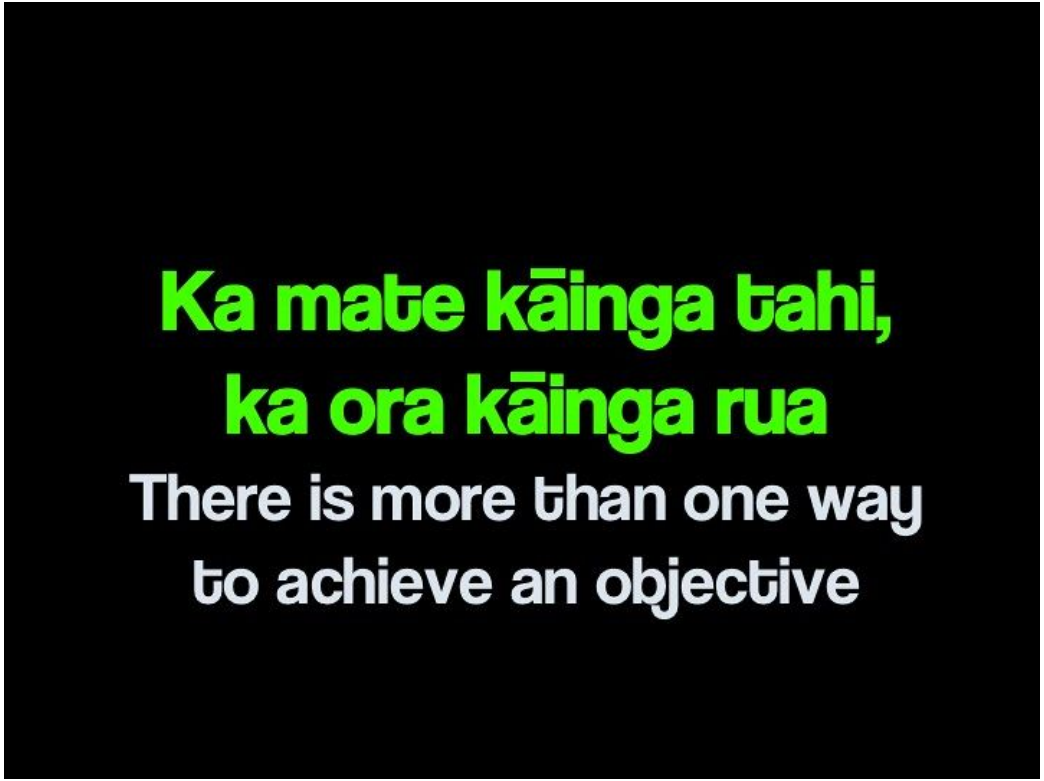
Integrating Technology to Improve Skill Performance

Adam Wilson - Mount Roskill Grammar School
adam.wilson@mrgs.school.nz

https://shorturl.at/bsCbe

9SPP - Whakatauki

(9SPP = Sports Performance)



Workshop blurb...

Tech it Up! Boosting Skill Performance in PE

Get hands-on (and on camera!) in this fun, practical workshop that brings tech and PE together. We'll dive into my schools 'Performance Improvement Cycle' using a discrete skill as our focus - think video analysis, movement breakdowns, and a bit of friendly competition. You'll record and review your performance using easy video tools, then check it against an AI-generated checklist to see where things are spot on... and where there's room for improvement.

Along the way, we'll chat about how this kind of tech integration can lift student engagement, build ownership of learning, and support skill development. Whether you're a seasoned pro, or a total tech newbie, you'll hopefully leave with ideas you can plug straight into your programme.

Expect a bit of movement, a few laughs, and plenty of opportunities to collaborate with others. Come curious, and hopefully leave inspired!

Session Aims

Tech it Up! Boosting Skill Performance in PE

- Discover and experiment with some video tools that we can use to improve skill performance
- Use the ‘Performance Improvement Cycle’ as a model for developing skill learning.
- Look at how we can use tech to develop student ownership of learning and support skill development.

AND… To move, connect, collaborate and have a few laughs along the way!

HOW we will cover this learning?

Traditional Models AND ‘A.I.’

1

Using the Performance Improvement Cycle

Games Based Approach

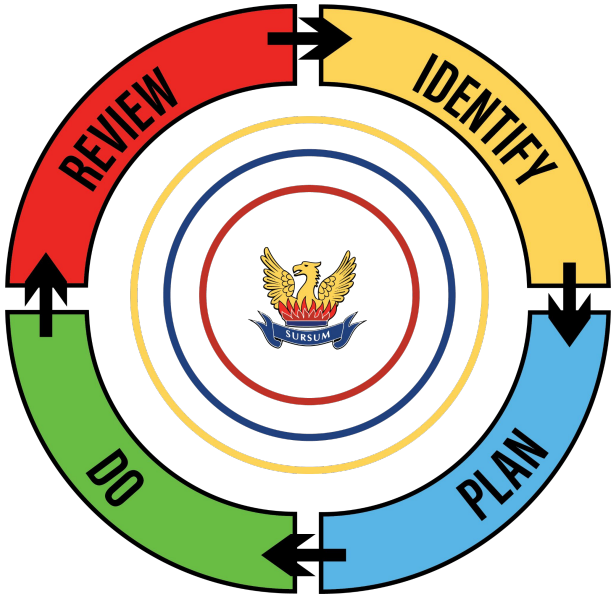
2

Hei Mahi

Pick one of the statements from the list below and discuss with your table group:

1. **Poor Technique = Poor Results**
2. **Practice Makes Perfect**
3. **‘Amount of Practice’ is the most important strategy for performance improvement**

‘Performance Improvement Cycle’



MRGS HPE Performance Improvement Cycle

We use this cycle at my kura to help students understand their own part in the learning process, and understand the ‘What Next?’

1

Integrating Technology to Improve Skill Performance - TRADITIONAL

1 - In a group of no more than 3, grab an ball and practice your AFL Drop Punt.

2 - Now you need to use your phone to video each other (or at least 1 brave soul) performing the AFL Drop Punt!!

3 - Finally use the video and compare yourself to the 'Ideal Model' checklist, how did you go?????

4 key technique points for a successful Drop Punt in AFL:

- Laces away from faces
- Ball pointing straight up and down
- Point your toes to where you want it to go
- Step through towards the target

What was / would be the most effective method you just used to improve that skilled performance?

Some Useful Delayed Video Feed Apps

GET IT ON Google Play

Video Delay Instant Replay

Video Delay Instant Replay PRO

Download on the App Store

BaM Video Delay

Please note - Both versions of ‘Video Delay Instant Replay’ are available @ the App Store

Now to add the ‘AI’ factor…

Using the equipment we have around here, and taking into account we are all visitors to the school!!!
1 – Decide on a simple skill you could learn / improve *(eg. vertical jump, standing broad jump, volleyball topspin serve etc)*

2 – Go to your AI tool of choice *(eg. ChatGPT, Gemini etc)* **and ask it to create a simple ideal model checklist for you** *(Note - If it looks to complicated, keep asking it to simplify it, AND / OR if you are feeling really adventurous ask for ‘phases’ and ‘sub-routines’)*

‘A.I.’ Prompts

Link to the Chat GPT example for the Vertical Jump

🟢 Vertical Jump – Ideal Model Checklist

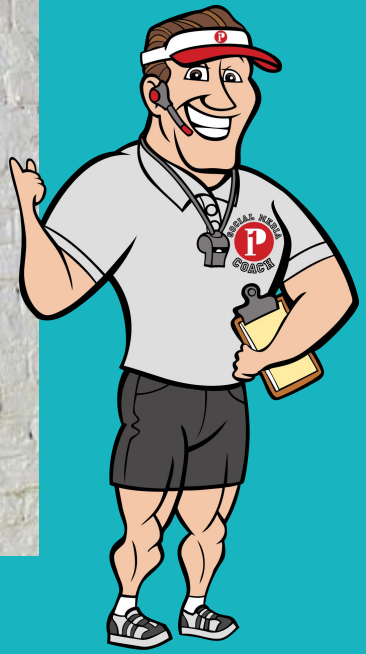
✅ 1. Get Ready (Preparation Phase)

- Feet shoulder-width apart
- Toes pointing mostly forward
- Knees slightly bent
- Chest up, back straight
- Arms back, ready to swing

✅ 2. Bend and Load (Crouch Phase)

- Bend knees like a small squat
- Hips go back, not knees forward

The next few slides are an example of how we follow a ‘REVIEW’ process with 9SPP…



9SPP - Sports Performance

So what are we going to learn about today?

Learning Intention:

- We are learning to be able to apply the Performance Improvement Cycle to our own training. *(Global)*
- We are learning how to 'REVIEW' our own performance. *(Specific)*
- We are learning how to 'IDENTIFY' our next steps. *(More Specific)*

Success Criteria:

We are going to co-construct this together, by answering the below questions to set our 'Success Criteria':

- How will we go about achieving the learning intentions? *(Process)*
- How will we know we have achieved it? What will it look like at the end? *(Product)*

Hei Mahi #1

In a group of no more than 3, grab an AFL ball and go outside to video your group performing the AFL Drop Punt (Technical skill)

1. Video the player doing the AFL Drop Punt from behind and to the side.

2. Video the player doing the AFL Drop Punt at least 3 times.

EXAMPLE

Now use the AFL Self-Assessment sheet to REVIEW Mr Wilson's AFL Drop Punt

Insert Pre REVIEW Video

Insert Post REVIEW Video

STEP 1 - Get in to a group of 3 - 4 people, and video yourself doing the AFL Drop Punt.

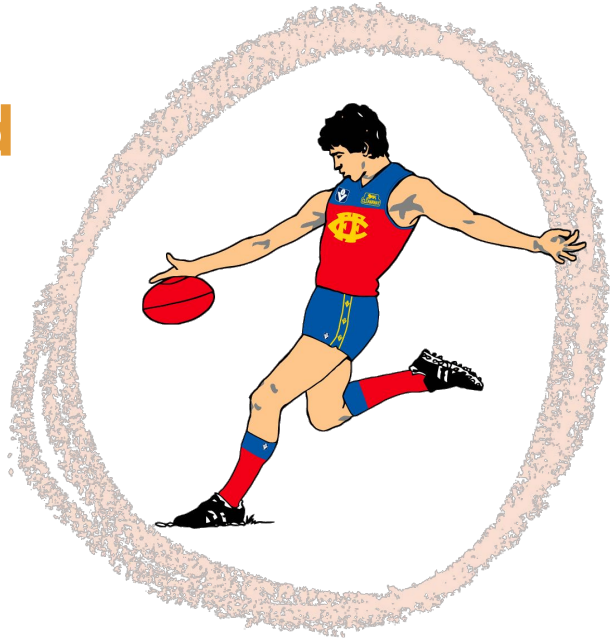
(we will use this to REVIEW)

STEP 2 - Now watch the videos you just recorded and IDENTIFY what you are doing well, and what you need to improve on using the 4 key technique points for doing a successful Drop Punt in AFL - *check out the AFL Self-Assessment sheet.*

STEP 3 - Now you have got some feedback (IDENTIFY and REVIEW) on your your current performance.

Create a PLAN for what you need to do to improve

STEP 4 - Go out and practice again, i.e. DO. We will expect to see you do as a Hei Mahi at the start of your next lesson.



Now you know how to use the ‘Performance Improvement Cycle’ to help you improve your own performance!!

Using AS3.2 as an example

Part 1 – Identification

Part 2- Initial Analysis

Part 3 – Analysis and Presentation

Your presentation should include:

A biomechanical analysis (deconstruction) of your chosen skill. Consider the **strengths and weaknesses of the performance** as identified above, explaining them in depth **using appropriate biomechanical principles** **and** making reference to **anatomical knowledge** .

Feedback/feedforward on the **biomechanical improvements you could make** to improve your performance. This should use biomechanical principles and how they interrelate as reasoning for the improvements. For example, Newton's laws, force summation, levers, rotational motion, torque, projectile motion, momentum, force, and friction. *There should be a clear relationship between your biomechanical analysis and your feedback/feed-forward.* When providing feedforward consider how the biomechanical principles interrelate to improve performance.

The role of biomechanical analysis in performance improvement. You may even wish to question/challenge the assumption that biomechanical analysis (deconstruction) is necessary to improve technique.

A conclusion that discusses which parts of the skill have the greatest impact on performance, and which principles (if applied) have the greatest influence on performance, (as well as considering any other factors that could influence improvement).

Using Level 3 PE as an example (AS 3.2)

Analyse a physical skill performed by self or others

How do we classify Skills??

The Discrete, Serial and Continuous Continuum (Galligan 2000)[2]

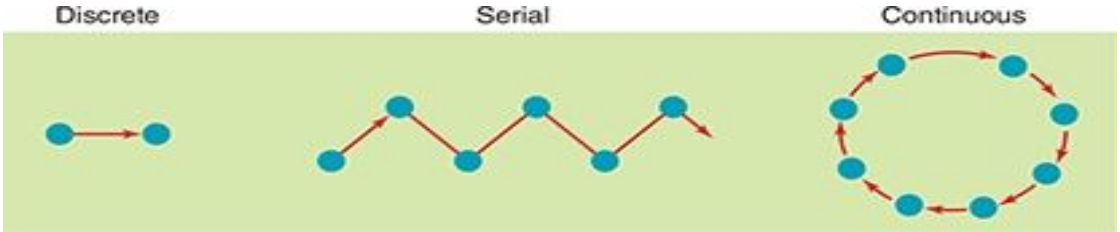
This continuum is concerned with how well defined the beginning and end of the skill are - discrete, serial and continuous skills.

Discrete skills are brief, well-defined actions that have a clear beginning and end. They are single, specific skills, which make up the actions involved in a variety of sports such as hitting and throwing. Hockey. i.e. a penalty flick in.

Serial Skills are a group of discrete skills strung together to make a new and complex movement. i.e. the sequence of skills for the triple jump.

Continuous skills have no obvious beginning or end. The end of one cycle of movements is the beginning of the next, and the skill is repeated like a cycle. These skills could be stopped at any moment during the performance of the skill. i.e. Swimming, Running, Cycling.

As sourced from https://www.brianmac.co.uk/continuum.htm (April 2018)



(as sourced from) https://skillacquisition.weebly.com/discrete-serial-and-continuous.htm

From the ‘tki’ Assessment Task…

Part 3 – Analysis and Presentation

A biomechanical analysis (deconstruction) of your chosen skill. Consider the **strengths and weaknesses of the performance** as identified above, explaining them in depth….

Feedback/feedforward on the **biomechanical improvements you could make** to improve your performance…

The role of biomechanical analysis in performance improvement. You may even wish to question/challenge the assumption that biomechanical analysis (deconstruction) is necessary to improve technique.

A conclusion that discusses which parts of the skill have the greatest impact on performance, and which principles (if applied) have the greatest influence on performance…

Question to consider…

(Initial Assumptions) Consider which parts of the skill have the greatest impact on performance, ~~and which principles (if applied) have the greatest influence on performance~~, as well as considering any other factors that could influence improvement.

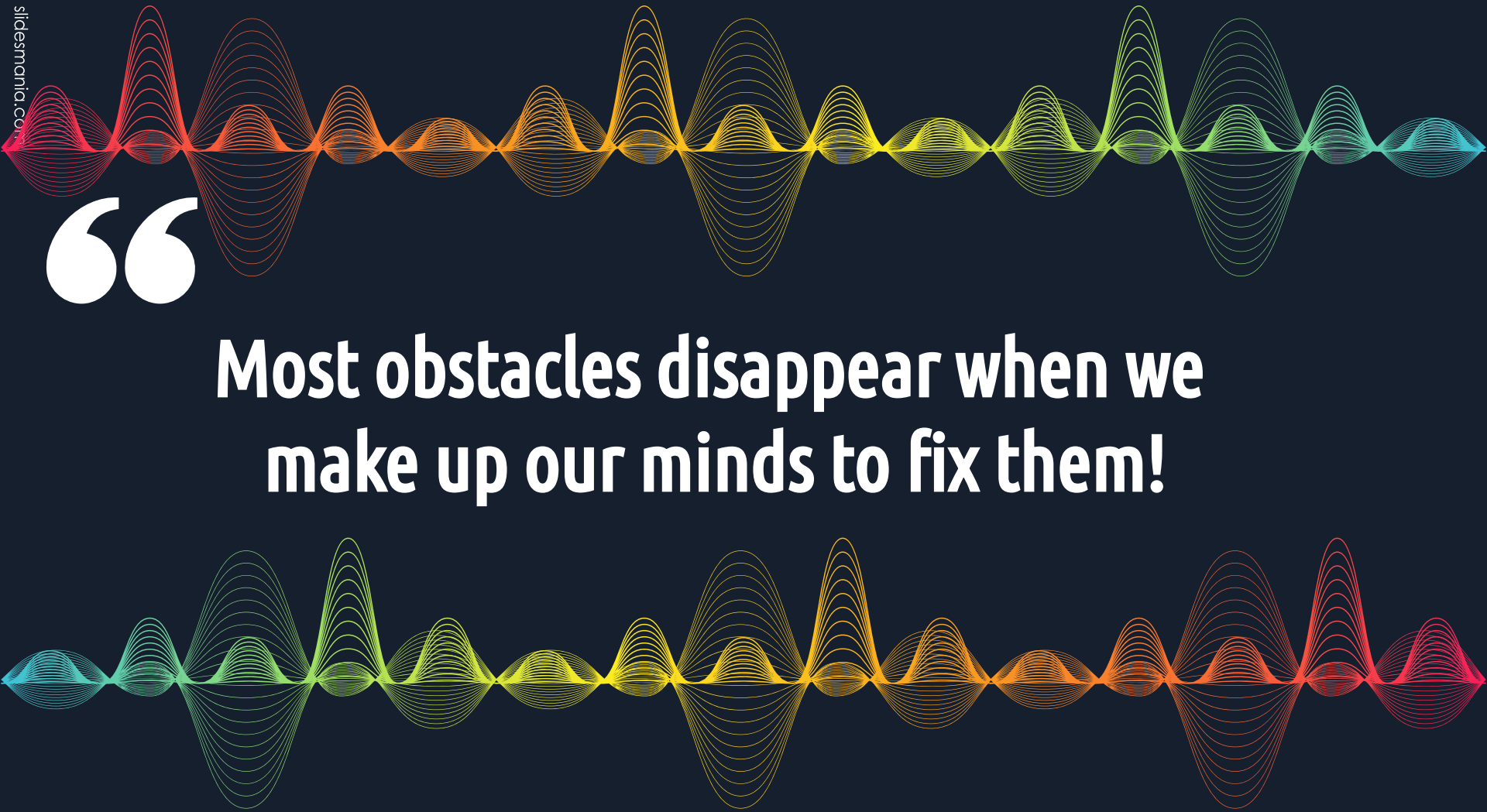
13SPS AS3.2 Student Assessment 2024

A conclusion that discusses which parts of the skill have the greatest impact on performance, and which principles (if applied) have the greatest influence on performance, (as well as considering any other factors that could influence improvement).

2

Integrating Technology to Improve Skill Performance - Games Based Approach

Check out these slides...
Developing Tactical Understanding



“

Most obstacles disappear when we make up our minds to fix them!

Thank You