Te Kura
Te Aho o Te Kura Pounamu
THE CORRESPONDENCE SCHOOL

PHYSICAL EDUCATION PE02020Y1
INTERNAL ASSESSMENT ACTIVITY

ACHIEVEMENT STANDARD 91328 (VERSION 2) PHYSICAL EDUCATION 2.2
Demonstrate understanding of how biophysical principles relate to the learning of physical skills
Level 2, Internal assessment
5 credits

STUDENT INSTRUCTIONS

Overview:
In this activity you will:

- choose a sporting skill to perform with your non-preferred side of the body (less dominant side of your body) which will include a minimum of 3 joints.
- perform the skill and you could teach it to someone or a group of others (the participants).
- collect data from observations, (use photos, videos) analyse the performance(s) then write a report that evaluates how the **Biophysical principles** (these include functional anatomy, biomechanical principles, skill learning and sports psychology) relate to the learning of your non-preferred (less dominant) side of the body for this skill.

There are five tasks to complete for this activity: **Tasks 1–4** contribute to the assesment. The quality of the data and information you gain and present from these tasks will have a major impact on the quality of **Task 5 – your evaluation**, the final written report of your findings to be assessed.

You may find it useful to take photos and use a video camera to record your own performance and the performance(s) of your participants learning and performing the skill. You will use this evidence to analyse the performance(s) demonstrating comprehensively how biophysical principles relate to the learning of this movement.

You will be assessed on the logic and clarity of your judgements and explanations you make about the biophysical principles relating to the learning of the skill and about the interrelationships between these principles.

N.B. Consider safety at all times.

Conditions:

- This must be entirely your own work.
- You must not directly copy work from any source, and any sources you use must be referenced.
- Plagiarism detection software may be used to check this is your own work.

Supervisor requirements
A supervisor must be present at specified times for this assessment. You must provide the full name of the supervisor and their relationship to you (e.g. parent, teacher, teacher aide etc.) when you upload your assessment to the PE02020Y1 OTLE assessment dropbox.

ASSESSMENT CRITERIA

ACHIEVEMENT STANDARD 91328 (VERSION 2) PHYSICAL EDUCATION 2.2

Demonstrate understanding of how biophysical principles relate to the learning of physical skills

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of how biophysical principles relate to the learning of physical skills.	Demonstrate in-depth understanding of how biophysical principles relate to the learning of physical skills.	Demonstrate comprehensive understanding of how biophysical principles relate to the learning of physical skills.

Demonstrate understanding means to give explanations of how and why biophysical principles relate to the learning of physical skills. This will be supported with quotes, case studies, research or examples.

Demonstrate in-depth understanding means to give full and thorough explanations of how and why biophysical principles relate to the learning of physical skills and the interrelationship between the biophysical principles. This will be supported with quotes, case studies, research or examples.

Demonstrate comprehensive understanding means to make coherent judgements about how biophysical principles relate to the learning of physical skills and the interrelationship between the biophysical principles. This will be supported with quotes, case studies, research or examples.

ASSESSMENT ACTIVITY
PHYSICAL EDUCATION

INSTRUCTIONS
- Read the questions carefully and write your answers in the spaces provided.
- Assemble all the materials and tools required.
- Consider safety at all times.
- Your supervisor must be present to observe you and complete the supervisor sheet.
- While working on Tasks 1–4 contact your teacher regularly for advice and feedback before starting Task 5 your evaluation.

CONTEXT/SETTING
This assessment activity requires you to apply theoretical knowledge of biophysical principles: (functional anatomy, biomechanical principles, skill learning, and sport psychology), when learning a chosen sporting skill using the non-preferred (less dominant) side of the body. You will then evaluate your application of that knowledge referring to skill learning.

ACTIVITY
Choose a sporting skill you will perform using your non-preferred (less dominant) side of the body. The skill must include the movement of three joints.

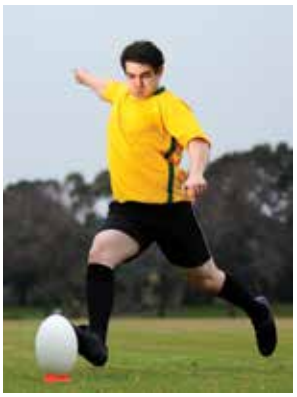
For example:
Basketball: select only one skill of the game, e.g. the layup shot (Joint movement involved hips, knee, ankle, shoulder, elbow and wrist, choose three joints to focus on, e.g. the shoulder, elbow and wrist).

ISTOCK

If you play Basketball and are right handed you will normally perform the jump shot from the right side of the court (keyhole), dribble the ball in from the right and perform the shot using the right hand.

For this activity, to perform the layup shot using your non-preferred (less dominant) side of the body, dribble the ball in from the left side of the court and use your left hand to perform the shot. You will need to break this skill down to preparation phase, execution phase and then the follow through. This will help you to learn the skill and improve.

Other examples of skills you could choose:
- Target throwing – set up a target on wall for throwing a ball, bowling in cricket.
- Volleyball – a serve, a spike shot.
- Racquet sports: Table tennis/Tennis/Badminton – the serve, backhand, forehand.
- Football or Rugby: Kicking through posts, set up some posts to kick the ball through to go in the goal or over a cross bar.
- Golf – the drive, putting. This may be difficult because opposite-handed clubs are not easy to obtain.
- Softball – hitting, pitching and catching.


ISTOCK

TECHNIQUE CHECKLIST, PRE AND POST-TEST DEMONSTRATION

Physical activity:		
Skill to perform:		
Date:		
Techniques for a skilled athlete (for the ideal skilled athlete): Find pictures of an athlete who performs the skill at a high level e.g. basketball jump shot, pictures of an NBA player. Add a checklist, sub-routines for the skill for each phase. Note this will be the dominant side of the body being used.		
Phase 1: Preparation	**Phase 2: Execution**	**Phase 3: Follow-through**
• • • •	• • • •	• • • •
Add a photo/picture at the Preparation phase.	Add a photo/picture at the Execution phase.	Add a photo/picture at the Follow through phase.

TASK 1: RESEARCH AND PLANNING

Name your chosen skill.

My skill _____

- Research (by using the internet, books etc and reference the sources used in Task 5) to familiarise yourself with the correct techniques required to perform the skill you have chosen. Add this information to the Technique checklist, pre and post-test demonstration.
- Use information and find images/video clips from the internet, sports magazine or journals, or books that show the ideal techniques involved in your skill. Make a checklist of the movements that occur in an 'ideal' performance of this skill, considering the three phases of: preparation, execution, and follow-through. Add this information to the Technique checklist, pre and post-test demonstration.
- Consider how you will assess each of the three phrases of that skill, from preparation, to execution, to follow-through for the Technique checklist.
- Decide on a valid and reliable test to measure your performance of the skill using your dominant side of the body. These results will be used as the baseline data to use as a comparison when you do a pre–test using your less dominant side of the body performing the same skill.
- Organise yourself and possibly someone else to participate in your skill.

Name(s) of the participants

_____

_____

Make contact with your teacher to discuss your skill choice, baseline test and plan.

Start to fill out the Technique checklist, pre and post-test demonstration

Add the correct techniques required for the performance of your skill at each phase of learning (Preparation, execution, follow through).

TASK 2: BASELINE TEST, PRE-TEST, OBSERVATION AND VIDEO PERFORMANCE/PHOTOS

- Carry out a valid and reliable test to measure the performance of your skill using your dominant side of the body (base line test) and record your results on Worksheet 2: Test results.
- Video record /take photos of your first performance (pre-test) using the less dominant side of the body performing the skill with limited instruction.
- Observe the performance and take notes. Make notes about the techniques used to perform the skill.
- Continue to complete the Technique checklist and Worksheet 2. The first performance attempt (pre-test) results and observations. Add photos of the performance at each stage of the skill.
- This may include yourself and/or the participant(s) performing the skill.

TASK 3: COLLECT AND ANALYSE YOUR DATA

- Complete Technique checklist, Task 2 and Task 3 and use this data to plan your training sessions.
- Analyse your first performance (pre-test) using comments you made on Worksheet 1 and the video recording if used.
- Complete Technique checklist.
- Identify the techniques and anatomical /biomechanical principles relating to the participant's performance that require work on improving their skill performance.

TASK 4: CARRY OUT TRAINING SESSIONS

Use Worksheet 3 – writing up and carrying out two to three lesson plans.

- Write up and carry out two to three lesson plans from the data collected in Tasks 1–3 (Worksheet 2) and from the video recording.
- Identify the biophysical principles including the functional anatomy and biomechanical principles sport psychology strategies and skill learning principles that will benefit you and the participant(s). Discuss why you used these ones and how effective they were.
- Carry out the final skill test (post-test) at the end of the last training session. Compare your first (pre-test) and final (post-test) performance for your skill. Describe any change(s) and be able to explain your results for Task 5, Evaluation.

WORKSHEET 1 – TASK 2: PRE-DEMONSTRATION

Using non-preferred (less dominant) side of body This is you, add photos or diagrams of you performing the skill for the first time.

Participant 1. Name:		**Date:**
Preparation phase Add photo	**Execution phase** Add photo	**Follow-through phase** Add photo
Techniques to improve on (non-preferred)		
Phase 1: Preparation	**Phase 2: Execution**	**Phase 3: Follow-through**
• • • •	• • • •	• • • •
Biophysical principles used (make comments under the following headings) **Choose three joints:**		
Functional anatomy: Joints/ muscle groups used in Phase 1: Preparation.	Functional anatomy: Joints/ muscle groups used in Phase 2: Execution.	Functional anatomy: Joints/ muscle groups used in Phase 3: Follow through.

Biomechanical principles applied	**Biomechanical principles applied**	**Biomechanical principles applied**
•	•	•
•	•	•
•	•	•
•	•	•
Comments on Biomechanical principles applied: (comment on how and when the biomechanical principles are applied during the skill in the pre-test then evaluate the strengths and weaknesses of the techniques at each stage when performing this skill.		
Phase 1: Preparation	**Phase 2: Execution**	**Phase 3: Follow-through**
How and when: Strengths: Weaknesses:	How and when: Strengths: Weaknesses:	How and when: Strengths: Weaknesses:

WORKSHEET 2 – TEST RESULTS

Create a baseline test so you can determine if you have improved your skill level, e.g. Basketball Jump shot, you do the layup with your dominant hand, say 10 times, then you do the same skill with the non-dominant hand, you practise this skill then do the final performance of the same skill, then you have data to see if you have improved, an example is below. You can use this information for evidence in your evaluation. If you teach someone else, include their results.

Test:	**Baseline test**	**Pre-test results**	**Post-test results**
Basketball Jump shot, do the layup 10 times.	Using dominant side of the body	Less dominant side of the body.	Less dominant side of the body.
Participant name	Date: June 15	Date: June 15	Date: June 15
Sam High	8/10	2/10	7/10

Baseline test: Explain the test

Test:	**Baseline test**	**Pre-test results**	**Post-test results**
Basketball Jump shot, do the layup 10 times.	Using dominant side of the body	Less dominant side of the body.	Less dominant side of the body.
Participant name	Date:	Date:	Date:

WORKSHEET 2 – POST-TEST DEMONSTRATION

Final performance using non-preferred (less dominant) side of body This is you, add photos or diagrams of you performing the skill for the last time after practising the skill.

Participant 1. Name:		**Date:**
Preparation phase Add photo	**Execution phase** Add photo	**Follow-through phase** Add photo
Technique improvements – evaluating strengths and weaknesses		
Phase 1: Preparation	**Phase 2: Execution**	**Phase 3: Follow-through**

WORKSHEET 3A – LESSON PLANS

Use these to plan your practices to improve your skill with the non-dominant hand.

Physical activity:	**Motor skill:**	**Day/Date:**	**Time (session length):**
Goals/practice objectives (by the end the learner will be able to ...):			
Biophysical principles of skill learning (types of practice/stages of learning/classification of skill):			
Activities/Drills (open/closed):			
Progression of practice activities (increasing level of difficulty from beginner to advanced level): Mass versus distributed/part versus whole/serial versus discrete.			
Key learning points (subroutines/phases of the skills and techniques to improve the skill applying anatomical and biomechanical principles):			

Biophysical principles of Sports Psychology (circle the appropriate ones and make comments on how they are used)

Self-talk/Visualisation/Mental rehearsal/Routines/Arousal control/Goal setting/Confidence/ Concentration/Feedback

Other relevant aspects.

Session evaluation (reflect on how the session could be improved):

Strengths (techniques perfected):

Weaknesses/Focus for improvement (techniques to work on):

Changes to be made in future sessions:

WORKSHEET 3B – LESSON PLANS

Use these to plan your practices to improve your skill with the non-dominate hand.

Physical activity:	**Motor skill:**	**Day/Date:**	**Time (session length):**
Goals/practice objectives (by the end the learner will be able to ...):			
Biophysical principles of skill learning (types of practice/stages of learning/classification of skill):			
Activities/Drills (open/closed):			
Progression of practice activities (increasing level of difficulty from beginner to advanced level): Mass versus distributed/part versus whole/serial versus discrete.			
Key learning points (subroutines/phases of the skills and techniques to improve the skill applying anatomical and biomechanical principles):			

Biophysical principles of Sports Psychology (circle the appropriate ones and make comments on how they are used)

Self-talk/Visualisation/Mental rehearsal/Routines/Arousal control/Goal setting/Confidence/ Concentration/Feedback

Other relevant aspects.

Session evaluation (reflect on how the session could be improved):

Strengths (techniques perfected):

Weaknesses/Focus for improvement (techniques to work on):

Changes to be made in future sessions:

TASK 5: EVALUATION:

Evaluating your application of biophysical principles by completing a written report (you can use your own paper), you can present your final report in the form of a PowerPoint presentation, seminar-type presentation, documentary, video or written.

Please discuss with your teacher before you start.

Your final report must make coherent judgements about how and why the biophysical principles you have used relate to the learning of physical skills and the inter-relationship between the biophysical principles. This will be supported with evidence and examples.

You need to show you understand the following biophysical principles and include them into your report. Your report must show that you have incorporated Functional anatomy, Biomechanics, Skill learning and Sports psychology principles into your programme when learning the skill.

CHECK LIST

Tick the Biophysical principles you used during your skill performance.

Biomechanical principles:	**Functional anatomy:**	**Skill learning:**	**Sports psychology:**
· Force · Newton's laws of motion · Inertia · Stability/balance · Force summation · Momentum levers	· Joints · Muscle groups · Agonist and antagonists · Anatomical movement terminology	· Types of practice · Stages of learning · Classification of skill	· Self-talk · Visualisation · Mental rehearsal · Routines · Arousal control · Goal setting · Confidence · Concentration · Feedback · Other relevant aspects

In your report, refer to the following and you should:

- Evaluate how and why (at least three) of the biophysical principles you have applied relate to the **learning of the physical skill and showed the interrelationship between biophysical principles**.
- Include strengths/weaknesses and improvements made in the application of the biophysical principles.
- Discuss which biophysical principle(s) are the most/least beneficial when learning the physical skill with reasons, examples and evidence to support.
- Support your evaluation with evidence from observations, quotes, case studies, research or examples.

Add the reference list you used to support your evaluation from observations, quotes, case studies, research or examples.

Upload your completed assessment as a zipped file to the PEO2020Y1 OTLE assessment dropbox.

PE0202OY1

STUDENTS – PLACE STUDENT ADDRESS LABEL BELOW OR WRITE IN YOUR DETAILS.
Full Name _____
ID No. _____
Address (If changed) _____