

Student 3: Low Merit

NZQA Intended for teacher use only

In the preparation phase...the joint angle at his knees is too high therefore he needs to decrease this angle by about 20 degrees which will effectively lower his centre of gravity. By moving the joint from a position of extension to being more flexed this will influence his stability and base of support. The centre of gravity is the point at which all parts of the body are in balance or the point at which gravity acts through or about due to his knees being too straight (extension) the top half of his back has rolled over and does not remain in one long straight line. He has had to do this so the club aligns with the ball. However by doing this he has moved his line of gravity forward toward the edge of this base of support making him less stable. I feel he would be much more comfortable if he popped at the knees. This will all contribute to a better base of support, centre of gravity, and maintain his weight evenly throughout the body assisting to the line of gravity. Overall aiding his balance and overall performance producing an efficient and accurate golf swing. This is because we need a stable base through which to ...

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On contact, some momentum is transferred to the ball and it begins its flight path (becomes a projectile following a parabolic path). Any object that is released into the air becomes a projectile and has a number of factors that will predetermine and affect its flight path. All projectiles have two forces at the point of release, horizontal and vertical. These forces determine the flight path and time depending how they are affected by variables such as gravity, air resistance, angle of release, speed of release, height of release and spin...increased speed of impact will give greater distance...this is why for the tee shot and fairway drives we use longer clubs. By using a longer club we have lengthened the lever. The club head now has a greater arc to travel and can generate more speed. At the point of contact with the ball we will now have reached maximal speed of release which by way of a combination of lever length, and speed of release, will mean the ball will travel further... In the photos we see the student's body bowing and he is playing the shot more like a cricket shot, this may mean he is trying to 'help the ball up' by lifting the ball with the club, his arms are bent and he has not held a 'Y' shape at connection. This causing him to get under the ball too much, and causing a slice or back spin on the ball. This limiting its distance travelled due to height gained and back spin or slice (air resistance). To help us with the angle of release we also use a tee. This helps us to get under the ball (without bending our arms) to create a 45 degree angle of release. This is the ideal angle of release for maximum horizontal and vertical distances when the take off and landing points are equal, as they are in golf.

...the range of motion generating large forces on contact with the ball. The extension at the joint and swinging of the arms forward contributes to muscles being at optimum stretch allowing for optimum force. This will also allow the greatest possible range of motion through which body parts can move to allow for greater forces to be generated (I have explained the principle of force summation in detail later on in this analysis). If the student's arms for example are not fully extended as we see here in this photo, then he is not allowing his arms to go through the full range of motion and therefore not getting optimum force upon contact with the ball...by increasing the length of your arm and club combined (your third class lever) you are going to get greater speed at impact because the lever is longer. This is because by increasing the club length you are going to have greater acceleration at the extremity/end of the club. You will therefore hit the ball further. We can see here again has extremely bent arms and hunched at the shoulders, at contact he is not reaching his full potential, full range of motion and full extension of the arms and body (force

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summation). Because he is not getting the best acceleration or club speed when making contact with the ball he is not producing the optimum momentum or force he could possibly apply to the golf ball. Inhibiting him from transferring this force summation to the ball, which in turn reduces the distance the golf ball will travel.

The feed forward I would offer here to improve the student's execution would be to again look at his posture/stance, relaxing through the torso, arms, shoulders (trapezius, deltoid) and back (rhomboids). This will give him more range of motion and allow freedom to fully stretch (extension) out to attain a longer lever

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...we see the student has generated momentum, force summation, from the ground through to the feet then the gastrocnemius, bicep femorus (hamstrings) gluteus maximus, rhomboids, external deltoid to name a few muscle groups. The force summation begins at the feet and transfers through the body. The crucial part is getting (timing and sequencing of the right muscle groups/body segments, stretch and range of motion) it all right. The student's force summation is still impacted from his set up and the tension in his shoulders. ..

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The greater the force that can be applied to the ball the greater the acceleration of the ball will be. By using correct force summation timing, sequencing, body segments, stretch and range of motion, large forces can be generated that will be passed on to the ball e.g. anterior deltoid through to bicep through to forearm, allowing (name removed) to play to his optimum potential.

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