AS and A Level Physical Education (2016)

Performance Analysis and Personal Development Plan Exemplar - Coach

PERFORMANCE ANALYSIS – Coach

Physiological Component

"Good players need talent but they also need good coaches." (1). I coach my school's U15 Hockey Squad, and am keen to improve my players' ability and also my coaching performance. I will use 3 female defenders (see Player Profiles in Appendix) throughout this work to analyse their fitness requirements, tactic use, and then an aspect of their performance to improve in the Development Programme.

Field Hockey is played for 70 minutes with 5 subs allowed to roll on and off. "The physiological requirements of contemporary hockey involve a highly developed aerobic system, numerous high-intensity running bouts, and frequent sprint and agility efforts for both the men's and women's game." (2). Below is a time-motion analysis that shows elite defenders' statistics.

Summary of basic time-motion analysis data from international men's and women's hockey games

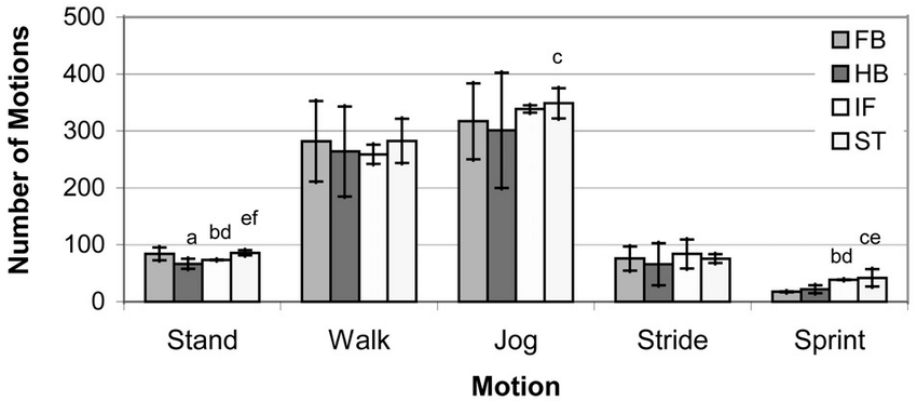
Gender	Distance (m)	Game Time (min)	$m \cdot min^{-1}$	$m > 5\ m \cdot s^{-1}$
FEMALE				
Striker	6496	50	129	445
Midfield	6451	51	126	393
Defender	6691	56	120	394
Team Mean	6459	52	125	408
MALE				
Striker	6356	46	139	969
Midfield	7366	52	142	1189
Defender	6956	53	132	716
Team Mean	6892	50	138	958

$m \cdot min^{-1}$ = metres per minute; $m > 5\ m \cdot s^{-1}$ = metres covered > 5 metres per second

Data source: Male = 2010; 6 games; individual player files n = 68; Female = 2009/10; 8 games; individual player files n = 93.

(2)

Below is another graph showing the different speeds used positionally during a game – FB and HB are full and half back (17)



I believe the components of fitness required by a defender are agility, dynamic balance, co-ordination, reaction time, flexibility, muscular strength and muscular endurance, with the 3 most important being *speed, aerobic endurance* and *power*.

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Speed is "1 - Distance travelled per unit of time measured in ms^{-1}. 2 - The ability to perform a movement in a short period of time". (3). Defenders use *speed* to beat

oncoming attackers to the ball, to chase back, when running out during short corners, and when dribbling forward. “Time–motion analysis of international men’s hockey indicates that field players perform on average 30 sprints per game, with a mean sprint duration of approximately 2 s (Spencer et al. 2004).” (4)

“*Aerobic endurance* is the body’s ability to sustain medium to high intensity physical exercise for extended periods of time through the continual acquisition of oxygen.” (5). Defenders may travel up to 6-7km during a game (21), tracking play which involves low intensity jogging, and then immediately sprinting to beat an oncoming attacker. Good *aerobic endurance* will allow the defenders to sprint successfully as they will have recovered from their previous high intensity bout of play - “good *aerobic endurance* is required to support repetitive bouts of high intensity exercise”. (6)

Power is “the combination of strength and speed and is probably the most relevant component when it comes to the hockey field”. (7). Defenders will often use longer passes than the other positions, so *power* is particularly important – “Passing range – the ability to reach further distances and where pace of pass is important” (8). Also, sprinting and accelerating, changing direction quickly and tackling require *power*.

My PE Teacher is also my U18 Hockey Coach and responsible for the U15 Squad. She supports the components I have chosen: “Kathryn understands the most important components of fitness for the defensive position in Hockey; it is believed to be least active position, but the reactionary nature of the position means that speed and power are particularly important, along with aerobic endurance being an absolute necessity”. (22)

Fitness tests will highlight my players’ strengths and weaknesses, motivate and help to plan training programmes. I will compare my players’ results to a higher level performer – Eva, (see Player Profile) to gauge how much their fitness would need to improve to reach the higher standard.

The tests must be *reliable* - “*Reliability* is the study of error or score variance over two or more testing occasions.” (9). This means that protocols must be carefully followed to make the results fair. Tests must also be *valid* to ensure they match the demands of the activity. “A *valid* fitness test is a test that measures exactly what it is supposed to measure. This means the test can measure the component directly, without using any assumptions or estimates”. (10)

Fitness tests: **5m Sprint/40-metre Multiple Sprint Test, Yo-Yo Intermittent Recovery Test** and **Vertical Jump Test**. (See Appendix for test protocols). The column headed ‘norms’ shows normative data.

I have used 2 tests of *speed* following the research I conducted.

5m Sprint Test	**Result**	**Rank**	**+/- Eva**
Alyssa	0.72s	3	-.13s
Ellie	0.68s	1	-.09s
Olivia	0.70s	2	-.11s
Eva	*0.59s*		

I could not find any normative data, but as I have the comparison between the 3 defenders and Eva I am satisfied with the data I have recorded.

The **5m Sprint Test** is *valid* because it has been widely used by elite clubs, and also in research articles “the physical demands of field hockey include a variation in sprint distances accompanied by periods of acceleration, deceleration, and a change in direction with the body in a low position. All of these characteristics are measured by the 5-m MST.” (18)

The results are *reliable* as the test was conducted on a dry, non-slip surface, the girls were motivated and had conducted the same warm up, and whilst we did not have access to timing gates, we had experienced assistants who operated the stop watch and recorded the tests on their phone camera.

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Ellie was the fastest, but was 0.09s slower than Eva, which would mean she would need to improve by 14% to match Eva's speed; this would take a considerable length of time. This could be a focus for the PDP.

40m Sprint Test	Result	Rank	Norms	+/- Eva	+/- Elite
Alyssa	6.42s	1	Defenders in AIS research 5.94-6.19s (4)	-0.39s	-0.23s
Ellie	6.44s	2		-0.41s	-0.25s
Olivia	6.57s	3		-0.54s	-0.38s
Eva	*6.03s*				*-0.09s*

This test has construct and content validity, as speed is essential when defending at corners, face validity because as a worthwhile test, it is likely to provide motivation to the players. The test was used in research conducted by the AIS in 2014 to assess sprint speed, to monitor players who "are frequently required to perform sprints of 30 to 40 m in matches". (4)

We observed strict protocols, such as start position, identical surface, with the same conditions and assistants, who timed and recorded on a mobile phone. We would be able to repeat the same conditions, so the test results are as *reliable* as we could make them. I do not have any split data as we did not have access to timing gates.

Alyssa was the quickest at this test, although over half a second slower than Eva but less than half a second slower than the elite performers. When chasing wingers making a break forwards, Alyssa would perform the best.

YoYo Test	Result	Rank	Norms	+/- Eva	% +/- Elite
Alyssa	14.7	2	India Women's Hockey Squad 17.7-21.1 (19)	-1.4	-17%
Ellie	14.5	3		-1.6	-19%
Olivia	15.1	1		-1	-15%
Eva	*16.1*				*-10%*

The Yo Yo test, used by the Indian Hockey squad (20), has construct validity, aerobic fitness is essential to elite level performances in a stop-start, multidirectional sport when distances of 7kms plus are typically run, face validity because as a worthwhile test, it should provide appropriate levels of motivation, and content validity as they are linked to an important component of performance.

The results are reliable as we followed the protocol carefully, used the same surface with the same external conditions, and had an assistant at each of the turn points to check that cones b and c had been reached.

The girls were pleased with results, particularly Olivia who was only 1 level behind Eva, but over 2 levels behind the elite performers – this is not surprising since the data is from adult elite players.

Vertical Jump Test	Result	Peak Power	Rank	Norms	+/- Eva	% +/- Elite
Alyssa	44cm	3120W	2	Defenders in AIS research 52-66cm (4)	-2cm	-16%
Ellie	42cm	1660W	3		-4cm	-20%
Olivia	48cm	3405W	1		+2cm	-8%
Eva	*46cm*	*3467W*				*-12%*

The vertical jump test has construct validity, power is key to success, face validity as a worthwhile test, and content validity as it is linked to an important component of ability, especially for defending penalty corners.

All the tests offer some criterion-referenced validity as they are set against female players of a comparable experience, training status and age (23) and were made as reliable as possible by observing protocols around consistency of how the test was conducted, as advocated by Rechichi et al (4).

Sayers and colleagues (1999) developed an equation to calculate power output from these two variables:

Peak Power (W) = [60.7 x Jump Height (cm)] + [45.3 x Body Mass (kg)] – 2,055" (4)

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I have included the groups' peak power also.
The results are *reliable*. We again used assistants who performed the same role in the testing each time, the girls warmed up in the same way, and were motivated. 3 attempts were allowed, with the best result shown in the table, along with peak power.

Eva did not get the best result as Olivia was 2cm ahead of her. Due to the formula for the calculation of peak power, Eva has the greatest peak power, meaning she would accelerate faster, and as we know can sprint quicker than the girls.

Coach comment: "I agree with the tests chosen and oversaw the tests being conducted. Kathryn was very careful with protocol, and the use of the mobile phone recording was very useful to ensure reliability, particularly for the timing of the sprint tests." (22)

Having considered my players' results compared to Eva and the elite data, it is clear that they all have their strengths, but there seems to be some significant improvements that can be made to their speed rather than aerobic endurance as I would expect them to be working generally on this each week. To improve the girls' speed, I will suggest they complete interval and weight training over 8 weeks with retests at 4 and 8 weeks to see how much they have improved.

Coach comment: "Kathryn has shown her understanding here of the most important components to improve, and the methods she would suggest. I support her choices and look forward to seeing the improvements in the players' performances". (22)

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Appendix

Player Profiles

Name	Alyssa	I have been playing since I came to high school. I am a defender, and enjoy the challenge of being the last line of players before the keeper. My strengths include tackling, and my speed. I need to improve my positional sense.
Age	14	
Position	Defender (R)	
Club	Framlingham Hockey Club	
League	Suffolk Division 1	

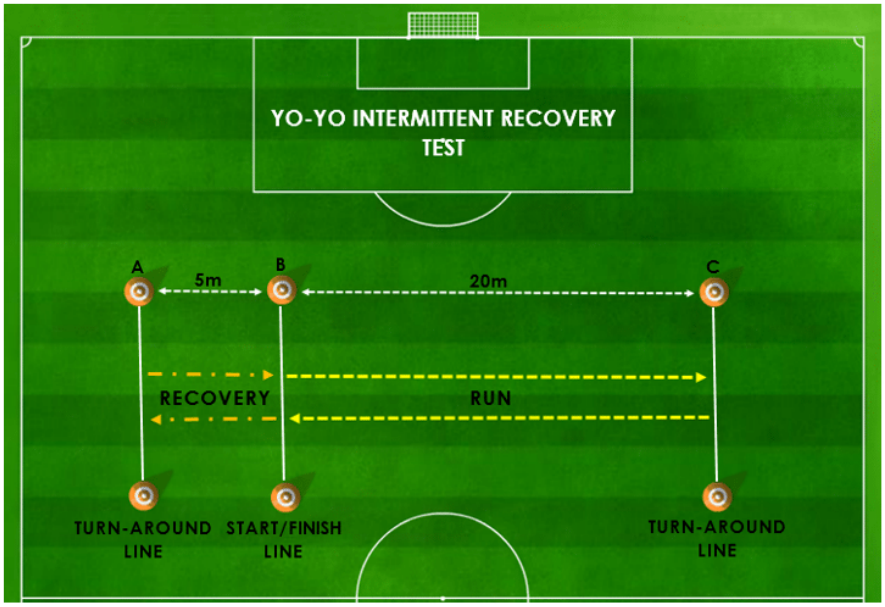
Name	Ellie	I started playing hockey at primary school. I am a left defender but I started playing left wing because I am fairly quick. I am good at tracking and intercepting but I don't always hit the ball cleanly enough to clear it every time.
Age	15	
Position	Defender (L)	
Club	East Coast Ladies 4th XI	
League	Norfolk Division 1	

Name	Olivia	I started playing hockey at primary school. I am a defender, often playing full back or sweeper. I used to play at Fram but prefer East Coast where there are more teams and more chance of playing at a higher level. I have qualified for our county team this year.
Age	15	
Position	Defender (C)	
Club	East Coast Ladies 4th XI	
League	Norfolk Division 1	
Other	Suffolk County	

Name	Eva	I have been playing since I was 7 when I joined Lowestoft Railway Hockey Club and their development team. I played for their 2nds when I was 13, then their 1sts, and I moved to Cheam to play at a higher standard this year. I have played county and regional hockey since I was 11, I am now in the England set up.
Age	15	
Position	Defender (C)	
Club	Cheam Ladies 1st XI	
League	EHL Division 1 S	
Other	Norfolk County East Region England Hockey Performance Squad	

Tests

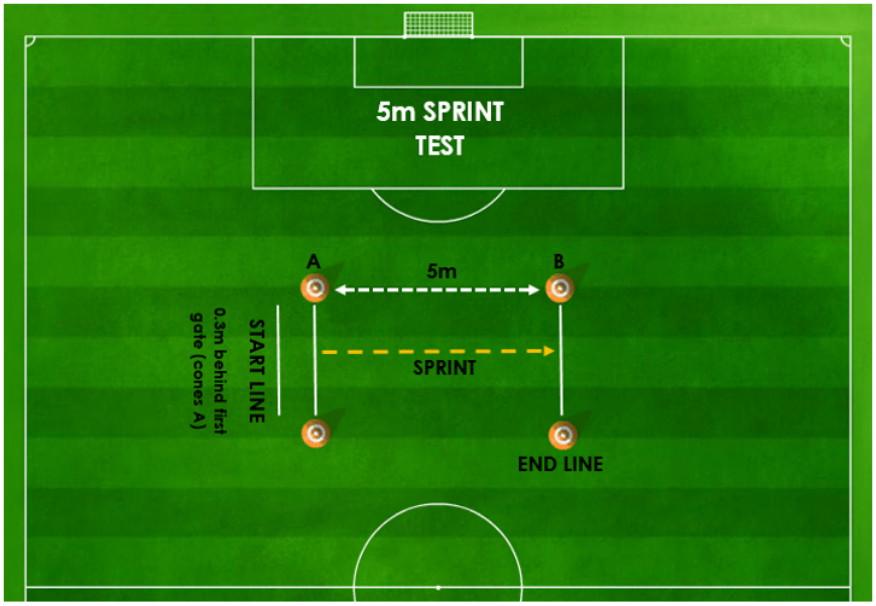
1. The **Yo-Yo** test is a maximal aerobic endurance fitness test, involving running between markers placed 20 meters apart, at increasing speeds, until exhaustion. (11)



(11)

- Participants begin the test from cone B.
- When instructed by the audio player, they must run towards cone C (this must be reached before the following beep signal) and immediately return to cone B before the next signal.
- Once cone B is reached, participants then have a 10-second recovery period in which they must jog from cone B towards cone A, and then back to cone B before the commencement of the next shuttle.
- In this test the participants are only allowed two consecutive fail attempts before they are withdrawn from the test. That being, if the individual fails to reach cone C and back to cone B in the allocated time, one fail is issued. If this happens a second consecutive time, then they are eliminated.
- Once withdrawn from the test, the individuals score must be recorded.
- The YYIR1 typically last for 5-15 minutes, and the YYIR2 for roughly 2-15 minutes. (12)

2. The **5-metre (m) sprint test** involves an athlete accelerating from a static starting position to maximum speed in a straight-line over a 5m distance. Therefore, speed tests are typically used solely to measure an athlete's linear speed capabilities. More specifically, the 5m sprint test is primarily used to measure athlete's linear acceleration. (13)



(13)

- Participant ready's themselves on the start-line (positioned 0.3m behind the first gates – cones A) in a standing split-stance start position. NOTE: it is important for reliability that the participant always uses the same starting stance.
- Participant should be counted down '3 – 2 – 1 – GO '.
- If the test administrators are using a stopwatch, then the time keeper must stand at the finish line and perform the countdown and time the sprint.
- On the 'GO' signal the participant must accelerate maximally to the finish line as quickly as possible.
- Each participant MUST complete a MINIMUM OF THREE SPRINTS, each separated by a 2-3 minute rest if reliable results are desired. (13)

3. **40m Sprint Test**
   - A 40 metres straight section with cones marks by assistant on the track.
   - The assistant give command to athlete "GO" and starts the stopwatch.
   - As soon as possible the athlete sprints the 40 metres.
   - When the athlete's torso crosses the finishing line then assistance stops the stopwatch and recorded the time.
   - The assistant records the time for the 40 metre sprints (14).

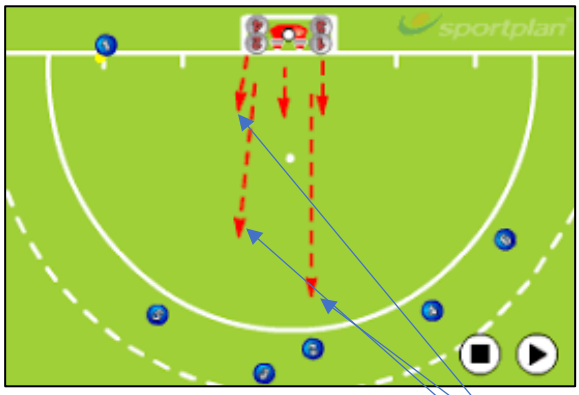
4. The **vertical jump test** describes the method used for directly measuring the height jumped. There are also timing systems that measure the time of the jump and from that calculate the jump height.
    - To accurately perform the vertical jump test the performer stands side on to a wall and reaches 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.
    - The athlete then stands away from the wall, and jumps vertically as high as possible using both arms and legs to assist in projecting the body upwards. Attempt 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. (15)

Tactical Component

A penalty corner is an increasingly crucial aspect of the modern game of hockey: “One statistic matters a lot for teams: The Penalty Corner Conversion rate. If a conversion rate is high, more goals are converted and the team is more likely to win, or at the least, compete fiercely. (1). Penalty, or ‘Short Corners’ are awarded when a defensive player commits a foul inside their defensive D, or a more intentional foul within the 23m area – such as a stick tackle (see the rules (2) in the Appendix).

The conversion rate being so crucial has implications for the defenders, whose job has become more difficult. Defenders are in a vulnerable position physically and each has an important role to play during short corners; they may run out, protect posts, or mark particular attacking players – all who have an advantage in numbers compared to the opposing 4 defenders and the goal keeper. “Outmanned, the defence is forced to play at such a disadvantage until teammates race into the play from midfield to even up the sides”. (5)

I will analyse my U15 team, and my 3 performers’ performances in the basic defensive routine we use, and an alternative if the usual routine is not effective. The basic defence is shown below. Olivia and Alyssa run 1 and 2, Ellie stands on the right post. Our keeper and other defender look after our left post. We use this routine as we find most teams of our level use a straight strike from the top of the D. “Direct drag flicks take up probably about 60% of all penalty corners at the top level within men, but in lower levels and women’s hockey the hit is far more common” (6).



Player 1 runs to the top of the circle with Player 2 running on their right-hand side, but only 3/4 of the way out. Player 2 is there to put pressure on any slip left or pass back to the injector.
Players 3 and 4 are responsible for protecting the posts as well as picking up any rebounds off the keeper's pads. (3)

The video below shows Japan using the basic defence v Netherlands. The runners have not reached the distances shown in the diagram above because of the speed the ball is injected at elite level hockey. https://www.youtube.com/watch?v=B9poBRuhsX8(4) (2minutes 15s)

This basic defensive routine has advantages. “When defending it is important to pressure the direct shot but also to cover the space against variations”(6). Runner 1 will put off the straight striker, and may block the first shot. Runner 2 will cover a

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slipped pass by the reciever. The 2 post players can deal with any goal line deflections, or players running in from the sides. The goal keeper can track the ball, knowing the goal is covered. If the attackers consistently use a straight strike, this set up works best to close the striker down.

Disadvantages of the basic defence relate to the runners' ability to get to their posititions quickly enough. If runner 1 does not get to the striker, a free shot is available. If the second runner does not reach their posititon, the goal keeper is exposed to a closer shot.

Coach comment: "Kathryn is clear about the advantages of the basic defence, and has recognised the potential weaknesses in the speed of the outgoing runners, and the resulting exposure of the goal. Where teams use a straight strike, it is the most beneficial to interrupt the striker."

I have analysed the first 5 games my team have played this season against local schools. The data shows penalty corners where the opposition used a straight strike.

School	Score	Short corners	Straight strikes	%	Goals	Defence success	%
AVHS	4-2	5	3	60	1	2	66
BHS	2-2	6	4	66	2	2	50
DHS	0-2	6	3	50	2	1	33
HHS	3-1	4	3	75	1	2	66
SHS	3-1	4	4	100	1	3	75

Most of the schools used a high percentage of straight strikes, which apart from the Bungay and Debenham games our defence successfully interupted. Olivia and Alyssa are brave and quick runners, Olivia made it to the top of the D to stop the striker the majority of times against Alde Valley, Hartismere and Stradbroke.

Cheam Ladies 1st XI also use the basic defence positions as one of their short corner tactics. Eva's role is the 2nd runner. They have also played 5 games this season.

Team	Score	Short corners	Straight strikes	%	Goals	Defence success	%
Canterbury	1-1	11	4	36	0	4	100
Slough	1-2	7	3	43	1	2	66
ISCA	1-0	12	6	50	0	6	100
Trojans	1-0	7	2	27	0	2	100
Wimbledon	0-2	5	1	20	0	1	100

It is clear from the table above that whilst there are more short corners in the higher level game, fewer straight strikes are used. Where the hit has been used, the Cheam defence have been more effective at interupting the play than our team. This may be due to the speed of the runners, the ability of the defenders generally, the keeper's ability, or any number of offensive errors.

During the Debenham game, 6 short corners were defended, with 3 that were not straight strikes; instead, the team used left and right slips. This was the case for some of the short corners Cheam defended, and they changed their defensive running and positioning to a 3 runner, 1 post player set up – this is supported by research – "If their variations are at the top of the circle then a 1-3 defence is most suited to defending this as you have 3 runners to pressure the zones at the top of the circle" (6).

Once the ball is injected, Player 1 runs to the top of the circle, with player 2 running 3/4s of the way on their right-hand side to cover the slip left.
Player 3 runs out on Player no 1s left hand side and runs level with Player 2.
Player 4 comes 3 to 4 paces off the line to sweep the pads of the goalkeeper. (7)
Player 4 is shown by the thicker blue line in the video screen shot below.

The video shows Poland defending in a 3-1 set up against Australia, and then Korea v Netherlands. https://www.youtube.com/watch?v=B9poBRuhsX8 (4) (from the start until 37s). The runners do not go as far as the diagram due to time, but it is a 3-1 set up.

In both cases, the attacking team scored, however, when this set up is used by Cheam 1 and now my team, it has become more successful than the basic set up because it puts more pressure onto the attacking line. Ellie has joined Olivia and Alyssa as the third runner.

Coach comment: "This has proved to be a sensible alternative that Kathryn has had the defenders use. The straight strike has largely been shut down, meaning that the slips need to be covered, and the 2 extra runners do this".

We have worked on the 3-1 runner system in 3 games and it has had the following results:

School	Score	Short corners	Goals	Defence success	%	Improvement
AVHS	3-1	6	0	6	100	+33%
DHS	2-5	6	1	5	83	+50%
HHS	4-4	4	1	3	75	+9%

In each game, the system helped us to improve our short corner defence, not letting in more than one goal. All of the girls have the speed required to get to their positions, and as in the screen shot, our 4th defender covers the left post/the keeper's left hand protector, as her stick can cover the rest of the goal.

Olivia made the following comment: "It is much better having 3 runners. Whilst I am at the top of the D, the 2 slips are covered meaning that the other team have to work harder to get a shot at our goal. I feel safer somehow with Ellie being the extra runner. I hope we stick to this routine in the future".

The average improvement of 30% has led to an improvement in the team's morale and confidence; they approach short corners completely differently now, and are more self-assured when they put their masks on. Our defensive improvement has led

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to our opposition being more determined to score goals in open play which poses different issues. However, in relation to defensive short corners, by the end of the season, I have set the team a 40% improvement, not conceding more than 1 goal per game from a penalty corner, and will look at their positioning in the D once they have run out in more detail.

Coach comment: “Kathryn has worked really hard with her defensive players and has improved their defensive penalty corner routines considerably. I’m sure that with her additional scrutiny of their actual positioning once they have run out, that their performance will improve further. The targets set are aspirational, and whilst the 10% improvement on the current 30% is fair, not conceding more than 1 goal per game from a short corner will be a tall order given the extensive number of variables involved”.

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Performance Analysis word count 1712.

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Appendix

12.3 A penalty corner is awarded:

a. For an offence by a defender in the circle which does not prevent the probable scoring of a goal.
b. For an intentional offence in the circle by a defender against an opponent who does not have possession of the ball or an opportunity to play the ball.
c. For an intentional offence by a defender outside the circle but within the 23 metres area they are defending.
d. For intentionally playing the ball over the back-line by a defender - goalkeepers are permitted to deflect the ball with their stick, protective equipment or any part of their body in any direction including over the 30 back-line.
e. When the ball becomes lodged in a player's clothing or equipment while in the circle they are defending. (2)

PERFORMANCE DEVELOPMENT PROGRAMME

Planning – Developing Player Speed and Coaching Performance

Player Speed

Testing in the Physiological Component highlighted the need to improve my players' speed as their results (see Appendix) were the worst compared to the elite data and the higher level performer Eva. With improved speed, the girls will be better defenders as they will be able to chase their opponents more effectively and run out at short corners quicker. "The ability to burst into action is one crucial aspect of a player's game that needs to be developed." (1)

I am going to set a **target** of **improving my players' test results** by **5%,** and will set them an 8 week training programme to achieve this. 5% is a small amount relatively, but it reflects the marginal gains that would be expected in such a short period of time. If the results are achieved, it will put Alyssa and Ellie within the AIS elite hockey players' data range, and Olivia .05s outside. In achieving these improvements, the aim is for the players to further improve success rates when defending at penalty corners by reducing the time opposition players have to execute strikes on goal, and, in turn, contributing to a collective target of improving success rates to over 67% - that is preventing goals in at least two of every three penalty corners per match, see data from tactical work.

The results if the programme works are projected below.

Name	5m Sprint	Target	40m Sprint	Target
Alyssa	0.72s	0.68s	6.42s	6.10s
Ellie	0.68s	0.64s	6.44s	6.12s
Olivia	0.70s	0.66s	6.57s	6.24s

Coach comment: "Kathryn has accurately identified the area that all girls could improve on, and is correct about how their games would be enhanced as a result. The targets are challenging but realistic, and if Kathryn sets the correct training, the girls will certainly benefit." (21)

SMARTER goal setting will be used to help my performers achieve their targets. "The experience of setting a goal, working toward a goal, and achieving a goal has a powerful emotional resonance that causes us to continue to strive higher for the goals we set for ourselves." (2)

SPECIFIC
directly related to a sporting situation.
MEASURABLE
progress can be assessed.
ACHIEVABLE
by the performer, coach and manager.
REALISTIC
challenging but within the capability of the performer.
TIME PHASED
a date is set for completion.
EVALUATED
assessed by the coach and performer.
RECORDED
written down.

The box shows the definitions in *Edexcel PE for A Level Year 1 revised third edition* (4) which I will apply to my performers' goals.

The targets are *specific* as having identified the area for improvement, the girls have personal results to aim for.

The targets are *measurable* because we will diarise both the training done and the test results we collect so that they are *recorded.*

The targets are *achievable* because we have the equipment and resources available to us needed for the training and to replicate previous testing (see Appendix in the Physiological Component).

The targets are *realistic* within the *time phased* training period. Research is limited on exactly how much sprint speed can be improved in a given time, due to individual differences and the vast number of other aspects that have to be accounted for such as power, force, race phases. In a Guardian article (7) "One Australian physiologist calculated in 2014 that if a sprinter with Bolt's force could maintain it while also cutting contact time with the ground to just 70 milliseconds (down from 80 or so). This would result in a top speed of 12.75 meters per second, or 28.53mph – and a new world record of 9.27 seconds". This would improve Bolt's world record by 4%, making my 5% target, challenging but realistic.

Coach comment: "Kathryn has explained her application of SMARTER targets very well, accurately, and if the girls train at the intensity set, they stand to make excellent progress". (21)

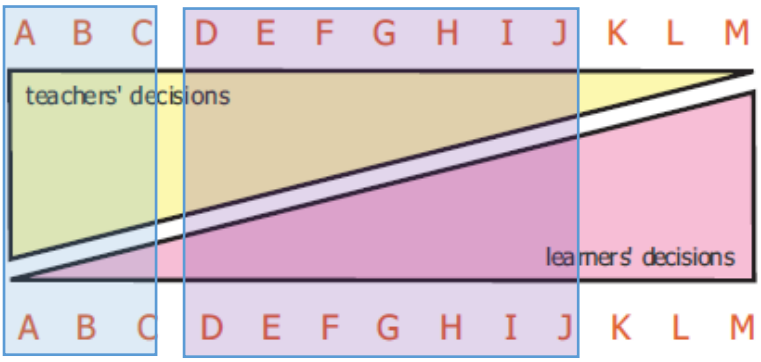
Periodisation is "a process of dividing the annual training plan into a series of manageable phases (mesocycles). Each phase can then target a specific or series of attributes to be developed within a designated period of time. Periods of appropriate overload and recovery are designated within each phase." (5) *Inside Track Magazine issue 5* (3) suggests that "The plan is separated into two distinct mesocycles… to allow for the body to recover between increased loads and for testing/re-testing purposes." This approach organises the period of training into sections, in this case 2 4 week blocks or *microcycles*. I will closely *evaluate* the individual test results with my performers and my own coach in order to gauge progress after the first and second mesocycles, and if necessary, *re-evaluate* the targets. Specificity and overload are also discussed in Issue 5, and I will ensure my training sessions reflect these.

Coaching Performance

I must also consider the principles of coaching when planning this training which are outlined in the *1st4sport, Level 2 Award in the Principles of Coaching Sport* qualification (6). Along with this, Dick 2003 (8), lists "the qualities that ensure the existence of a climate of motivation". I have included my interpretation of each below.

Principles (6)	**Qualities (8)**
Fundamentals of coaching Subject knowledge, group knowledge, organisation, facilities, equipment, self-preparation and presentation	Communicating the vision clearly Sharing aims and objectives, plans and goals with participants in a way that they can understand and adopt
Planning/conducting/evaluating The process of deciding the aims, content, delivery, plenary and appraisal of the success of the session	Involving the athlete in decision making Discussing all aspects of training with the participants in order that they understand and will engage fully with the process
Participant development Stages of participant maturity, nutrition and hydration, physical conditioning, mental preparation, awareness of drugs in sport	Sharing information and listening to opinions As above, the aims, objectives and plans will be shared in order that participants feel some ownership, whilst welcoming ideas from participants, staff, parents and other stakeholders
Safe and equitable coaching Risk assessment – recognising and preventing, application of rules and regulations, ensuring accessibility for all participants	Giving feedback and welcoming self-appraisal Throughout the sessions and in less formal time, feedback on all aspects of training will be given. This can be used to evaluate the coach's own performance which will be acted upon
	Appreciating, recognising and rewarding progress As the aims and objectives are realised, and performance improves, appropriate rewards will be given

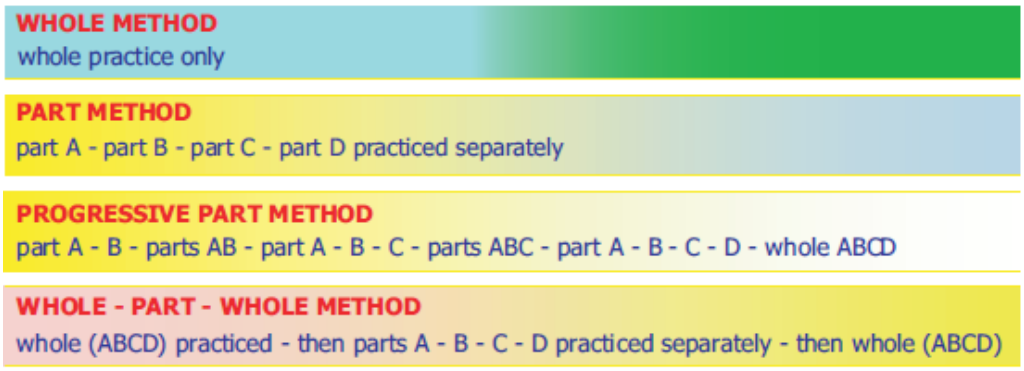
The methods of coaching that I must consider and apply to my performers' training refer to the style of coaching and the way the sessions are structured. Of Mosston's spectrum of teaching/coaching styles (4), my most natural style is between command - "This style involves the teacher or coach making all the decisions. It is authoritarian with the teacher or coach telling the learner what to do" (4), and reciprocal - "Involves learners becoming teachers of others for part of the teaching process" (4) which uses my and the performers' input.



(4)

When delivering my club sessions in school, I set up practices telling the performers what to do, and then allow them to coach each other whilst they are working. The nature of the fitness and technical sessions my 3 performers will undertake are more suited to a command style approach from me as when the girls are fitness training there will be less opportunity for them to coach each other.

Practices or sessions can be organised in a number of ways depending on the skills to be taught, the classification of the skill on each of the continua, and the ability of the performer/s. These methods are shown in the diagram below.



(4)

Fitness sessions require practices to be broken down less due to not needing to learn or develop a new skill or technique, therefore the 'whole' method and 'whole-part-whole' will both be appropriate. "The whole technique is practiced intact. The part method is actually the whole-part-whole method. You teach the whole method as just outlined, practice it in parts, and then recombine the parts back into the whole via practice" (9) The sessions will vary between interval, weights, plyometrics and technical sessions; I have shown the coaching styles and methods I will use in the table below. (See appendix for the first week's training session plans).

Session	Coaching style	Coaching methods
Interval	Command	Whole
Weights	Command/reciprocal	Whole
Plyometrics	Command	Whole Whole-part-whole
Technical (Sprint technique)	Command/reciprocal	Whole-part-whole Progressive-part

Coach comment: “Kathryn has shown a good understanding on the coaching methods and ways to organise practices. She has described clearly how she will structure the sessions; I support this and would do the same myself. The table she has included below will give her an accurate starting point”. (21)

I have given my 3 players, and my coach the following table (and discussed each area and what is involved). This is to rate my performance as a coach presently to provide a starting point and to help me understand how much I develop as a coach during this programme. Their opinions are shown, and I have included my own.

		Alyssa	Ellie	Olivia	Coach	Me	Average
Principles	Fundamentals of coaching	6	6	7	5	6	6
	Planning/conducting/evaluating	7	6	6	6	6	6.2
	Participant development	6	6	6	5	6	5.8
	Safe and equitable coaching	7	7	7	6	6	6.6
Qualities	Communicating the vision clearly	6	7	7	6	6	6.4
	Involving the athlete in decision making	5	6	5	5	5	5.2
	Sharing information and listening to opinions	6	6	6	6	5	5.8
	Giving feedback and welcoming self-appraisal	6	6	6	5	5	5.6
	Appreciating, recognising and rewarding progress	7	7	6	6	6	6.4

Having the start point above, to monitor my coaching progress, I will do the following:

- Keep a diary
- Write evaluations on each of my session plans
- Ask my coach to evaluate my sessions
- Ask my coach to conduct observations of my sessions
- Ask the girls to evaluate the sessions

Having completed the above, I will be able to gauge how much I have developed my coaching progress and expertise which will be discussed in the Review and Evaluation.

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20. https://www.youtube.com/watch?v=-E4EI9WlbHQ
21. Joan Newman, PE Teacher/ Hockey coach (level 2)

Appendix

5m Sprint Test	Result	Rank	+/- Eva
Alyssa	0.72s	3	-.13s
Ellie	0.68s	1	-.09s
Olivia	0.70s	2	-.11s
Eva	*0.59s*		

40m Sprint Test	Result	Rank	Norms	+/- Eva	+/- Elite
Alyssa	6.42s	1	Defenders in AIS research 5.94-6.19s (4)	-0.39s	-0.23s
Ellie	6.44s	2		-0.41s	-0.25s
Olivia	6.57s	3		-0.54s	-0.38s
Eva	*6.03s*				*-0.09s*

PDP Session Planning Sheet 1

Date: 01/10/19	**Duration:** 40 mins	**Interval/Weights/Plyometrics/Technical**
Coaching Style/s: Command/reciprocal		**Coaching Method/s:** Whole

Warm up:

Pulse raiser: 3 minutes

- jogging/side swings/skipping

Mobility: 20 metres, jog back x 2

- lunges/open gate/close gate/high leg swings/sumos

Specific: 20 metres, there and back x 2

- fast feet/walking high knees/A skips/high knees/heel flicks

Cool down:

Jogging – decreasing intensity: 3 mins

Static stretches – 30s x 4 each

- ankle muscles
- knee muscles
- hip muscles

Interval/Weight:

6 x 40m/30s x 2 (2 minutes between)

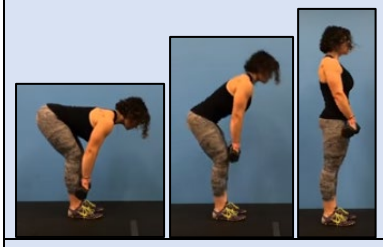
6 x 20m/20s x 2 (1 minute between)

Resisted running – karate belt – 30s/walk back x 2

Rear leg elevated split squats

Weight: 2 x 7kg
Reps: 5 each leg
Sets: x 2

Romanian deadlifts



Weight: 1 x 10kg
Reps: 8
Sets: x 2

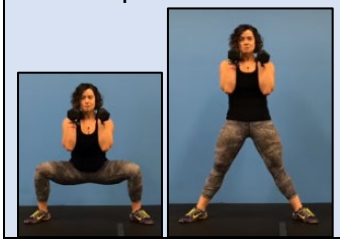
Goblet pause squats

Weight: 1 x 10kg
Reps: 8
Sets: x 2

Pendulum lunges

Weight: 2 x 7kg
Reps: 5 each leg
Sets: x 2

Sumo squats



Weights: 2 x 7kg
Reps: 8
Sets: x 2

Evaluation/Notes:

Fitbottomedgirls.com/2018/04/best-dumbell-exercises-legs (10)

- The warm up was successful, the girls said they all felt prepared for the exercises they were about to undertake.
- The content of the session was well pitched for the first attempt.
- The rest in the interval section was enough for the girls to recover, and took into account their different speeds – it was long enough for Olivia who is slightly slower.
- The karate belt was a success – the girls took it in turns to hold the belt for each other – they enjoyed this part of the session most.
- The weights exercises were enjoyable as the girls hadn't done much of this nature previously.
- The 'whole' method of coaching was appropriate as it would have been difficult to break the exercises down.
- The command/reciprocal approach which I find easiest worked well also as I had to man the stop watch for the interval training, and count the repetitions during the weight training.
- The cool down was a success also, the girls took their time and felt comfortable and somewhat recovered having completed it.

PDP Session Planning Sheet 2

Date: 03/10/19	**Duration:** 40 mins	**Interval/Weights/Plyometrics/Technical**
Coaching Style/s: Command/reciprocal		**Coaching Method/s:** Whole/Whole-part-whole

Warm up:

Pulse raiser: 3 minutes

- jogging/side swings/skipping

Mobility: 20 metres, jog back x 2

- lunges/open gate/close gate/high leg swings/sumos

Specific: 20 metres, there and back x 2

- fast feet/walking high knees/A skips/high knees/heel flicks

Cool down:

Jogging – decreasing intensity: 3 mins

Static stretches – 30s x 4 each

- ankle muscles
- knee muscles
- hip muscles

Interval/Plyometrics:

Sprint 20m, jog back
Sprint 30m, jog back
Sprint 40m, jog back
Sprint 30m, jog back
Sprint 20m, jog back

x 2 – 100% sprint, slow jog

Resisted running – karate belt:
20m x 2, 30m x 2, 40m x 2 – Sprint, then walk back

Box jumps

x 4 x 2, rest as necessary

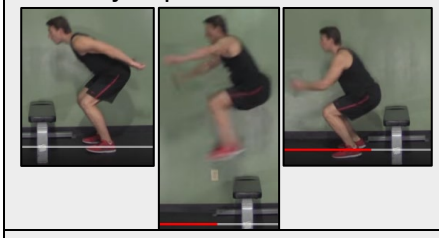
Jump lunges

x 4 x 2, rest as necessary

Side to side leaps

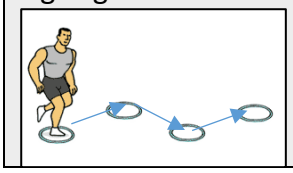
x 8 x 2, rest as necessary

Hurdle jumps



x 4 x 2, rest as necessary

Zig-zag lateral cone hop



x 8 x 2, rest as necessary

Evaluation/Notes:

Coachtube.com/course/field-hockey/power-agility-and-speed-training-for-field-hockey/139061 (11)
https://www.youtube.com/watch?v=BeqK8ksNC-E (12)
https://www.youtube.com/watch?v=0H_fXWTUSiY (13)
http://michaelsleen.blogspot.com/2009/01/plyometrics.html (14)

- I kept the warm up and cool down the same as they were successful in session 1.
- The interval training was ok but maybe a little much given the hard work the girls did in session 1.
- I was glad that I had chosen to not do too many repetitions of each exercise as they were quite demanding – particularly the jump lunges.
- The girls all said they enjoyed the variety, and luckily they had a decent base level of fitness so they could access the exercises.
- The girls were able to coach each other once I had shown them each exercise. I used the whole-part-whole method to explain and show how to do each one.
- Overall I was pleased with this session also as it lasted the expected length of time and was challenging but not too difficult for the girls.

PDP Session Planning Sheet 3

Date: 04/10/19	**Duration:** 40 mins	**Interval/Weights/Plyometrics/Technical**
Coaching Style/s: Command/reciprocal		**Coaching Method/s:** Whole-part-whole/ Progressive part

Warm up:

Pulse raiser: 3 minutes

- jogging/side swings/skipping

Mobility: 20 metres, jog back x 2

- lunges/open gate/close gate/high leg swings/sumos

Specific: 20 metres, there and back x 2

- fast feet/walking high knees/A skips/high knees/heel flicks

Cool down:

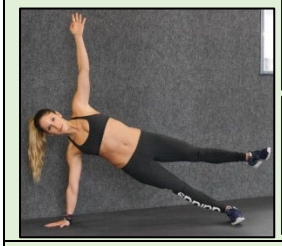
Jogging – decreasing intensity: 3 mins

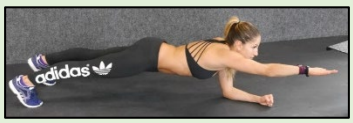
Static stretches – 30s x 4 each

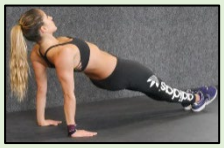
- ankle muscles
- knee muscles
- hip muscles

Technical:

Plank exercises







30s x 2 (change arms/ reverse twice)

Mountain climbers

30s x 2

Rest as necessary

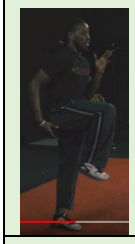
Stride length – mini hurdles

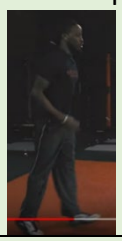
10 hurdles set for girls' stride lengths individually

x 5, walk back

Rest as necessary

Foot strike and step





Cover the distance of the hurdles

x 2 on each leg, jog back

Rest as necessary

Wall drill

30s x 2

Rest as necessary

Resisted running – karate belt: 30s x 2, walk back

Evaluation/Notes:

Hockeyperformanceacademy.com/increase-speed-in-field-hockey/ (15)
https://www.runtastic.com/blog/en/9-plank-variations-you-have-to-try/ (16)
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https://www.stack.com/a/wall-sprints (18)
https://kingsportstraining.com/7469506-3-keys-to-more-stride-frequency-with-mini-hurdles (19)
https://www.youtube.com/watch?v=-E4EI9WlbHQ (20)

- I did the most research for the technical sessions as it was the one I had the least knowledge of.
- The girls all said they enjoyed this session the most as it was different to what they were used to, and that they could see what they were doing wrong in their running technique almost immediately.
- The command and reciprocal styles worked well again, with instructions from me and then the girls working together and helping each other.
- The hurdles, foot strike and step and wall drill was broken down into sections and built up bit by bit, using the progressive-part method. This made it easier for the girls to know what to do, and saved time as they were not confused by the difficult actions – particularly the wall drill and foot strike and step. I was very pleased with how this session went also, and am now looking forward to the next 7 weeks training.

Progressive Overload for the 3 sessions per week

1	Interval			Weights				
Week	40m sprints	20m sprints	Resisted running	Rear leg split squat (each leg)	Romanian deadlifts	Goblet pause squats	Pendulum lunge	Sumo squats
1	x6	x6	30s x2	7kg x5 x2	10kg x8 x2	10kg x8 x2	7kg x5 x2	7kg x5 x2
2	x7	x7	30s x3	7kg x7 x2	10kg x10 x2	10kg x10 x2	7kg x7 x2	7kg x7 x2
3	x8	x8	30s x4	7kg x9 x2	10kg x12 x2	10kg x12 x2	7kg x9 x2	7kg x9 x2
4	x9	x9	30s x5	7kg x10 x2	10kg x15 x2	10kg x15 x2	7kg x10 x2	7kg x10 x2
5	x9	x9	45s x2	8kg x7 x2	10kg x15 x2	10kg x15 x2	8kg x7 x2	8kg x7 x2
6	x10	x10	45s x3	8kg x8 x2	10kg x17 x2	10kg x17 x2	8kg x8 x2	8kg x8 x2
7	x11	x11	45s x4	8kg x9 x2	10kg x19 x2	10kg x19 x2	8kg x9 x2	8kg x9 x2
8	x12	x12	45s x5	8kg x10 x2	10kg x20 x2	10kg x20 x2	8kg x10 x2	8kg x10 x2
Rest	30s	20s	Walk	As necessary				

2	Interval		Plyometrics				
Week	Sprints	Resisted running	Box jumps	Jump lunges	Side to side leaps	Hurdle jumps	Zigzag cones
1	20m x2	20m, 30m, 40m	x4 x2	x4 x2	x8 x2	x4 x2	x8 x2
2	20m x3	20m, 30m, 40m	x5 x2	x5 x2	x10 x2	x5 x2	x10 x2
3	20m x4	20m, 30m, 40m x2	x7 x2	x7 x2	x12 x2	x7 x2	x12 x2
4	20m x5	20m, 30m, 40m x2	x10 x2	x10 x2	x15 x2	x10 x2	x15 x2
5	30m x 2	20m, 30m, 40m x2	x10 x2	x10 x2	x15 x2	x10 x2	x15 x2
6	30m x3	20m, 30m, 40m x3	x12 x2	x12 x2	x17 x2	x12 x2	x17 x2
7	40m x2	20m, 30m, 40m x3	x15 x2	x15 x2	x19 x2	x15 x2	x19 x2
8	40mx3	20m, 30m, 40m x4	x18 x2	x18 x2	x20 x2	x18 x2	x20 x2
Rest	Walk	Walk back	As necessary				

3	Technical					
Week	Plank exercises x 3	Mountain climbers	Wall drill	Stride length hurdles	Foot strike and step	Resisted running
1	30s x2	30s x2	30s x2	10 x5 Same but increase distances	x2	30s x2
2	35s x2	35s x2	35s x2		x2	35s x2
3	40s x2	40s x2	40s x2		x3	40s x2
4	45s x2	45s x2	45s x2		x3	45s x2
5	30s x3	30s x3	30s x3		x4	30s x3
6	35s x3	35s x3	35s x3		x4	35s x3
7	40s x3	40s x3	40s x3		x5	40s x3
8	45s x3	45s x3	45s x3		x5	45s x3
Rest	As necessary			Walk back		

Review

I set a target of improving my players' speed test results by 5%. The outcomes added are shaded below.

Name	5m Sprint	Target	Result	% +/-	40m Sprint	Target	Result	% +/-	Overall
Alyssa	0.72s	0.68s	0.70s	+2.5%	6.42s	6.10s	6.14s	+4.5%	+3.5%
Ellie	0.68s	0.64s	0.65s	+3.8%	6.44s	6.12s	6.14s	+4.7%	+4.25%
Olivia	0.70s	0.66s	0.68s	+2.5%	6.57s	6.24s	6.30s	+4%	+3.75%

The girls have not achieved the 5% I had hoped for, but Alyssa and Ellie rank just within the AIS elite data.

Defence success rates prior to PDP:

School	Score	Short corners	Straight strikes	%	Goals	Defence success	%
AVHS	4-2	5	3	60	1	2	66
BHS	2-2	6	4	66	2	2	50
DHS	0-2	6	3	50	2	1	33
HHS	3-1	4	3	75	1	2	66
SHS	3-1	4	4	100	1	3	75

Defence success rates post PDP:

School	Score	Short corners	Straight strikes	%	Goals	Defence success	%
BHS	4-2	7	5	70	1	4	80
DHS	3-2	6	4	66	1	3	75
KEVI HS	2-2	8	4	50	1	3	75

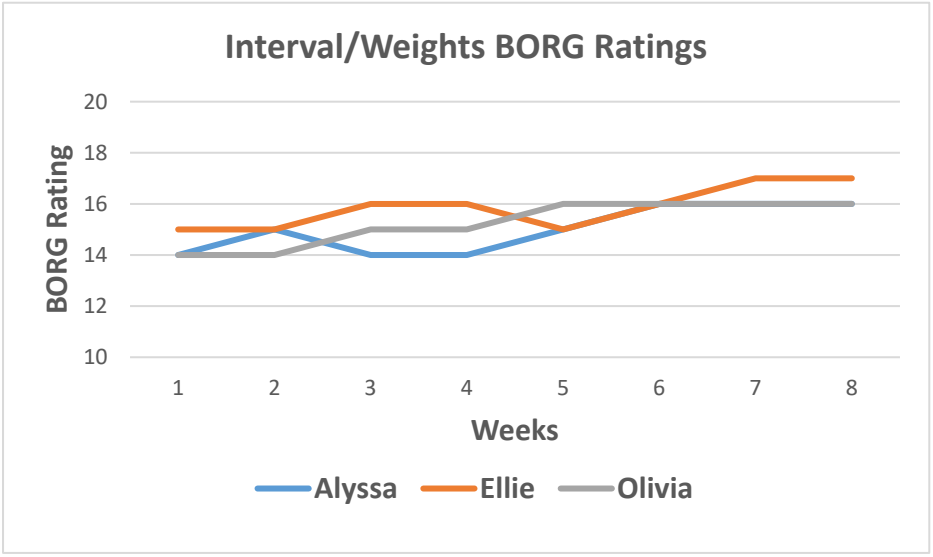
	Success rate in defending penalty corners %
Five matches prior to PDP	59
Three matches post PDP	77

My planning session sheets with the exercises/sets/repetitions/rest, and the table showing progressive overload (see Planning Appendix) required the girls to work at a high intensity, and to undertake exercises they were not used to. I asked them to provide a BORG rating for each session and gave them the table below (1) to refer to.

RATE OF PERCEIVED EXERTION (RPE)

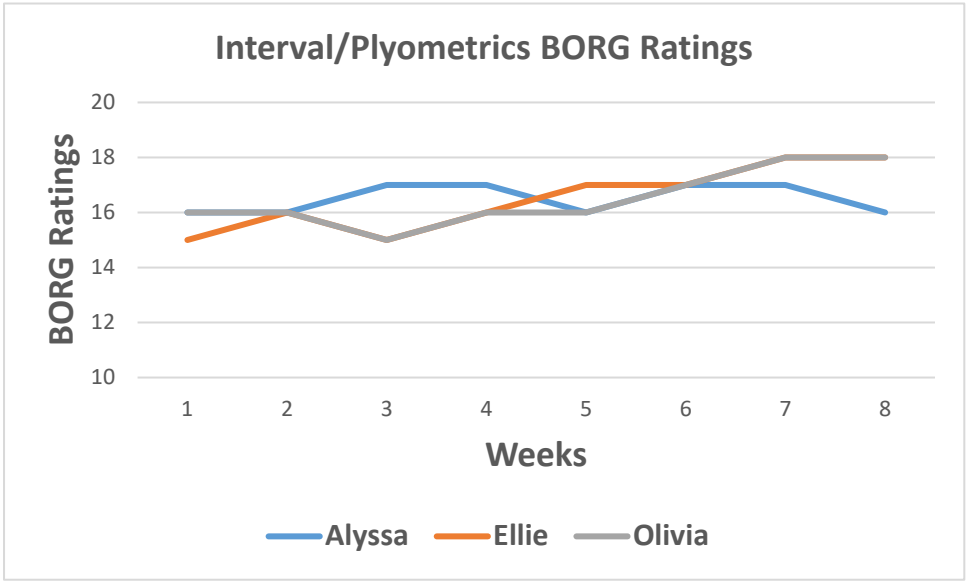
BORG RPE	MODIFIED RPE	BREATHING	TRAINING ZONE	% of MHR*	EXERCISE TYPE
6	0	No Exertion	1	50%-60%	Warm up
7		Very Light			
8	1				
9					
10	2	Deeper but comfortable breathing. Able to hold a conversation.	2	60%-70%	Recovery
11					
12	3				
13		Aware that breathing is harder; able to talk but difficult to hold conversation	3	70%-80%	Aerobic
14	4				
15	5	Starting to breathe hard and getting uncomfortable	4	80%-90%	Anaerobic
16	6				
17	7	Deep and forceful breathing. Uncomfortable and not wanting to talk	5	90-100%	VO^2 Max
18	8				
19	9	Extremely hard			
20	10	Maximum exertion			

* % of maximum heart rate

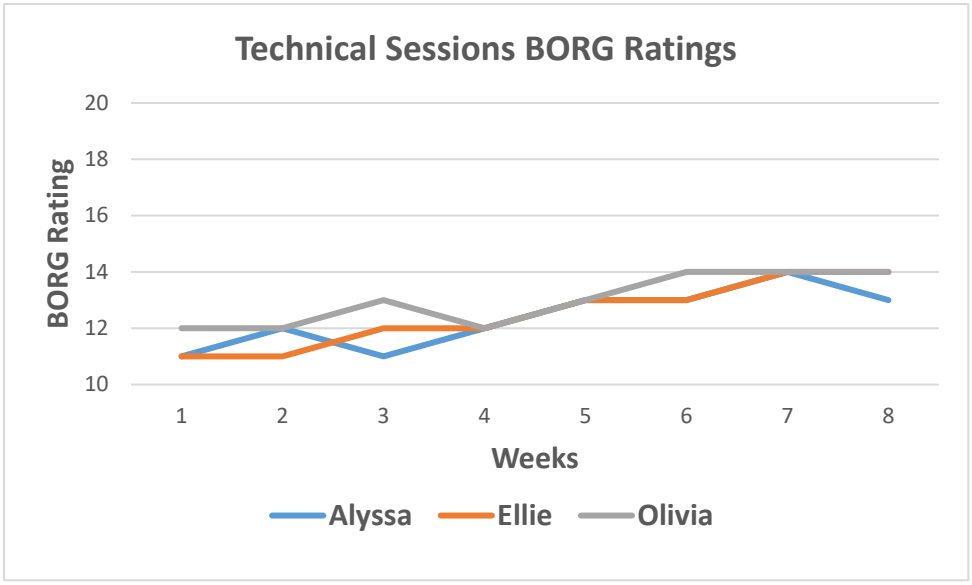


Cumulative Word Count 108

The ratings given range between 14 and 17, with all the girls' ratings differing by 3. 14 is the top of the aerobic zone, 15/16/17 are within the anaerobic zone reaching 90% MHR.



There is a similar pattern here as the values given by the girls individually vary by 3. The ratings are higher because the sessions were harder and the plyometric exercises more unusual. The ratings were higher in week 8 when the exercises were at their maximum repetitions.

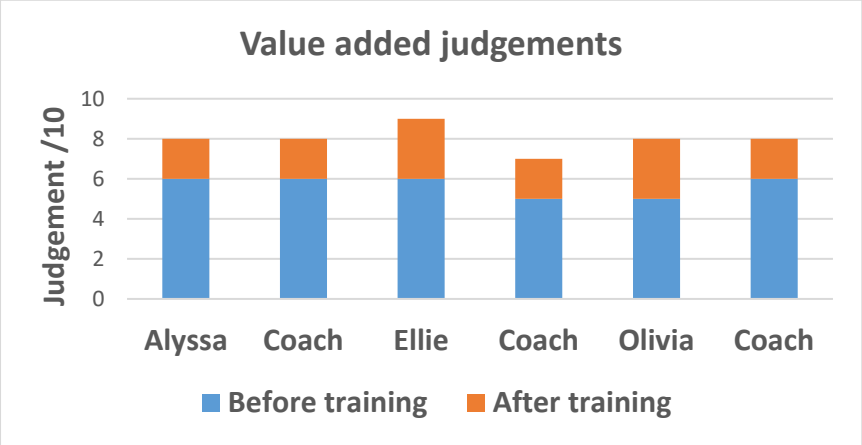


The ratings for these sessions are lower because the intensity of the technical work is more measured and careful than the other sessions needed to be for the required adaptations. Alyssa's score dipped by 1 at the end again, but I am still satisfied with the ratings the girls have awarded.

Weekly Session	Alyssa	Ellie	Olivia	Average
1 Interval/Weight	8	8	8	8
2 Interval/Plyometrics	8	7	8	7.6
3 Technical	9	8	9	8.6

I was keen to ensure that the sessions were challenging but enjoyable so that the girls would want to continue. If I delivered the sessions well, I believe the girls would enjoy them also.

I asked them to score each of the 3 session types: 0 = not at all enjoyable, 10 = very enjoyable.



I also asked the girls to score themselves as hockey defenders – particularly considering their speed on the pitch and running out at penalty corners – before and after the training. Their judgements, and my coach's are shown on the graph. In each case an improvement of 2 or 3 has occurred.

Cumulative Word Count 312

In the Planning section, I added the table below having asked for judgements on the principles and qualities of coaching. The judgements of the girls and my coach after the 8 weeks are below. I'm pleased their judgements have improved overall.

Judgements on my coaching – after PDP		Alyssa	Ellie	Olivia	My coach	Me	Average
Principles	Fundamentals of coaching	7	8	8	6	7	7.2
	Planning/conducting/evaluating	7	7	7	8	7	7.2
	Participant development	7	8	7	7	7	7.2
	Safe and equitable coaching	8	8	8	7	7	7.6
Qualities	Communicating the vision clearly	7	7	8	7	7	7.2
	Involving the athlete in decision making	7	7	6	7	7	6.8
	Sharing information and listening to opinions	7	7	8	7	7	7.2
	Giving feedback and welcoming self-appraisal	7	7	7	7	8	7.2
	Appreciating, recognising and rewarding progress	8	8	7	8	7	7.6
Averages		7.2	7.4	7.3	7.1	7.1	7.2

Change in judgements	Alyssa	Ellie	Olivia	My coach	Me	Average
Before PDP	6.2	6.3	6.2	5.6	5.7	6
After PDP	7.2	7.4	7.3	7.1	7.1	7.2
Total	1.0	1.1	1.1	1.5	1.4	1.2

Evaluation

Cumulative Word Count 620

Player speed

The target set for the girls to improve their speed by 5% each has not been met, but they have all got quicker, and can accelerate towards the ball, away from opponents and at short corners faster. Their muscles and connective tissues have adapted to the training, and are showing signs of more elasticity and quicker, more forceful contractions.

The success rate when defending corners improved from 59 to 77% although this was only across three games and additional data is needed to confirm any potential long term gains on performance levels.

The girls have all said (see Appendix for Player Evaluations and Coach Witness Statement) they are pleased that they have increased their speed, and that it has improved their game play. Alyssa commented "I feel like I am a better defender due to being a bit quicker. I am more confident challenging for 50/50 balls, and running out at shorts."

The interval, weights and plyometrics sessions had to be set at a high intensity to gain the adaptations needed to improve speed. The BORG ratings the girls gave show they were working at the right intensity, and as the ratings increased suggest I pitched the progressive overload (See Planning Appendix) appropriately. I spent a long time researching and planning the sessions, and am pleased that my coach agreed with what I included. "The content was pitched correctly and was thoroughly researched." (2)

Overall, I am very proud of the results achieved. I will continue to apply progressive overload, and when we reach the 5% we aimed for, I will be able to set a more realistic target for the next microcycle.

Coaching performance

The evidence gathered shows that my coaching performance has both developed and improved as a result of this PDP – by exactly how much is hard to measure, but the scores and ratings gained have improved.

Value Added: +2.3 (averaged) and Principles/Qualities: +1.2 (averaged).

The girls' enjoyment scores for my sessions are encouraging. I had expected some of the content to be very difficult and thought they would not enjoy the physical nature of the plyometrics. I made an assumption that if I delivered the sessions well – by being organised, challenging them and giving plenty of praise and encouragement – that the girls would enjoy them more. To have 7/8 or 9 out of 10 is really pleasing. My coach said "The sessions Kathryn planned were enjoyed by the girls. Kathryn was helped by the excellent work ethic the girls had, and the fact that they genuinely wanted to improve their speed which they all accomplished." (2)

The girls judged their performance ability to have improved in their 'Value Added' scores. Olivia said "I'm definitely quicker when running out at shorts, and I think my whole game has improved because my speed has. I think quicker as well now." My coach agreed that they have all become better players, scoring them 2 points better than before the programme. "They are more confident due to the marginal but noticeable increase in their speed – they are all more self-assured on the pitch, and also as a collective on the defensive line at penalty corners". (2)

I did not ask for the girls to comment on the improvements they thought I had made in terms of the principles and qualities of effective coaching, however, my coach has included this in her Witness Statement (see Appendix) saying that my strongest principles are planning, conducting and evaluating, and the strongest quality is appreciating, recognising and rewarding progress. I have had to work really hard in

the planning phase as already stated, and because the work was so challenging, I had to encourage the girls throughout, and really praise them once they had finished their cool downs.

The command and reciprocal styles of coaching were a success for me when explaining exercises and then allowing the girls to work, and for the girls themselves who found the approach useful. The methods of coaching were noticeably more successful. The contrast was determined by the complexity of the exercises, but also ensured there was no monotony. Ellie said "There's lots of variety and if the tasks are easier, she demonstrates and we get on with it. For newer stuff and more difficult skills, she breaks it down and then puts it together – I like that approach."

Overall, the evidence suggests that I have developed my coaching performance, my coach agrees, and more importantly for me, I feel more confident in my knowledge, planning and delivery. In future I will work on the weaker areas highlighted by my coach's judgements:

- Principles – fundamentals of coaching
- Qualities: involving the learner in decision making.

To improve my ability as a coach I need to be more comfortable adopting different styles – guided discovery and problem solving will help me involve the learners more in future, and knowing that I have 3 brilliant girls (and their team) to work with makes this an encouraging challenge.

Cumulative Word Count 955

Total words: 3594 excluding titles, quotes, tables of data, bibliography and appendices.

Bibliography

1. https://crossfitforglory.com/rating-of-perceived-exertion-aka-rpe/
2. Joan Newman, PE Teacher/ Hockey coach (level 2)

Appendix

Coach Witness Statement – emailed and added below

Kathryn has worked incredibly hard during the planning and conducting of the PDP. I have agreed with the ideas she has had and the decisions she has made. My judgements on her coaching and the process as a whole are below.

- *The fitness tests chosen were appropriate as she was able to use equipment that would produce accurate results, there was also elite data available to provide a comparison/base mark for the girls. The results gleaned from the tests allowed Kathryn to set the aim/target which was challenging but appropriate.*
- *The sessions Kathryn planned were enjoyed by the girls. This was important, but also the content was pitched correctly and was thoroughly researched. Kathryn was helped by the excellent work ethic the girls had, and the fact that they genuinely wanted to improve their speed which they all accomplished.*
- *Since completing the Sports Leader Level 1 Award in Year 10, Kathryn has been actively involved in leading some part of our lunchtime Hockey, and helping to coach during after school matches. This year I have allowed her to take responsibility for the training of the U15 squad which has worked incredibly well; she has planned all sessions and coached them during games with a good level of success against local schools in the league set up by our SGO.*
- *On the table Kathryn gave me about the principles and qualities of a coach, I judged her to be slightly stronger at planning, safety, communicating, listening and rewarding progress. After the process, I think her weakest aspect is the understanding of the fundamentals of coaching overall as she I more of a natural coach who does not think about the theory involved. She has improved in all areas, with the strongest areas now being planning, conducting and evaluating, and appreciating, recognising, and rewarding progress – she has had to do this as the PDP sessions were demanding and she had to keep the girls going.*
- *The overall outcome for the girls as players after the process are as follows:*
    - *They are more confident due to the marginal but noticeable increase in their speed – they are all more self-assured on the pitch, and also as a collective on the defensive line at penalty corners*
    - *They are more motivated – they perceive themselves to have improved speed and technique, and seem to be enjoying their hockey more as a result*
    - *They work better together, with more understanding, and are a real asset as a back 3*
    - *They have become excellent role models for their teammates – the training they have done has increased their knowledge and understanding, and they have become ambassadors for the need to increase speed to be better players.*
- *The PDP Kathryn has produced is accurate, well thought through, it has been successful in partially achieving the aims for the girls, but most of all for Kathryn developing and improving her ability as a hockey coach.*

Joan Newman, PE Teacher/Hockey Coach (level 2)

Player Evaluations – hand written and then typed up

Alyssa – Right Defence

Test results	Before PDP	After PDP	% +/-	Comments:
5m Sprint	0.72s	0.70s	+2.5%	I found the tests easy to do, and I tried my hardest. I am pleased that I've improved.
40m Sprint	6.42s	6.14s	+4.5%	

BORG Ratings	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Interval/Weights	14	15	14	14	15	16	16	16
Interval/Plyometrics	15	16	17	17	16	17	17	16
Technical	11	12	11	12	13	13	14	13

Comments:
The interval and plyometrics sessions were the most difficult. I wasn't used to the bounding, but as the sessions went on, it became ok. The technical sessions weren't as hard as the other 2, but some of the co-ordination was really tough to master – like on the foot strike drill.

Enjoyment	Score	Comments:
Interval/Weights	8/10	All the sessions were ok, and enjoyable, but I liked the technical sessions the best because they made a lot of sense. As I could feel my legs and core getting stronger, I could really feel the technical improvements.
Interval/Plyometrics	8/10	
Technical	9/10	

Value Added	Score	Comments:
Before PDP	6/10	I feel like I am a better defender due to being a bit quicker. I am more confident challenging for 50/50 balls, and running out at shorts.
After PDP	8/10	

Comments on Kathryn's coaching:
She made everything really clear and easy to follow. When introducing a new exercise, she showed us what to do and then we helped each other do the exercises. Kathryn's communication skills are really good, and she always praises us when we do things well and try hard. I enjoy her coaching a lot.

Ellie – Left Defence

Test results	Before PDP	After PDP	% +/-	Comments:
5m Sprint	0.68s	0.65s	+3.8%	I was surprised to be the quickest of the 3 of us, and I'm pleased to have improved the most.
40m Sprint	6.44s	6.14s	+4.7%	

BORG Ratings	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Interval/Weights	15	15	16	16	15	16	17	17
Interval/Plyometrics	15	16	15	16	17	17	18	18
Technical	11	11	12	12	13	13	14	14

Comments:
We all found the plyometrics the hardest part of all, it really made my legs hurt at the time and ache afterwards. The last 2 sessions of the interval, weights and plyometrics were really hard because of the number of repetitions. It didn't get boring though because we just wanted to finish it.

Enjoyment	Score	Comments:
Interval/Weights	8/10	I liked the interval and plyometric sessions the least because the exercises were so hard. The technical sessions were really interesting and I could see almost instant improvements.
Interval/Plyometrics	7/10	
Technical	8/10	

Value Added	Score	Comments:
Before PDP	6/10	I feel that I am a better hockey player in general now. I can accelerate quicker and am more confident. The exercises really worked.
After PDP	9/10	

Comments on Kathryn's coaching:
I like Kathryn's coaching. She sets things out really clearly, and is super encouraging whilst we work. There's lots of variety and if the tasks are easier, she demonstrates and we get on with it. For newer stuff and more difficult skills, she breaks it down and then puts it together – I like that approach.

Olivia – Central Defence

Test results	Before PDP	After PDP	% +/-	Comments:
5m Sprint	0.70s	0.68s	+2.5%	I was the slowest which isn't great but at least I improved. I'm going to keep working on it.
40m Sprint	6.57s	6.30s	+4%	

BORG Ratings	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Interval/Weights	14	14	15	15	16	16	16	16
Interval/Plyometrics	15	16	15	16	17	17	18	18
Technical	12	12	13	12	13	14	14	14

Comments:
The technical sessions were the easiest once I'd got used to the feet patterns. All the sessions became more difficult because the reps increased. The plyometrics was by far the hardest, the box jumps and lunges were awful. All together, the exercises have worked so that's really good.

Enjoyment	Score	Comments:
Interval/Weights	8/10	I loved the technical sessions – I'd never thought about how I run before, I think about it all the time now. I enjoyed the karate belt as well, it was a real challenge trying to break away from it.
Interval/Plyometrics	8/10	
Technical	9/10	

Value Added	Score	Comments:
Before PDP	5/10	I'm definitely quicker when running out at shorts, and I think my whole game has improved because my speed has. I think quicker as well now.
After PDP	8/10	

Comments on Kathryn's coaching:
I enjoyed the sessions even though some of them were really hard. The way Kathryn explained everything was good, sometimes in one go with a demo, and sometimes broken down into parts of the skill or exercise. I think she helps to make us better as a team.

GCE Physical Education (9PE0/04)

Commentary for Coach - Hockey

Performance Analysis

Physiological

Three appropriate components of hockey are identified, speed, aerobic endurance and power. The candidate offers a thorough justification for their inclusion which includes clear definitions, reference to position-specific movement data, and references to relevant research.
Fitness tests are selected and performed for each component of fitness with the results linked to a higher level performer (Eva) and other elite performers (for example the Indian team).
The 5m / 40m tests, Yo Yo Intermittent Recovery Test, and Vertical Jump are identified with supporting evidence as to their validity and the protocols to ensure reliability. An alternative to the Yo Yo Intermittent Recovery Test is the Loughborough Intermittent Shuttle Test, often referred to as the LIST, a running test that includes jogging, running and sprinting, designed to specifically simulate the physiological demands of hockey. There is a detailed analysis offered by referencing and comparing scores to various athlete populations, although not to other players of the same age which would have provided another layer of analysis.
Issues of reliability and validity of the testing are explained and there is very good understanding and application of these factors. Factors such as accurately measuring the test course, ensuring the use of the same assessor and other protocols are identified and the tests are appropriate and valid, supported by research and access to a range of data. There are references, for example, to construct, face, content and criteria-referenced validity suggesting a thorough understanding of issues relating to validity.
The **interpretation of the quantitave data** collated is accurate and demonstrates excellent application of knowledge. An even more thorough analysis would have been possible had the candidate also compared the results with other players of the same age, in addition to the elite performers referred to and the data sourced from the AIS.
The candidate has accurately **identified future priorities** for the players in the group based on test outcomes but a little more specific detail on priorities for training would have been helpful; for example, the nature of the weight training being advocated.

Overall though, this is a very well written and detailed piece of work with many strengths.

Maximum marks would have been awarded had the candidate:

- Compared fitness test performances to other peer group performers
- Been a little more specific about future training priorities

Mark band 5: 9

Tactical

An **appropriate tactic,** defending penalty corners**,** has been correctly identified.

The candidate offers a series of detailed explanations of the defensive tactic considered which are supported by carefully annotated images and descriptions, supported by quantitave data and comments from a higher level coach. The use of technical language is a particular strength and there is clear evidence of an in-depth knowledge of this aspect of performance.
Despite the high quality of the work in this section there are no images of the school team for the coach to analyse from a match situation. This would have provided even more evidence of the strengths and weaknesses of the group of players being coached and could have been analysed alongside the diagrams and images of elite teams.
The candidate outlines a highly structured analysis of how and why the basic system of defending might be modified as a result of the quality of opposition and their ability to be more creative from the set play. This is supported by additional data and qualitative input from players and the higher level coach.

This work is of an extremely high standard and demonstrates an advanced understanding of a key tactic. There is an extensive range of supporting evidence which is carefully referenced, and although images of the coached players in a competitive setting with analysis of their positioning would have added another layer of detail, the outstanding nature of this section of work allows maximum marks to be awarded.

Mark band 5: 10/10

Performance Development Plan

Planning

An appropriate component of fitness is identified, speed. The justification includes a reference to improving performance for defending at penalty corners which was the focus for the tactical section.
SMARTER targets have been explained and accurately linked to the proposed development focus with an additional reference to issues concerned with the quality of coaching, which is a linked requirement when undertaking the coach role. The targets

have a fitness focus (speed) which is linked to a performance target (improving success rates when defending penalty corners).
Principles and methods of training have been identified, illustrated and then linked to the quality of coaching and how this might be improved. There is supporting evidence from a variety of appropriate sources which are carefully referenced and which help to frame the essential focus on how the project will promote reflection on and improvement in the quality of coaching.
The data provided by players and higher level coach offers a helpful baseline on which to assess areas of improvement but it is not clear whether the marks are awarded out of 10, nor what a score of 10 represents.
The other forms of evidence suggested, diaries and evaluations etc, are potentially valuable tools in making an informed judgement as to the progress in coaching made across the training programme. These assessments suggest a clear insight as to the complexities of providing worthwhile evidence for this work.
Although it is clear what the aims are for the players in terms of improving speed and the impact this is hoped to have on the team's ability to successfully defend at penalty corners, the theory behind the training programme is absent. A reference, however brief, to some underpinning science would have added another layer of depth here.
Throughout the work there is evidence of research and of an advanced level of understanding around the key issues being considered; the technical language is of a high order and the work is well structured.

More marks would have been achieved had the candidate:

- Been more precise about the assessment tool being used by players and higher level coach – for example, what does a score of ten represent?
- Been more specific as to the levels of intensity for the training with a brief supporting reference to underpinning science. What, for example, were the reasons for the choice of weight training exercises, the resistance levels and number of repetitions and sets etc

The work is mark band 4: 8/10

Review and evaluation

The **quantitave data** supports the successful implementation of the training programme with the results showing improvements in speed albeit a little short of the original target.
There is also evidence about the progress made in terms of quality of coaching with an impressive range of evidence supplied by players and a higher level coach.
The data suggests progression in line with the training undertaken in terms of improving speed, and the performance improvements in a match setting.
To demonstrate the impact of the training plan on performance levels the candidate might have also linked the work undertaken to whether defending at penalty corners

had improved as this was referred to in the planning, although the word count is likely to have limited this aspect of the project.
Changes in the test scores are considered and there are suggestions about how levels of elasticity and the force of contractions that might have underpinned increases in speed; a brief reference to evidence that supports these points would have helped this aspect of the evaluation. There is also a brief reference to the improved performances when defending penalty corners.
There is excellent qualitative evidence to indicate improvements in the quality of coaching and also valid references to the **future development in the coach role,** such as involving players in decision making.
These recommendations are perceptive and insightful, indicating a mature understanding of how coaching performances can be further enhanced going forward. The twin objectives of demonstrating improvements in players' performances and developing the quality of coaching means that space to address some points is limited and, although the appendices provide helpful information about the training undertaken, a little more contextual information is needed about the levels of resistance used for the weight training and plyometrics to affect the progress made.

Maximum marks would have been awarded had the candidate:

- Offered a layer of supporting scientific evidence for the changes in test scores
- Provided a little more detail about training demands in order to improve speed

Mark band 5: 9/10

Overall, the candidate has produced a piece of work which offers highly structured analysis across the various tasks. The advanced level of technical language, thorough research and application of knowledge provides ample evidence of work in the top band and worthy of the high mark awarded. The word count is a little over the maximum word count (94 words) but it is felt that no marks should be deducted for this on the basis that loss of the final paragraph does detract from the overall quality of the work required for a top band mark.

Total marks: 36/40