40 seconds work with 40 seconds rest, 3 sets * Easy to add progressions to interval training to overload | Forces skills and fitness to be performed at high intensity forcing quick decisions.  To work without training zones for age and aspect of fitness would result in training being pointless.  Training types must reflect the demands of the activity. |
| http://school.discoveryeducation.com/clipart/images/grlbskbl.gif**Specificity** | Training must be specific to:   * Aspect of fitness * Playing role * Own level of fitness and activity * Muscle groups, movement patterns, skills, tactics, spatial awareness, teamwork motivation developed through the activity | Working on an aspect of fitness not essential to my role or not as important to the activity would be counterproductive.  Training specifically within the activity means there is no delay between training and implementing improvements – results are immediate.  Although training outwith the activity will bring significant advances, a more competitive game like environment adds variety and sustains focus. |
| [http://t2.gstatic.com/images?q=tbn:ANd9GcQaJRGaT_F72ej84BhTRvrIII76EAPkGZcAwTX6sRMCkeChrPT16w](http://www.google.co.uk/imgres?q=sweating+athlete+clip+art&hl=en&rlz=1T4ADFA_enGB461GB462&biw=973&bih=478&tbm=isch&tbnid=Xncqsvle2JRUDM:&imgrefurl=http://www.clipartof.com/interior_wall_decor/details/Cartoon-Black-And-White-Outline-Design-Of-An-Exhausted-Black-Man-Sweaty-After-A-Work-Out-Poster-Art-Print-439771&docid=KANwTrwARHKhPM&imgurl=http://images.clipartof.com/small/439771-Cartoon-Black-And-White-Outline-Design-Of-An-Exhausted-Black-Man-Sweaty-After-A-Work-Out-Poster-Art-Print.jpg&w=314&h=450&ei=WXYyT6fBEsjf8gP-rOH7Bg&)**Overload (when & Why?)** | * The body adapts to stress the to become more efficient * Required to continue improvement * To increase thresholds * To work on a different energy system * To sustain motivation   Week 2 – Introduce an additional station into circuit  Week 4 – Introduce another session from 3 to 4  Week 6 – work at 75% of max heart rate by switching to continuous training | If stress is not applied to the body as it adapts to the work load then the fitness improvements will plateau.  Boredom and lack of focus can result in reversibility or injury. |
| [http://t1.gstatic.com/images?q=tbn:ANd9GcS1fy265TOHIerPuYotlIK-IvQD7iNsSD7Js6mf3J9-VcCnsG3w](http://www.google.co.uk/imgres?q=resting+clip+art%5d&hl=en&rlz=1T4ADFA_enGB461GB462&biw=973&bih=478&tbm=isch&tbnid=eLt1toow8BN2LM:&imgrefurl=http://www.fotosearch.com/illustration/feeling.html&docid=sh3FUCRQsSvjNM&imgurl=http://cdn2.fotosearch.com/bthumb/UNC/UNC002/u18588941.jpg&w=170&h=152&ei=kHYyT_-aNYis8gPQyLTeBg&)  **Reversibility** | * When the body’s fitness levels start to drop * Use it or lose it theory | Injury from pushing the body too much.  Sub maximum effort due to inefficiencies in training programme.  Working on the wrong aspect of fitness. |

**Goal Setting**

When you are planning and implementing a personal development plan, it is important to set yourself goals as they provide direction and can be used to measure progress. Setting goals will help you to:

* + Create a focus for your training
  + Increase motivation and determination
  + Prioritise and get more out of your time
  + Get better results
  + Monitor progress

**Short and Long Term Goals**

When goal setting, it is important that you have a clear idea of what you want to achieve. Teams and individual athletes usually set long-term goals by the end of the season or year. Likewise, at the start of your personal development plan you should have a clear idea of what you want to achieve by the end of your plan. To achieve these long-term goals, you need a series of short term goals to help you to.

**Examples**

An example of a realistic short term target could be to develop your smashing action in badminton by snapping your wrist at the contact point.

An example of a realistic long-term target could be to develop your cardio-respiratory endurance to a level that will improve your overall performance to win a school badminton tournament.

THINK S.M.A.R.T.E.R

To set effective goals they should be S.M.A.R.T.E.R goals. This means they should be:

**Specific** – Your goals should be clear and precise. They should reflect your ability and experience within your chosen activity.

**Measurable** - Goals must be easily measurable so that you can assess whether or not they are improving or have been successful.

**Agreed** - Your goals need to be approved by a teacher or coach. This means you are fully supported by someone with experience and knowledge in your chosen activity.

**Realistic** – Realistic goals are more likely to be achieved and you are, therefore, more likely to stay motivated throughout your personal development plan. Setting unrealistic goals will result in lack of success and, ultimately, in a drop in morale.

**Time-Phased** – Your goals should be progressive. Planning short-term goals will ensure progress and help you achieve your long-term goals.

**Exciting** – Make sure your goals are rewarding and enjoyable. This approach will maintain motivation and prevent you becoming bored.

**Recorded –** It is essential to write down your goals not only does this increase commitment, it also serves as a form of contract. It also helps to monitor progress.

**STAGES OF LEARNING - PERFORMANCE DEVELOPMENT PLANNING**

There are three important stages in learning and developing skills: the **planning** (cognitive) stage, the **practice** (associative) stage and the **automatic** (autonomous) stage.

The stages of learning are a progressive process and each stage merges into the next. As your skill level develops you will gradually progress from the planning stage to the practice stage to the automatic stage. During your training programme you may move back a stage if you have progressed too quickly.

You should be aware of the…

…characteristics at each stage of learning

…types of feedback most appropriate at each stage of learning

…practices most appropriate at each stage of learning

**Planning / Cognitive Stage of Learning**

At this stage…

* + There is a limited understanding of how the skill should be played
  + Thoughts are focussed on basic, individual subroutines
  + There is little control or fluency
  + Movement patterns are awkward and uncoordinated
  + Execution of the skill is inconsistent with many errors
  + Decision making during performance is very poor
  + The performer is mainly reliant on consistent, positive, external feedback
  + The performer relies very little on internal feedback

Practices at this stage should be more basic and focus on individual subroutines of the weak stroke. Pupils will need to get a mental picture of the skill or technique in order to understand the basics of what is to be learned. They should involve little or no pressure. Appropriate practices at this stage include…

Shadow Practice

The fact that no shuttle is involved means that there is no pressure to make contact or to be concerned about accuracy of shot placement. This allows the performer to focus solely on the subroutines of the skill.

Hand/Racket Feed (Repetition drills)

As the ball is fed consistently and directly to the performer there is no movement required and focus can remain on the subroutines of the weak stroke. As the performer knows exactly where the ball is going there is little decision making involved which allows them to concentrate on the correct action of the stroke.

**Automatic / Autonomous Stage of Learning**

At this stage…

* All subroutines are linked together
* Performance will look more skilled, with some control and fluency
* There is a good understanding of how the skill should be played
* The skill should be performed more consistently with fewer errors
* Focus will remain on weak stroke
* Some good decision making will be used during performance

* The performer is still reliant on external types of feedback
* The performer can begin to rely more on internal feedback

It is important to compare your performance with a ‘model’ in order to detect and correct error in your execution of strokes. Practices at this stage should be repetitive to allow you to become more consistent in performing the stroke successfully. Pressure should gradually increase as you improve. Appropriate practices at this stage include…

Continuous / Combination Rally (Repetition drills)

These drills allow the focus to remain on the weak stroke, whilst adding a certain degree of pressure and becoming slightly more game-like.

**Automatic / Autonomous Stage of Learning**

At this stage…

* + Performance looks skilled, controlled and fluent
  + There is a very clear understanding of how the skill should be played
  + Skills are applied with a high degree of consistency
  + Few errors are evident and there is a high success rate
  + There is a feeling of having plenty of time when applying skills
  + Subroutines are ‘automatic’ allowing thoughts to be focused elsewhere e.g. position, opponent’s position, where to hit ball, etc.
  + A full range of skills is evident
  + A high level of decision making is used throughout performance
  + The performer is less reliant on external types of feedback
  + The performer relies more on internal feedback

Practices at this stage should be as game-like as possible, while still focusing on the weak stroke. They should involve decision making, increased pressure, movement and combinations of strokes. Appropriate practices include…

Pressure Practices

Pressure is added by extra feeders and can be increased / decreased depending on the performer.

Conditioned Games

This method of practice involves imposing a rule on the game to encourage the use of a particular shot.

**PRINCIPLES OF EFFECTIVE PRACTICE**

In order to ensure that practices are effective and that improvement will take place, performers need to consider the Principles of Effective Practice. By considering the list below, performers can plan and carry out an effective training programme that will enable them to achieve their goals.

**SPECIFIC**

Practice must be specific to your needs. This means the programme must take into account your strengths, weaknesses, stage of learning and demands of the activity.

**PROGRESSION**

It is important to monitor practices for improvements – if you are constantly playing an accurate shot it’s time to make the practice more demanding. Practices must show progression. As you improve, you can move on to slightly more demanding practices. You can add to the demands of practices by increasing competition, having to carry out skills quicker, performing longer sequences of work and being able to cope with the demands of performing under pressure.

**WORK/REST RATIO**

Practices must have intervals of rest to maintain quality. In all forms of training you need to calculate the ratio of work to rest. Working out this ratio is one of the key issues in making skill-training specific to your needs. The ratio varies according to:-

- Your previous experience in the activity

- Your level of practical ability.

- The complexity of the skill involved.

- The physical demands involved in the practice

This will avoid fatigue setting in and increase motivation. When you get tired, the quality of your practice deteriorates, rather than carry on, it is better to take a rest. Better still, organise the session so that you can take turns as player, observer and feeder. The points made above relating to duration are also relevant when considering fatigue.

**REGULARITY**

If there is too much time between practice sessions, little of what has been learned will be carried over to the next practice. Practising every day is ideal but this is not always possible. Two or three times a week is enough for good progress to be made.

**VARIETY**

Practices must be varied to avoid boredom and so you are motivated to improve and practise.

**EXCITING**

Practices must be exciting and challenging. This makes you want to practice and keeps high levels of concentration and motivation. A short, exciting, and interesting training session is better than an overlong one where you become bored and disinterested.

**GOAL SETTING**

Setting clear objectives and SMARTER goals as part of your training programme will motivate you to improve.

**TRAINING APPROACHES, KEY PLANNING AND FEATURES**

**Goal Setting**

When you are planning and implementing a personal development plan, it is important to set yourself goals as they provide direction and can be used to measure progress. Setting goals will help you to:

* + Create a focus for your training
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  + Prioritise and get more out of your time
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In order to ensure that practices are effective and that improvement will take place, performers need to consider the Principles of Effective Practice. By considering the list below, performers can plan and carry out an effective training programme that will enable them to achieve their goals.

**SPECIFIC**

Practice must be specific to your needs. This means the programme must take into account your strengths, weaknesses, stage of learning and demands of the activity.

**PROGRESSION**

It is important to monitor practices for improvements – if you are constantly playing an accurate shot it’s time to make the practice more demanding. Practices must show progression. As you improve, you can move on to slightly more demanding practices. You can add to the demands of practices by increasing competition, having to carry out skills quicker, performing longer sequences of work and being able to cope with the demands of performing under pressure.

**WORK/REST RATIO**

Practices must have intervals of rest to maintain quality. In all forms of training you need to calculate the ratio of work to rest. Working out this ratio is one of the key issues in making skill-training specific to your needs. The ratio varies according to:-

- Your previous experience in the activity

- Your level of practical ability.

- The complexity of the skill involved.

- The physical demands involved in the practice

This will avoid fatigue setting in and increase motivation. When you get tired, the quality of your practice deteriorates, rather than carry on, it is better to take a rest. Better still, organise the session so that you can take turns as player, observer and feeder. The points made above relating to duration are also relevant when considering fatigue.

**REGULARITY**

If there is too much time between practice sessions, little of what has been learned will be carried over to the next practice. Practising every day is ideal but this is not always possible. Two or three times a week is enough for good progress to be made.

**VARIETY**

Practices must be varied to avoid boredom and so you are motivated to improve and practise.

**EXCITING**

Practices must be exciting and challenging. This makes you want to practice and keeps high levels of concentration and motivation. A short, exciting, and interesting training session is better than an overlong one where you become bored and disinterested.

**GOAL SETTING**

Setting clear objectives and SMARTER goals as part of your training programme will motivate you to improve.