

NZQA Approved

This task requires self filming on a video device and video conferencing which may cause access issues for some students

Remote Internal Assessment Resource

Physical Education Level 3

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| This resource supports assessment against:  Achievement Standard 91499  Analyse a physical skill performed by self or others |
| Resource title: Serving for success |
| 3 credits |
| This resource:   * Clarifies the requirements of the Standard when delivered remotely * Supports good remote assessment practice * Should be subjected to the school’s usual assessment quality assurance process * Should be modified to make the context relevant to students in their school environment and ensure that submitted evidence is authentic |

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| Date version published by Ministry of Education | Originally published in December 2012 edited April 2020  To support remote internal assessment during Covid-19 |
| Quality assurance status | These materials have been quality assured by NZQA. NZQA Approved number A-A-5-2020-91499-01-6451 |
| Authenticity of evidence | Teachers must manage authenticity for any assessment from a public source, because students may have access to the assessment schedule or student exemplar material.  Using this assessment resource without modification may mean that students’ work is not authentic. The teacher may need to change figures, measurements or data sources or set a different context or topic to be investigated or a different text to read or perform. |

**Internal Assessment Resource**

Achievement Standard Physical Education 91499: Analyse a physical skill performed by self or others

Resource reference: Physical Education 3.2AR

Resource title: Serving for success

Credits: 3

Teacher guidelines

The following guidelines are supplied to enable teachers to carry out valid and consistent remote assessment using this internal assessment resource.

Teachers need to be very familiar with the outcome being assessed by Achievement Standard Physical Education 91499. The achievement criteria and the explanatory notes contain information, definitions, and requirements that are crucial when interpreting the Standard and assessing students against it.

Context/setting

You will need to help students arrange an appropriate online method to work with and observe each other’s tennis serve remotely. For example suggesting live streaming methods. Students will collect information from their observation for this analysis. The student should collect digital media evidence of the performance at the start of the unit of work to ensure they have accurate documentation on which to base appraisal and feedback/feedforward, with the aim of improving the partner’s performance.

Give the students a detailed checklist of the parts/movements of an ideal tennis serve (or other physical skill if chosen) against which they can assess their partner’s performance. This checklist should include information on the:

* preparation phase
* action phase
* post-action phase.

Students could be given a further opportunity to view their partner using online technologies and observe them applying biomechanical principles in an endeavour to improve their performance. This would assist the students in drawing conclusions about which parts of the skill have the greatest impact on performance. It would also allow them to identify the factors that may influence a person’s ability to improve their performance.

Conditions

It is suggested that this assessment task take place over three weeks

Resource requirements

Students will need a checklist of the ideal performance of the physical skill and access to the Internet to research information on the ideal performance of the skill they are going to evaluate. They will use this information to consolidate their understanding of the skill they are evaluating.

Students will need access to a digital camera and/or video recorder for the initial collection of the performance data to be analysed. Alternatively, students could use Android/iPhone applications such as Coach’s Eye.

Reflection sheets/logs could also be used to document the application of principles.

Additional information

This assessment may be used in conjunction with internal assessment resource Physical Education 91500 Better than before? (Evaluate the effectiveness of a performance improvement programme).

Presentation formats should be adapted to reflect the needs of your students, the nature/context of your teaching and learning programme, and the online environment we are currently working in. It may be possible for you to select a more appropriate presentation format without influencing the intent or validity of this task.

Sources of evidence may include self-assessments, peer assessments, and teacher professional judgements.

Presentation formats may include written reports, electronic portfolios, blogs/wikis, and audio/visual portfolios.

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| Achievement | Achievement with Merit | Achievement with Excellence |
| Analyse a physical skill performed by self or others. | Analyse, in depth, a physical skill performed by self or others. | Critically analyse a physical skill performed by self or others. |

Student instructions

Introduction

For this online assessment activity, you will analyse a tennis serve performed by another student and provide a summary of your analysis in a presentation.

You will be assessed on: the extent to which you undertake a critical analysis of the skill; and the quality of your conclusions about which parts of the skill have the greatest impact on performance and the factors that influence the other student’s ability to improve their performance of the skill.

Teacher note: Depending on interests and available resources your students may wish to analyse a different discrete physical skill from another physical activity context, for example, volleyball spike, golf drive, basketball jump shot, freestyle swimming stroke, badminton overhead clear, table tennis forehand etc. You should reach agreement with your students on their choice of skill to be analysed to ensure they choose one that will be appropriate for this assessment activity.

Your teacher will provide you with a checklist of the ideal performance of the physical skill.

The analysis is an individual task to be done over three weeks and completed by <<teacher to insert due date here>>.

Task

Preparation

Negotiate the online observation and digital recording of another student (your partner for this task) performing a tennis serve. Their performance of the serve will not be assessed; the purpose is simply for you to collect evidence that can be analysed. You will have three days to collect the evidence you need.

You may also gather further evidence (digitally or through remote observation) of your partner’s performance following feedback/feedforward from you aimed at improving their performance.

Analysis and presentation

Prepare and present your analysis of your partner’s performance of the tennis serve.

Your presentation should include:

* A breakdown of the serve into its component parts and a comparison of your partner’s serve with the ideal. This should be broken down into phases (such as preparation, contact, follow through) and could consider where parts of the body start and finish, joint position, anatomical movement and the muscles involved, the path of the body/projectile/object, speed in relation to accuracy, and so on
* A biomechanical analysis (deconstruction) of your partner’s serve. Consider the strengths and weaknesses of the performance as identified above, explaining them in depth using appropriate biomechanical principles.
* Online feedback and feedforward that would enable your partner to improve their serve. There should be a clear relationship between your biomechanical analysis and your feedback/feedforward. An understanding of how biomechanical principles interrelate to improve performance should also be evident.
* A conclusion, in which you consider which parts of the skill have the greatest impact on performance and which principles (if applied) potentially have the greatest influence on performance. You may even wish to question/challenge the worth of a biomechanical analysis in improving performance as well as considering other factors that might influence improvement.

Your presentation should be supported with evidence, which could include:

* a range of qualitative information (explanations based on theoretical knowledge from observations) and/or quantitative information (numerical data from observations)
* digital/visual media (for example, video clips, diagrams, photos)
* notes taken when remotely observing your partner (for example, biomechanical principle(s) applied, feedback/feelings from partner).

Everything in your presentation must be in your own words.

Teacher note: Students may wish to deliver their presentation as a PowerPoint presentation, a seminar-type presentation, a documentary, a written report, or as a combination of styles. Reach an agreement on which types of presentation are appropriate for this particular task.

Assessment schedule: Physical Education 91499 Serving for success

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| Evidence/Judgements for Achievement | Evidence/Judgements for Achievement with Merit | Evidence/Judgements for Achievement with Excellence |
| The student hasanalysed a tennis serve performed by another person.  They have broken the skill into its parts and identified the differences that exist between their partner’s actions and the ideal actions.  The student has identified and explained biomechanical principles that could be used to address strengths/weaknesses in their partner’s performance.  The biomechancial appraisal provides appropriate feedback and feedforward with the intent to improve their partner’s tennis serve.  For example:  *From the video evidence, you can see that my partner didn’t have her weight on her back foot at the beginning of the serve, which meant that she wasn’t creating a large action force on the ground. This limits her ability to transfer her momentum into the serve.*  To have a large amount of momentum, you need to create a large action force on the ground so it will create a large reaction force through your legs to allow you to push forward into the serve. Because she didn’t have a great action force, she didn’t get a large reaction force, so the ball didn’t have a fast velocity.  Momentum (p) = mass (m) x velocity (v).  To create this large force, she must get her whole body moving fast so the velocity will increase, causing the momentum to increase. This momentum will then be transferred into the racquet at contact.  In order to perform a faster serve, my partner could benefit from putting more weight onto her back foot as she is performing the ball toss. This can be done with more flexion of the right knee through the contraction of the hamstring muscle group.  *The examples above relate to only part of what is required, and are just indicative.* | The student has analysed, in depth, a tennis serve performed by another person.  They have broken the skill into its parts and identified the differences that exist between their partner’s actions and the ideal actions.  They have discussed how biomechanical principles interrelate to improve performance and have provided appropriate feedback and feedforward for their partner based on these considerations.  For example:  *From the video evidence, you can see that my partner didn’t have her weight on her back foot at the beginning of the serve. This can be seen in her right leg. It is clear that her leg is relatively straight as she is doing the ball toss, and as a result, her weight is evenly distributed between both feet. Her extension of the knee and hip meant that she wasn’t creating a large action force on the ground to push up and transfer momentum into the serve.*  *To have a large amount of momentum you need to create a large action force on the ground so it will create a large reaction force to your legs to allow you to push forward into the serve. Because she didn’t have a great action force, she didn’t get a large reaction force from the ground, so the ball didn’t have a fast velocity.*  Momentum (p) = mass (m) x velocity (v).  To create this large force, she must get her whole body (mass) moving fast (velocity) into the serve. This will increase her momentum, and then she will be able to transfer the momentum she has created into the racquet and therefore, after contact, to the ball as the total momentum in the equation is conserved.  To perform a faster serve, my partner could benefit from putting more weight onto her back foot as she is performing the ball toss. To do this she would need to flex at the hip, with hip flexors being the agonist and gluteals the antagonist, and also flex the knee joint, with the hamstrings being the agonist and quadriceps being the antagonist.  The way she could do this is by increasing the size of the base of support by placing her racquet foot behind her non-racquet foot at approximately shoulder width apart.  By creating this wider stable base, she will not only be flexing her knee to allow for efficient transfer of momentun (which I have explained above), but she will also provide a stable base through which force can be generated. This will ultimately ensure that the maximal number of body parts, starting in the lower leg, contribute to the movement. By having a straight leg intially, the muscles in her lower body had minimal contribution to the force of the movement.  *The examples above relate to only part of what is required, and are just indicative.* | The student has critically analysed a tennis serve performed by another person.  They have broken the skill into its parts and identified the differences that exist between their partner’s actions and the ideal actions.  They have discussed how biomechanical principles interrelate to improve performance and have provided appropriate feedback and feedforward for their partner based on these considerations.  The student draws a conclusion about the parts of the skill, including application of biomechanical principles, that have the greatest impact on their partner’s performance. Evidence gathered through observations could be used to support this. The conclusion will also address the role that analysis or other factors may have had in any improvements.  For example:  *From the video evidence, you can see that my partner didn’t have enough weight on her back foot at the beginning of the serve. The digital photos clearly show that her right leg is relatively straight as she is doing the ball toss. This compares to the bent leg of the ‘ideal’ performer. My partner’s straight leg meant that she wasn’t creating a large action force on the ground to push up and transfer momentum into the serve.*  To have a large amount of momentum, you need to create a large action force on the ground so it will create a large reaction force to your legs to allow you to push forward into the serve. Without a great action force, my partner wasn’t able to get a large reaction force from the ground, so the ball didn’t have a fast velocity.  Momentum (p) = mass (m) x velocity (v).  To create this large force, she must get her whole body (mass) moving fast (velocity) into the serve. This increases momentum and allows the transfer of momentum created into the racquet and, after contact, into the ball as the total momentum in the equation is conserved.  To perform a faster serve, she could benefit from putting more weight onto her back foot as she is performing the ball toss. To do this she would need to flex at the hip, with hip flexors being the agonist and gluteals the antagonist, and also flex the knee joint, with the hamstrings being the agonist and quadriceps being the antagonist.  She could do this by increasing the size of the support base by placing her racquet foot behind her non-racquet foot at approximately shoulder width apart.  By creating this wider stable base, she will not only be flexing her knee to allow for efficient transfer of momentum as explained above, but she will also provide a stable base through which force can be generated. This will ultimately ensure that the maximal number of body parts, starting in the lower leg, contribute to the movement. By having a straight leg intially, the muscles in her lower body had minimal contribution to the force of the movement.  This aspect of my partner’s performance is vital in the performance of a quality tennis serve. The forces that are generated from the legs for the base of the tennis serve are the forces that are to be transferred to the rest of the body. The larger muscles of the body, in particular the legs’ quadriceps, hamstrings, and gluteal groups, can generate a great percentage of the total force in a serve.  As the digital photos and the checklist show, my partner fails to use these muscle groups, and as a result she is at a clear disadvantage in relation to generating a highly successful serve.  My partner indicated that while it is all well and good to understand these principles that should improve her performance, it will be the lack of ability to apply them that will influence the ability to improve. From observations I made and comments she made, she found it quite ‘staged’ trying to concentrate on one aspect to improve, such as flexing her knees and driving up. On isolating this aspect of the movement, the rest of the skill suffered and her performance suffered. After a couple of sessions she said that concentrating on the main biomechanical weaknesses I identified meant that the best approach would be to practice using the whole-part-whole method in a repetitive drill situation ...  She feels that this approach is one of the factors that will inhibit her improvement in the game. While it might ultimately improve the discrete skill of the serve, she would prefer to employ a more game sense approach where she would improve the skills and strategies of the game as a whole. Although she said she had improved after observing the technique in comparison to the ideal and receiving feedback about, for example, serving into the grid, she felt her serve was still lacking in speed. Although her serve now seemed more accurate, it would not beat an opponent due to lack of power/speed …  *The examples above relate to only part of what is required, and are just indicative.* |

Final grades will be decided using professional judgement based on a holistic examination of the evidence provided against the criteria in the Achievement Standard.