

How to Ace the PAP

By Qavim Ahmed

I remember how intimidating it was to start the PAP. I felt like I didn't know what I was being asked to do or what the examiner was looking for. Luckily, I was able to crack the code and figure out how to get a H1 in it. In hindsight, it really wasn't as hard as it first seemed. Especially if you have the right information and someone to nudge you in the right direction. Luckily for you, that's exactly what this article is supposed to do. I'm going to reveal everything I know about the PAP. This article contains H1 sample paragraphs, a thorough breakdown of what is expected from you in each section, unique and fresh ideas that can make your project stand out and last but not least, how to avoid common PAP pitfalls.

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Section A

This is the largest, but also the simplest part of the project. In 2023, you were expected to write 700 words, which is just under half the total word count. This sounds like a lot of work, but it becomes much more manageable when you divide it into seven short paragraphs. The structure of each paragraph is going to be fairly similar. This means once you have finished writing your first decent paragraph, the rest of this section will become a lot easier.

I would strongly recommend that you write an introduction and a paragraph on each performance goal area except for Physiological Demands. Physiological demands is by far the hardest performance goal to score well on. My teacher went as far as telling us to cross out Physiological Demands from the list of performance goals that we can choose from and discuss.

In your introduction, you should state your chosen Physical Activity and your role within the Physical Activity. For example Soccer, Goalkeeper. You also need to reveal your chosen method of analysis for each performance goal area. For example, I used My Fitness Pal to analyse diet and nutrition by tracking my caloric intake, average macronutrient split and water intake. The introduction should be short (under 100 words) and lightly outline how you prepared for Section A.

You are expected to explain why or why not the performance goal area is important for your specific role and playstyle. You then have to reveal how you analysed/tested your performance in this area and the implications of your results on performance. You have to compare your tests results to the Normative Tables to contextualise your result. Your tests should be specific to you. It wouldn't make sense for a sprinter to test their muscular strength by doing a one rep max on the bench press. You should make an effort to find fitness battery tests that are more specific to your role and sport than the generic ones found in the textbook. I personally used some of the tests from the NBA draft combine for my HRF and PRF analysis.

Again, I strongly recommend that you write a paragraph on each performance goal area, with the exception of Physiological Demands. I primarily advise against the inclusion of Physiological Demands because having an extra paragraph makes the word limit crunch even worse and takes away from the depth and quality of the other paragraphs. I advise combining Health and Performance Related Fitness into one paragraph, in the interest of keeping the word count down. Each paragraph on a performance goal area should be given equal attention and be approximately 100 words.

Here are three sample paragraphs and images from my own PAP. Some paragraphs have been adapted for other sports, to make the information more accessible.

Clearly stating role and physical activity

Introduction

I've completed my physical-activity-project on rugby as a flanker. To identify keycontributors to performance I conducted a needs-analysis, chose a model-performer, conducted a fitness test-battery and compared results to normative-data tables, tracked my macronutrients, hydration-levels, compared my skill and technique with my model-performer and analysed it and my economy of motion from a biomechanical perspective. I also discussed my performance with my basketball coach and completed a SCAT test. I then evaluated the importance of my results in

relation to the needs of a flanker.

(Fig-A4)

Paragraphs are labelled

Emphasising that results are specific to your role

Poor use of language, unclear and broad statement

Health and Performance-Related-Fitness

Basketballers need good health-related-fitness to participate, while aspects of performance-related-fitness are more specific to playstyle and position.

Explaining importance of performance goal area.

⁻ Role specific tests

For example, centres need excellent cardiovascular-endurance to play, however depending on their play-style, good agility may not be important while power could be essential. Strength, power and cardiovascular-endurance are the most important components-of-fitness for my position and playstyle.

I based my fitness-test-battery on the NBA Draft-Combine and other basketballspecific test-batteries and compared my results to the normative-data tables.(Ref-1+2+3)(Fig-A1) < *References weaved into text*

I scored poorly in muscular-power, cardiovascular-endurance, flexibility and balance. Flexibility and balance aren't key-contributors to performance for centres, however muscular-power and cardiovascular-endurance are. This means I'll struggle with offensive and defensive-transitioning, winning rebounds, posting-up and driving past players.

Explaining importance and implications of results on role specific performance

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Diet and Nutrition

Rowing places a high-demand on the anaerobic and aerobic-energy systems which rely on glucose and glycogen for fuel. Insufficient carbohydrate intake can cause fatigue and reduce performance.

Explaining importance of performance goal area

It's recommended for athletes to consume 2.3g-3.7g/lb of bodyweight of carbohydrates. Irrelevant and uncontextualized info

Hydration's also important, if an athlete loses water equivalent to 2% of bodyweight, performance can suffer.

Athletes are advised to consume 4.5L of water daily.(Ref-9). Rowers require 1.2-1.7 g/kg of bodyweight of protein for optimal-conditions for muscle protein-synthesis (Ref-10) . Inadequate protein intake inhibits the body's ability to create a physiological adaptation to training and recover. I tracked my weekly macronutrients and water intake on my-fitness-pal (Figure-A2). I consumed an average of 1900 calories, 60g protein, 240g carbohydrates and 100g fat. My protein, carbohydrate, water and caloric-intake were insufficient. This means I'm often going to experience fatigue during training and matches, recover inefficiently and grow slowly.

Explains how performance goal area was tested and implications of results



This image is unique, creative, colourful and easy to read. It contains lots of very detailed biomechanical information and uses correct terminology such as "Plantar Flexion" and "Shoulder Abduction". Both the attacker and defender share similar positions and roles to the model performers allowing for an accurate comparison. This image is also labelled and referred to in my paragraph on biomechanical analysis.

Example of Good Practice



Example of Bad Practice



This image was a very good idea, but it was executed poorly. It is unique and contains a lot of important information. Unfortunately, it failed to convey it in an effective manner. It is just too busy and overwhelming. There are way too many different numbers and labels. This combined with the complex pattern and colour scheme makes this a poor image.



Section B

In section A you are given a blank canvas, you have a lot of freedom as to what you can write and how you can structure it. This isn't the case with Section B. There are 6 subheadings and the word limit is only 400, almost half of Section A. As a result, your writing has to be very precise and targeted at the subheading.

Performance goal and rationale

In this segment you have to present a SMART goal that was formed based off your performance analysis. Your performance goal should be something that you need to improve on, it needs to be one of your weak points in your performance analysis. If your only test for psychological demands in section A is the SCAT test, and you get a perfect score in it, then you can't pick psychological demands as a performance goal. You also need to assess what performance areas are important for your role, don't pick cardiovascular endurance as a performance goal, if you are a goalkeeper in soccer. This section should be around 50-80 words.

In summary, you need to write down a very specific and detailed SMART goal, justify your choice with reference to your performance analysis (section A), and briefly discuss how achieving this goal will improve performance.

Training Plan and Rationale

In this segment you are expected to explain how your training plan is designed to be effective. There are countless ways to do this, but I found explaining your design choice through the FITT formula to be the easiest and most efficient method. This method involves mentioning that the frequency, intensity, time and type of training have been optimised for your performance goal and then providing a reference that supports your statement. A major difference between Section A and B, is that section B requires you to do a lot more research, independently of the book. Using and applying high quality information from reliable and cited sources makes your project stand out and is non-negotiable if you are aiming for a high grade. You also need to mention how you plan on progressively overloading. Training plans will vary greatly from goal to goal, but when applicable the FITT, SPORTOR and VPSMARTER principles must be applied. The world limit is very low in this section, so it won't be possible to discuss every aspect of your training plan. You should prioritise discussing what you think shows off your knowledge and ability the best.



Examples of good practice

Highly detailed and specific goal

I want to improve my cardiovascular-endurance by increasing my distance in a 32minute, 2:1minute work-rest ratio interval-training run from 4900m to 5500m within 7weeks of training. This's the running-pattern in basketball-matches so it's the most specific way to measure cardiovascular-endurance.(Ref-20) I scored 2000m in the 12-minute Cooper-run which means my cardiovascular-endurance is poor. My coach also recognised cardiovascular-endurance as a weak-point. Improving cardiovascular-endurance will increase work-rate and overall-contribution during matches.

Combination of subjective and objective data

FITT formula

I designed my training-plan to be specific and mirror demands of a basketball match. The work-rest ratio, intensity, and length of interval-training mimics transitioning between defence and offence, Continuous-training in the aerobic heartrate zone is highly-effective at developing cardiovascular-endurance and fartlektraining mirrors the changes in speed and intensity in basketball. I included various training-methods to avoid tedium and I plan to progressively-overload by increasing distance each run.(Ref-20)

SPORTOR and reference

I want to increase my average daily-protein, carbohydrate, water and caloric- intake to 150g, 450g, 4.5L and 2900 calories for 7-weeks. According to my performanceanalysis, I'm under the RDAs for carbohydrates, water, calories, and protein and fatigue easily. Fixing my diet will increase my energy-levels, reduce recovery-time and improve growth and performance.(Ref-25) I made my plan a 10-day-cycle to increase variety and avoid tedium.

Briefly discussing how performance will improve

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My breakfasts contain proteins and simple-carbohydrates because I'm in a fasted catabolic-state. I need to change into a fuelled anabolic-state to aid recovery and growth. (Reference-26).

Advanced and accurate terminology and information

Inaccurate use of terminology

My pre-workout meals consist of simple-carbohydrates that quickly change into glucose and fuel the aerobic-energy-system. My post- workout meals contain protein, carbohydrates, and water to repair, refuel and rehydrate. (Reference-27) My lunches and dinners are high-calorie to prevent a caloric-deficit which would inhibit growth and reduce energy. (Reference-28)

Muscular-power involves exerting maximum-force in minimal-time. Therefore, it's important to include strength and rate-of-force development training with direct power-training. (Reference-22)

Shows an exceptional understanding of power training and that a lot of research has been done

I kept low-velocity and high-velocity strength sets within the strength/power 1-5 reprange. (Reference-23) I allocated rest-time based on work-rest ratio of 1:20 because I'll be using the ATP-PC system. (Reference-24) I'll progressively-overloaded by increasing repetition-tempo for rate-of-force development and plyometrics and increasing load for strength- training. I kept training-volume low to avoid over-training and allow recovery. I included various exercises to prevent tedium.







Colourful and detailed images. They provide a lot information in an easy to understand way

Training Plan-1	Continuous Training	Fartlek Training	Interval Training	Figure-B1
Frequency	once every 10 days	once every 10 days	once every 10 days	
Intensity	RPE 8	RPE 7	RPE 6	
Heart Rate	143-164	143-190	143-160	
Time	25 minutes	28 minutes	32 minutes	
Туре	(Running)	10 second sprint after 2 minutes of running	Work Rest Ratio of 2 minutes to 1 minute	
Ramp Warm Up	Light Jog	Lunges+ Squats	High Knees+ Leg Swings	Running On The Spot
Cool-Down	Light Jog	Hamstring Static Stretch	Quadricep Static Stretch	Calf Static Stretch



Overall Training Cycle	Monday	Tuesday	Wednesday	Thursday	Friday	F Saturday	igure-B7 Sunday
Week-1	High Velocity Strength Day	Continuous Training	Rest	Plyometrics+ Rate of Force Development	Fartlek Training	Rest	Low Velocity Strength Training
Week-2	Rest	Interval Training	Rest	High Velocity Strength Training	Continuous Training	Rest	Plyometrics+ Rate of Force Development
Week-3	Fartlek Training	Rest	Low velocity Strength Training	Rest	Interval Training	Rest	High Velocity Strength Training
Week-4	Continuous Training	Rest	Plyometrics+ Rate of Force Development	Fartlek Training	Rest	Low Velocity Strength Training	Rest
Week-5	Interval Training	Rest	High Velocity Strength Training	Continuous Training	Rest	Plyometrics+ Rate of Force Development	Fartlek Training
Week-6	Rest	Low Velocity Strength Training	Rest	Interval Training	Rest	High Velocity Strength Training	Continuous Training
Week-7	Rest	Plyometrics+ Rate of Force Development	Fartlek Training	Rest	Low Velocity Strength Training	Rest	Interval Training

Simple layout, soft colours, easy to look at and analyse.

Section C

This section is broken down into four segments, analysis of post-training performance, reflection on training plans and performance goals, impact on performance and a conclusion. The word limit is 500, which I found to be lenient.

Analysis of Post Training Performance

This segment requires you to rerun the tests that you initially used to assess your performance goal areas in the performance analysis. You need to be able to discuss and explain any expected and unexpected changes. For example, despite flexibility not being one of my performance goals, my position in the norms for the sit and reach test went from poor to average. This is because I included static hamstring stretches in my cooldowns. You also need to comment on whether or not you were satisfied with the extent of your improvement in your performance goal area.

Reflection on Performance Goals

You need to clearly state whether or not you achieved your performance goals, your improvements, and why or why not you were able to achieve your goals. If you achieve your goal, you can accredit it to your well-designed training plan and realistic goal. If you don't achieve your goal, you need to recognise a fault with your training plan, performance goal, or some other factor like injury or no access to training facilities. You could say your performance goal was unrealistic or your training plan broke one of the principles of SPORTOR.

Reflection on Training Plans

In this segment, the examiner is looking for your ability to diagnose and solve training-problems. I would strongly recommend that you discuss at least one problem and adaptation per performance goal. A training problem can be anything that makes one of your training plans less effective. For example, training volume per session could be too high. You would diagnose this as a fault with your training plan and say that your training plan doesn't follow the principle of overtraining. You could solve this problem by reducing frequency or intensity of training, and implementing recovery methods such as cold exposure.

Impact on Performance

You need to explain how achieving your performance goals has improved and changed your performance. You should discuss improvements and changes under sport specific terms such as, field goal percentage, freekick success rate, passes per game, tackles per game and distance covered. It is ideal to use a combination of objective and subjective data, however it is difficult to obtain accurate and reliable objective data.

Conclusion

This is a brief paragraph on what you would do differently if you were to start again and how you would modify your current training plan for further improvement. For example, In the future, I would introduce additional exercises to my strength training plan, to avoid any potential training plateaus and to increase enjoyability and reduce tedium.

Analysis of Post-Training-Performance

I re-ran a fitness-test-battery to evaluate my progress. The results are summarised in Figure-C-1. My position on the Norms for cardiovascular-endurance and muscular-power changed from poor to below-average, this's a good-improvement for seven weeks of training.

Explains why result was unexpected

Despite not being the primary-focus of my power-training plan, my speed and muscular-strength increased due to low-velocity-strength and rate-of-forcedevelopment training. My flexibility and lower-body muscular-endurance experienced minor- improvements due to static-stretching in cool-downs and repetitive lower-body muscular- contraction during running. My agility and balance underwent negligible-change.

Highly detailed description

This type of analysis belongs in the Impact on Performance segment, this segment is concerned with performance in relation to your . performance goal areas, not overall performance /

Further analysing objectively, my average-points and rebounds per game during the training- plan increased to 8 and 4 from 6 and 3.



Reflection on Training-Plans and Performance Goals

I achieved my diet and cardiovascular-endurance goals and partially achieved my muscular-power goal, by strictly following my diet-plan, increasing my 32-minuteinterval- training run-distance from 4900m to 5550m and vertical-jump from 26cm to 37cm. I achieved my power and diet goals because they were realistic goals, my training-plans were effective and I was consistent with training, I didn't achieve performance-goal-3 because it was unrealistic to expect my vertical-jump to increase by 50% in 7-weeks and perhaps my jumping-technique could've been a barrier to me achieving my goal

Success and Failure is rationalised

, Relating to VPSMARTER and SPORTOR

The training-plans were exciting, challenging, and easy to progressively-overload. I amended all training-plans during Cycle-1. I didn't enjoy drinking more than 1L of water in one-sitting, so I changed my diet-plan to better distribute water-intake. I couldn't keep-up with the high-intensity of continuous and fartlek-training, so I only did Interval-Training for Cycle-1 to make training achievable and gradually build-up cardiovascular-endurance. I had extremely-poor Olympic-Lifting technique, so I dedicated Cycle-1 of High-Velocity Strength-Training to improving technique. During Cycle-4 I felt I wasn't making progress quickly and became demotivated. So I set short-term goals for each session to feel a sense of achievement and progress. (Ref-29)(Fig-C4) I also increased my caloric-intake by 240 calories with 60g carbohydrates because I progressively-overloaded on training-plans-1 and 2 and therefore was burning more calories.(Fig-C2+C3)

Problem _____ Amendment

Impact on Performance

Unique and accurate method of subjective analysis

I asked my coach to review changes in my performance, his subjective-analysis is I'm now a more explosive-player who can maintain good-performance for longer and contribute more to the match.

My cardio-vascular training has allowed me to put more effort into the game and play for longer. I can consistently make it back on defence and get up in time on offence. My performance has stopped quickly declining with fatigue. My muscular-power training has turned me into a more explosive-player and I can now drive past defenders and overpower them in the post. This has led to my scoring and rebounding increasing.

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Only one poor and vague example of objective analysis

good subjective analysis

My diet has increased my energy-levels and ability to recover. I feel less tired after exercise now and my body can handle intense-exercise for longer.

Well thought out improvement that would help advance training

Conclusion

In the future, I would implement periodisation. I kept training-volume low for my training plans to prevent overlapping and overtraining. Training would've been more effective and if I focused individually on each component-of-fitness in meso/micro-cycles. I'd also increase variety within the training-plans to increase long-term sustainability and avoid tedium and training-plateaus.(Ref-30)

Figure-C1	Component of Fitness	Pre-Training Score	Post-Training Score	Change	Previous Position on Norms	New Position on Norms
Cooper 12-minute Run	Cardiovascular Endurance	2050m	2400m	+350m	Poor	Below Average
1 Minute Press Up Test	Muscular Endurance Upper Body	36 Push Ups	36 Push Ups	O	Average	Average
Single Leg Squat Hold	Muscular Endurance Lower Body	61 Seconds	68 Seconds	+7 seconds	Average	Average
Standing Broad Jump	Muscular Strength Lower Body	2.24m	2.39m	+0.15m	Average	Above Average
Hand Grip Dynamometer	Muscular Strength Upper Body	47Kg	51Kg	+4Kg	Average	Above Average
Sit and Reach	Flexibility	3cm	6cm	+3cm	Poor	Poor
Vertical Jump	Muscular Power	26cm	37cm	+11cm	Poor	Below Average
Flying 30m Sprint	Speed	4.52	4.37	-0.19s	Below Average	Average
T-Drill	Agility	10.64	10.59	-0.05s	Below Average	Below Average
Standing Stork Test	Balance	2.1s	2.4s	+0.3s	Poor	Poor
Alternating Ball Toss Test	Co-ordination	27	27	0	Average	Average

Red light system used to effectively communicate results.



Useful Resources

- 1. Capcut- I found this to be the best video editing app
- 2. Meta Chart- good for quick and simple diagrams
- 3. Xara Cloud- Harder to use, but can make really good tables
- 4. Coaches Eye- Biomechanics
- 5. My Fitness Pal- Tracking Macronutrients
- 6. Your PE teacher or coach- Roles and Relationships
- 7. Dr Andrew Huberman- Strength, Power, Endurance, Nutrition, Recovery (sleep and cold and heat exposure)
- 8. 5 Ways To Get Explosive Power (For Athletes) YouTube video by power training-I highly recommend this video
- 9. Scientific Paper Biomechanics-https://www.hindawi.com/journals/abb/si/537230/
- 10. Article on Diet and Nutritionhttps://www.betterhealth.vic.gov.au/health/healthyliving/sporting-performance-and-food
- 11. Caloric Surplus- https://celsius-asia.com/upload/3pre_workout_routine.pdf



General Advice

- Read through the marking scheme and information on your PAP document
- Your text is the most important, then images, then videos.
- Images are a great opportunity to present numerical information
- Images do need to be easy to read and colourful
- Label your images
- I was told that videos are nothing more than evidence of training and that they didn't matter too much. This is partially true but videos are a great opportunity to make your project stand out.
- Keep your language formal and concise
- Weave references into your text
- This is getting marked as a project. So the presentation of your work and your language matters just as much as your information.
- Have subheadings, have references in a different colour, write your subheadings in bold and underlined, use paragraphs and avoid overly long sentences.
- Try use as much PE terminology as possible.
- Try to touch on mention as many concepts from the book as you can
- Make sure no one is in the background of your videos
- You can use hyphenation to save word count, for example performance-analysis
- This PAP is not like an exam where you get full marks for answering the question correctly. The marking scheme for the PAP is very loose and subjective. To get full marks in the PAP, you need to make your project stand out, you are being marked against other people.
- Read the marking scheme and information on the PAP document
- Do not exceed the overall word limit
- Mention that you are doing a ramp warm up and cool down
- Refer to peer reviewed papers
- Avoid doing the PAP as a coach