TYNDALE
CHRISTIAN SCHOOL
God's Truth Prevails

ACPHER 2023

Normalizing and Embracing Errors to improve Biomechanical Efficiency and Skill Learning in Volleyball

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Did you know that **VolleyNorth** can run, programs, competitions, short or long term
in school and after school for your students.

Volley North

Competition Coordinator

Micah Capin

0468 450 603

volleynorthau@gmail.com

What type of package would you like for your school? *

- ○ 5 week Volley North, quality coaching program within your school + brand new equipment.
- ○ 5 week Volley North, quality coaching program only.

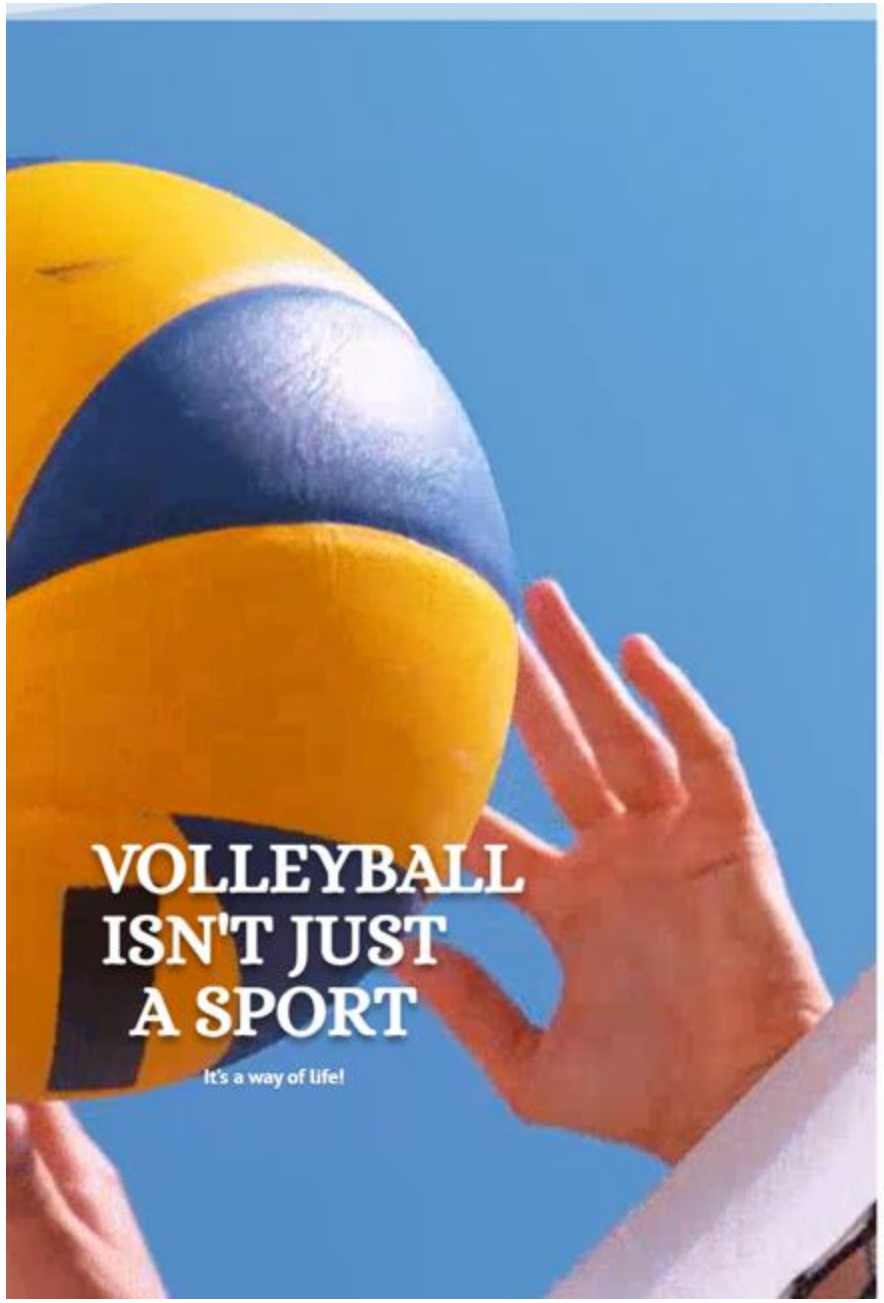
What day/s would you like to run your sporting schools program? *

If applicable.

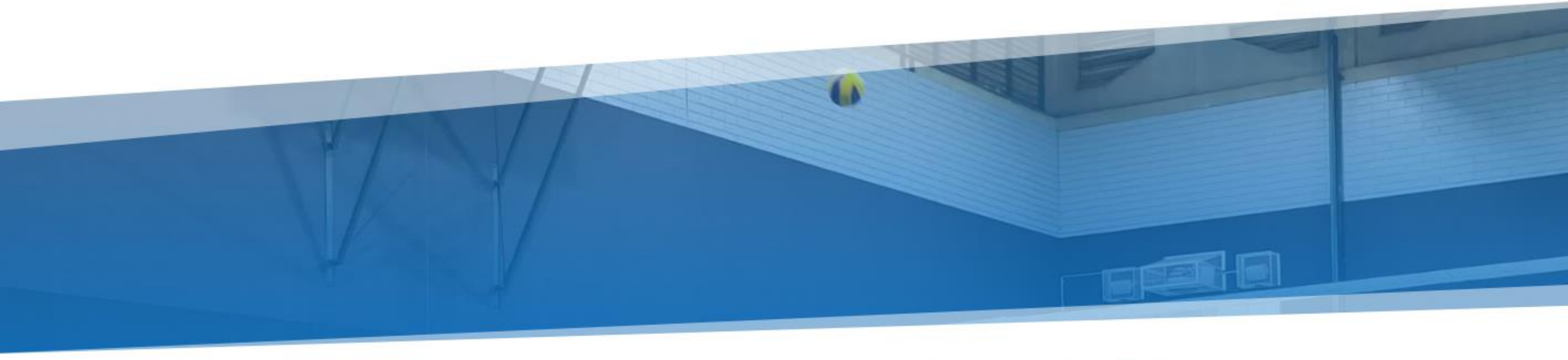
- ☐ Monday
- ☐ Tuesday
- ☐ Wednesday
- ☐ Thursday
- ☐ Friday

Is your program targeted to primary school or secondary school? *

- ○ Primary
- ○ Secondary



VolleyNorth.com.au



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Home

Register

Locations

Juniors

Social Volleyball

Teacher Notes

- Don’t give this to students, journey with them to progressively create it.
- As they create this multimedia presentation,
- Teaches them ICT skills
- Progressive understanding and consolidation of Biomechanics and Skill Learning in relation to volleyball.
- Provides evidence and documents their own Zone Proximal Development

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Teacher Notes

- **PPT Folio Journal -4 Types of Slides**

- **Knowledge/understanding- create /illustrate/annotate/integrate**
- Collecting **identifying evidence of elements of model performance-** with biomechanical justification reflection and annotations.
  - Expert performer
  - Themselves-
- Collaboratively Collecting evidence of Common Errors- Areas of performance **Needing refining adjustment Improvement and Adjustment** with biomechanical justification
  - Themselves
- From **Analysis of Performance, Prescribe a change** of Thinking, Action, Movement Pattern or Focus for new level of developing performance.
  - Establishing Key Cues-Swimming

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Section 1 Collaboration and Skill Development

Find and insert your own graphic illustrating collaboration.

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Collaboration and Skill Development Capabilities

Self Assessment (Wk 2 Wed T1)- Volleyball

Performance Criteria		Score /10	Evidence
Collaboration	Contributing to the Learning Environment		
	Helping Assisting Team Members		
	Making Helpful Suggestion		
	Taking initiative to do tasks that need to be done		
	Completing requested delegated tasks		
	Contributing to Positive culture		
	Including and promoting others		

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Collaboration and Skill Development Capabilities

Self Assessment Master

Performance Criteria		Score /10	Evidence
Skill Development	Identify key cues		
	Have a go and make errors		
	Analysing Outcome and adjusting next performance		
	Self Talk		
	Listening to feedback from coaches.		
	Contributing to Positive culture		

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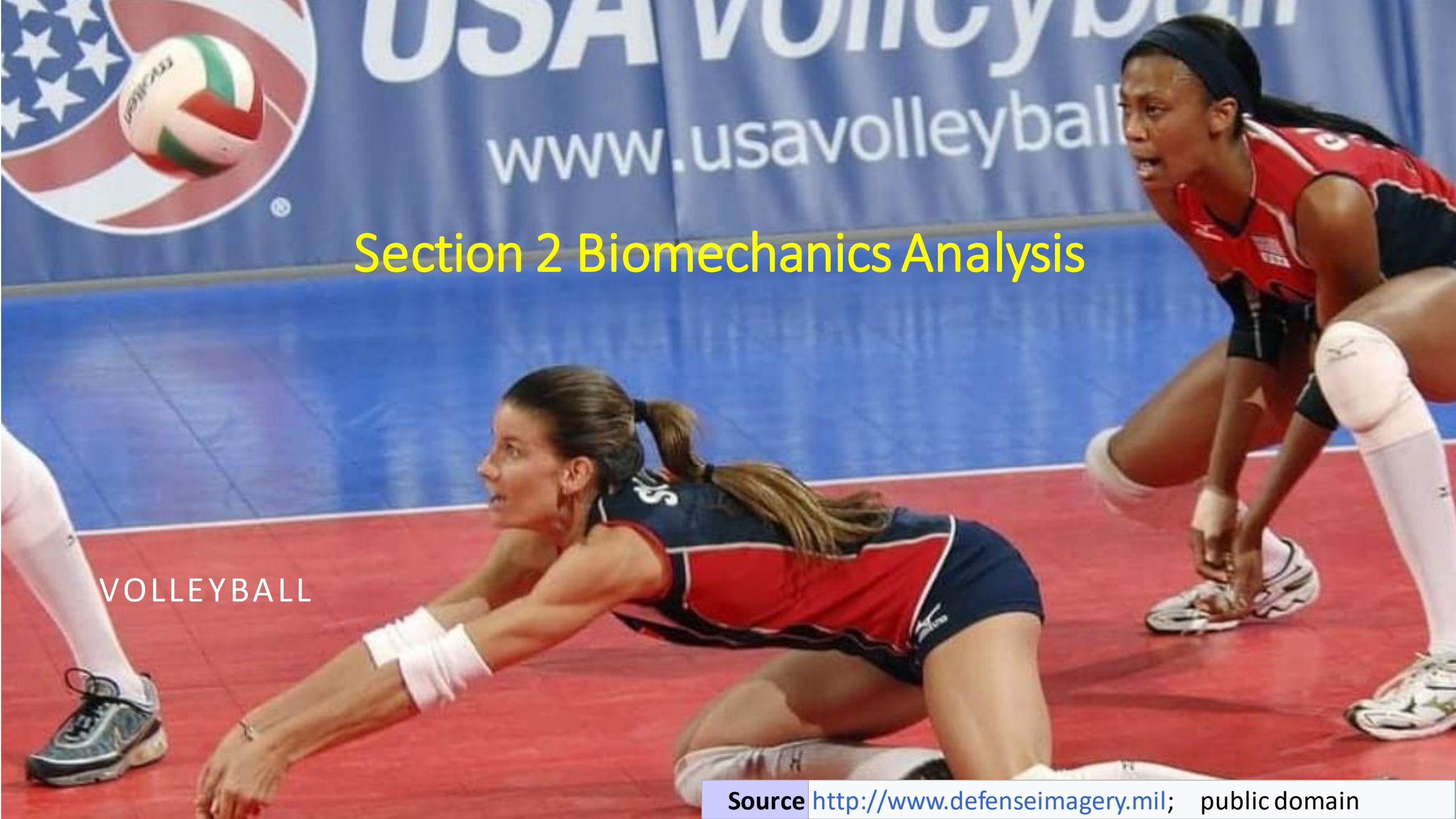
Section 2 Biomechanics Analysis



Source http://www.defenseimagery.mil; public domain

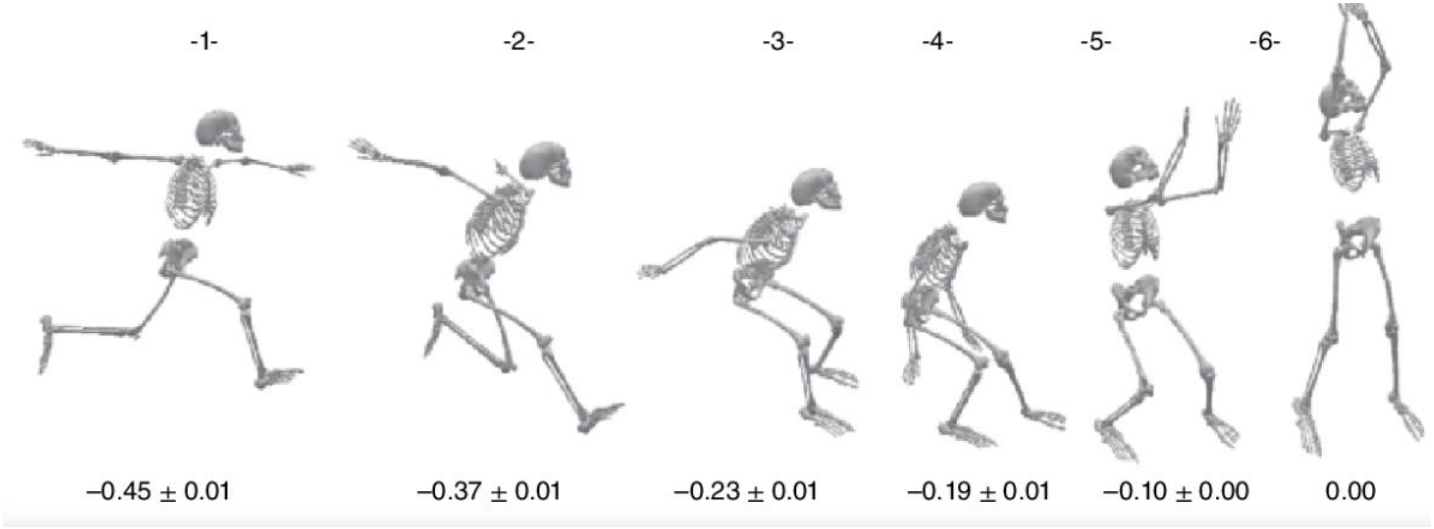
Biomechanics

- Study of the physics of movement in the body.
- How does knowledge, understanding and application help,

❑ Improve efficiency of sporting performance- timing, the sequence and amount of movement and energy required.

❑ Reduces sporting injury

❑ Rehabilitation and injury prevention



Source Tilp, Markus. (2017). The biomechanics of volleyball. 10.1002/9781119227045.ch3.

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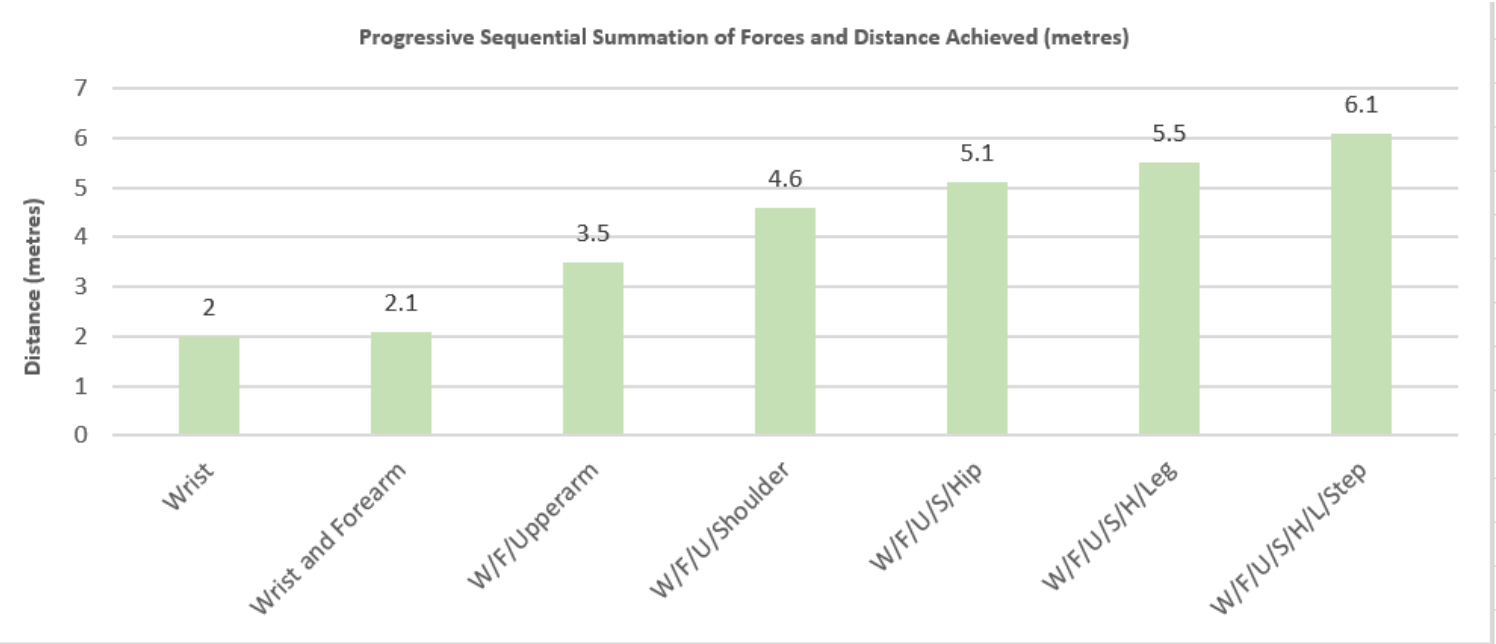
Investigation into the effect of Sequential Summation of Forces on Distance Achieved

Summated Sequence of Body Parts	Distance (metres)
Wrist	2
Wrist and Forearm	2.1
W/F/Upperarm	3.5
W/F/U/Shoulder	4.6
W/F/U/S/Hip	5.1
W/F/U/S/H/Leg	5.5
W/F/U/S/H/L/Step	6.1



- **Findings**
- **As body parts are sequentially added into the action the amount of force generated increases resulting increased distance achieved. The % improvement was**
- **(6.1-2)/2x100=**
- **4.1/2x100=**
- **205% improvement**
- **Conclusion and Application- A player who includes sequential summation of forces will be able to generate more force.**

Use in Serve, Reception, Set, Spike

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Collaboration and Skill Development Capabilities

Self Assessment (Wk 2 Wed T1)- Volleyball

Performance Criteria		Score /10	Evidence
Collaboration	Contributing to the Learning Environment		
	Helping Assisting Team Members		
	Making Helpful Suggestion		
	Taking initiative to do tasks that need to be done		
	Completing requested tasks		
	Contributing to Positive culture		

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Collaboration and Skill Development Capabilities

Self Assessment Wk2 Wed Volleyball

Performance Criteria		Score /10	
Skill Development	Listen for key cue		
	Have a go and make errors		
	Analysing Outcome and adjusting next performance		
	Self Talk		
	Listening to feedback from coaches.		
	Contributing to Positive culture		

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Setting

- Insert your internet image of an elite setter.

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Volleyball Biomechanical Analysis –Setting 1st Performance

- Insert video of your beginning setting performance

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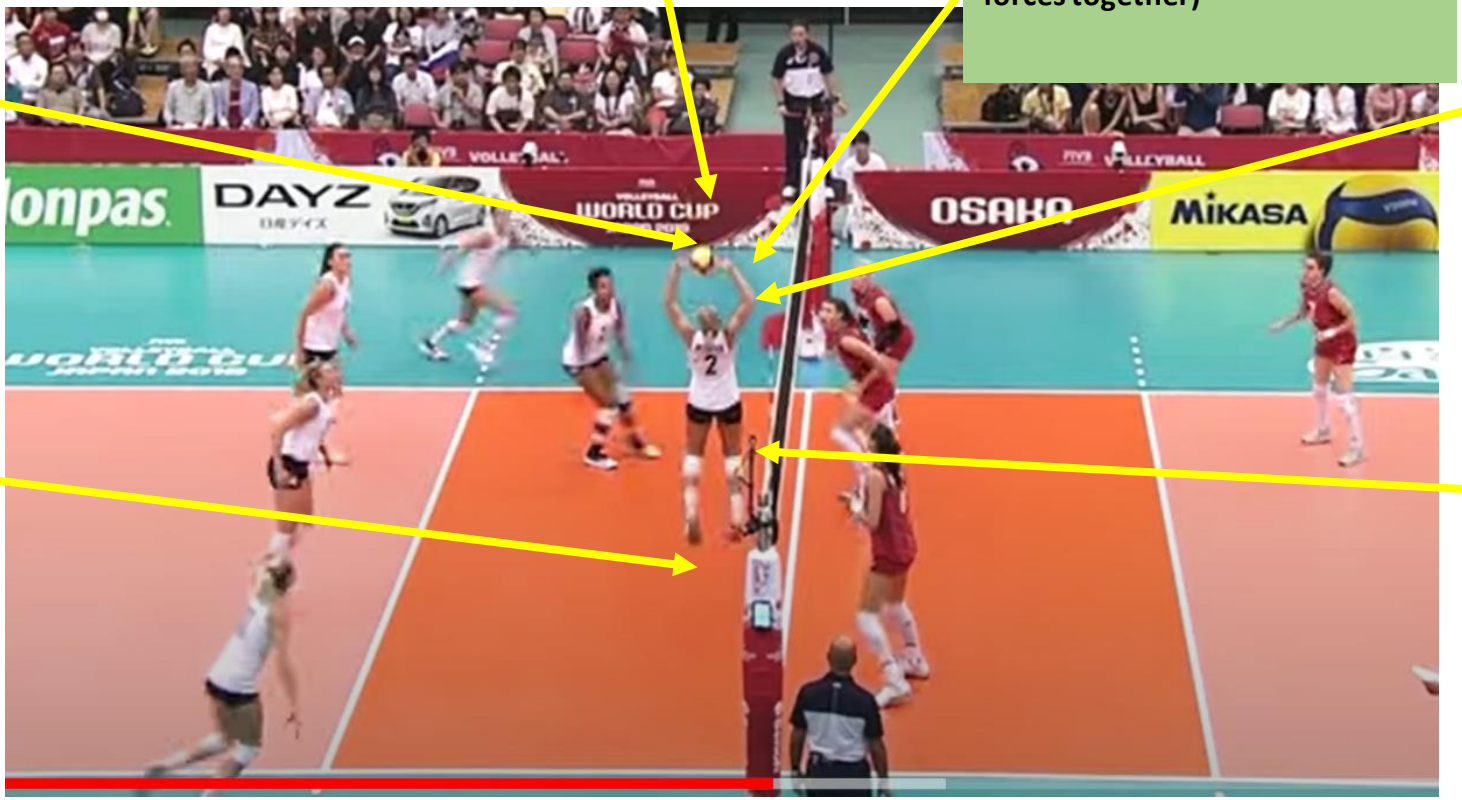
Volleyball Biomechanical Analysis –Setting Elite Performer

Turn and Face- power is in the direction of the set. This allows the addition of the force generated by the arms to be added to the direction of body momentum and transfer of weight all in the same direction.

Hands and arms follow through in the direction of the ball- "No swimming". **Increases the contact time** of the applied force. **Summation of Forces (adding forces together)**

Position incoming ball such that setting action contact is slightly in front of the forehead. –**Stronger joint position**



Elbows wide (eagle wings) Thumb and first finger (triangle)- **provides stable contact** – **increase contact area** –more control
Stops ball spinning off fingers. Reduces injury.

Feet- wide base for **stability.**
One foot in front of the other so that **momentum can be transferred** forward or backward

Use legs and arm – **Sequential Summation of Forces**- More Power

https://www.youtube.com/watch?v=liCh8sAyXiw

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Setting

Elbows wide (eagle wings) Thumb and first finger (triangle)- **provides stable contact** – **increase contact area** –more control
Stops ball spinning off fingers.
Reduces injury.

Turn and Face- power is in the direction of the set. This allows the addition of the force generated by the arms to be added to the direction of body momentum and transfer of weight all in the same direction.

Hands and arms follow through in the direction of the ball- "No swimming". **Increases the contact time** of the applied force.
Summation of Forces (adding forces together)

Use legs and arms – **Sequential Summation of Forces**-More Power

Move to Position such incoming ball so that setting action contact is slightly in front of the forehead. –**Stronger joint position**

Feet- wide base for **stability.** One foot in front of the other so that **momentum can be transferred** forward or backward

Collaboration and Skill Development Capabilities

Self Assessment (Wk 3 Wed T1)- Volleyball

Performance Criteria		Score /10	Evidence
Collaboration	Contributing to the Learning Environment		
	Helping Assisting Team Members		
	Making Helpful Suggestion		
	Taking initiative to do tasks that need to be done		
	Completing requested tasks		
	Contributing to Positive culture		

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Collaboration and Skill Development Capabilities

Self Assessment T1 Wk3 Wed Volleyball

Performance Criteria		Score /10	Evidence
Skill Development	Listen for key cue		
	Have a go and make errors		
	Analysing Outcome and adjusting next performance		
	Self Talk		
	Listening to feedback from coaches.		
	Contributing to Positive culture		

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Collaboration and Skill Development Capabilities

Self Assessment-Wk1 Thursday Volleyball Setting

Performance Criteria		Score /10	Evidence
Collaboration	Contributing to the Learning Environment	9	Attentive when required Respectful
	Helping Assisting Team Members	9	Invited someone to join me. Collected the ball when it “ran away”
	Making Helpful Suggestion	10	Helped my partner to use ipad
	Taking initiative to do tasks that need to be done	9	Volunteered to carry ipads back to class.
	Completing requested tasks		
	Contributing to Positive culture		

Volleyball Biomechanical Analysis –Setting 2nd Performance attempting to apply Biomechanical Principles.

- Insert video-developing performance

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Setting Bloopers- Index (see following slides)

1. You Gotta Move it

Correction –Proactively move to the ball trajectory target point before the ball arrives

2. Narrow Base

Correction –Wide base –forward and laterally**.**

3. Spinning Off Fingers

Correction-Take ball in front of forehead (not above or behind head)

4. Swimming

Correction- Arms Follow through in the direction of the shot.

5. Hips OCD-

Correction –Turn and face hips in the direction in front of the spiker such that the ball will be high and away from the net.

6. Matrix Bullet

Correction-Set High (as in twice your body height high)-use legs, follow through with arms to net.

Create the Blooper reel for each, using the following format

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Setting Blooper - You Gotta Move it

Insert video

Elements to improve- Note that the player doesn't move their feet before playing the ball which means the transfer of forces is ineffective

The Cue to improve.-Move it move it move it.

Move to Position such incoming ball so that setting action contact is slightly in front of the forehead. –**Stronger joint position**

Volleyball Biomechanical Analysis – My Developing Setting Coaching Improvement

Intentional Error Blooper Reel-Spinning off fingers

- What is good and Coaching tips to improve

Analysis Good Elements -

Insert picture or video of me

Analysis of elements to consider- taken the ball too high behind the forehead –**weak joint angle**

Action To improve

Elbows wide (eagle wings)
Thumb and first finger back (diamond)- **provides stable contact – increase contact area** –more control
Stops ball spinning off fingers.
Reduces injury.

Position incoming ball such that setting action contact is slightly in front of the forehead. –**Stronger joint position**

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Volleyball Biomechanical Analysis – My Developing Setting Coaching Improvement

Intentional Error Blooper Reel-Swimming

- What is good and Coaching tips to improve

Insert picture that best illustrate the issue

video of me

Analysis Good Elements -

Analysis of elements to consider-

Action To improve

Use legs and arm – **Sequential Summation of Forces**-More Power

Hands and arms follow through in the direction of the ball- "No swimming". **Increases the contact time** of the applied force.

Summation of Forces (adding forces together)

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Volleyball Biomechanical Analysis – My Developing Setting Coaching Improvement

Intentional Error Blooper Reel-Not Turning and Not Facing

- What is good and Coaching tips to improve

Insert picture that best illustrate the issue

video of me

Analysis Good Elements -

Analysis of elements to consider-

Action To improve

Use legs and arm – **Sequential Summation of Forces**-More Power

Turn and Face- power is in the direction of the set. This allows the addition of the force generated by the arms to be added to the **direction of body momentum** and **transfer of weight** all in the same direction.

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Setting Blooper Reel.

- Develop remaining Slides.

Volleyball Biomechanical Analysis –Setting PB Performance

Insert video

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Serving

Insert a serving graphic

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Volleyball Biomechanical Analysis-My Developing (1st attempt) Serving Coaching Improvement

What is good , things to consider and Coaching tips to improve

The aiming point is not towards the ceiling, throw the ball higher as gravity will cause the **trajectory** to be **parabolic**

The contact and projection point is high. The ball is hit on the heel and hard palm of a tensed hand with fingers spread (gecko).

Insert Your Image/video

Correctly position feet such that the foot corresponding to the hitting hand is forward at the start before moving .

Whilst **beginning to step the ball is tossed** at least 2 metres upward and forward. This **ensures time** to track the ball and prestretch the shoulder for forward hit.

Stepping forward into the ball creates momentum to give enough force hit the ball over the net

To **add power** to the serve the server uses **sequential summation of forces**, by using the step, hips, shoulders and elbow, wrist

Volleyball Biomechanical Analysis- Serving Elite Performer

The **aiming point** is towards the ceiling as gravity will cause the **trajectory** to be **parabolic**

The contact and projection point is high. **(aiming point)** The ball is hit on the heel/ hard palm of a tensed hand with fingers spread (gecko).

Insert Image of elite performer

To **add power** to the serve the server uses **sequential summation of forces**, by using the step, hips, shoulders and elbow, wrist

Correctly position feet such that the foot corresponding to the hitting hand is forward. **Begin moving forward first.**

Whilst **beginning to step (inertia) the ball is tossed** at least 2 metres upward and forward. This **ensures time** to track the ball and **prestretch of the shoulder** for forward hit; and for the ball to gain **momentum** in the drop and add energy to the serve is important.

Stepping forward into the ball creates **momentum** and direction to give enough **force** hit the ball over the net

Volleyball Biomechanical Analysis- Serving Elite Performer

The **aiming point** is towards the ceiling this clears the net. Gravity will cause the **trajectory** to be **parabolic**

The contact and projection point is high. **(aiming point)** The ball is hit on the heel and hard palm of a tensed hand with fingers spread (gecko).

Correctly position feet such that the foot corresponding to the hitting hand is forward. Begin moving forward first.

Whilst **beginning to step (inertia) the ball is tossed** at least 2 metres upward and forward. This **ensures time** to track the ball and **prestretch of the shoulder** for forward hit; and for the ball to gain **momentum** in the drop and add energy to the serve is important.

Stepping forward into the ball creates **momentum** and direction to give enough **force** hit the ball over the net

To **add power** to the serve the server uses **sequential summation of forces**, by using the step, hips, shoulders and elbow, wrist

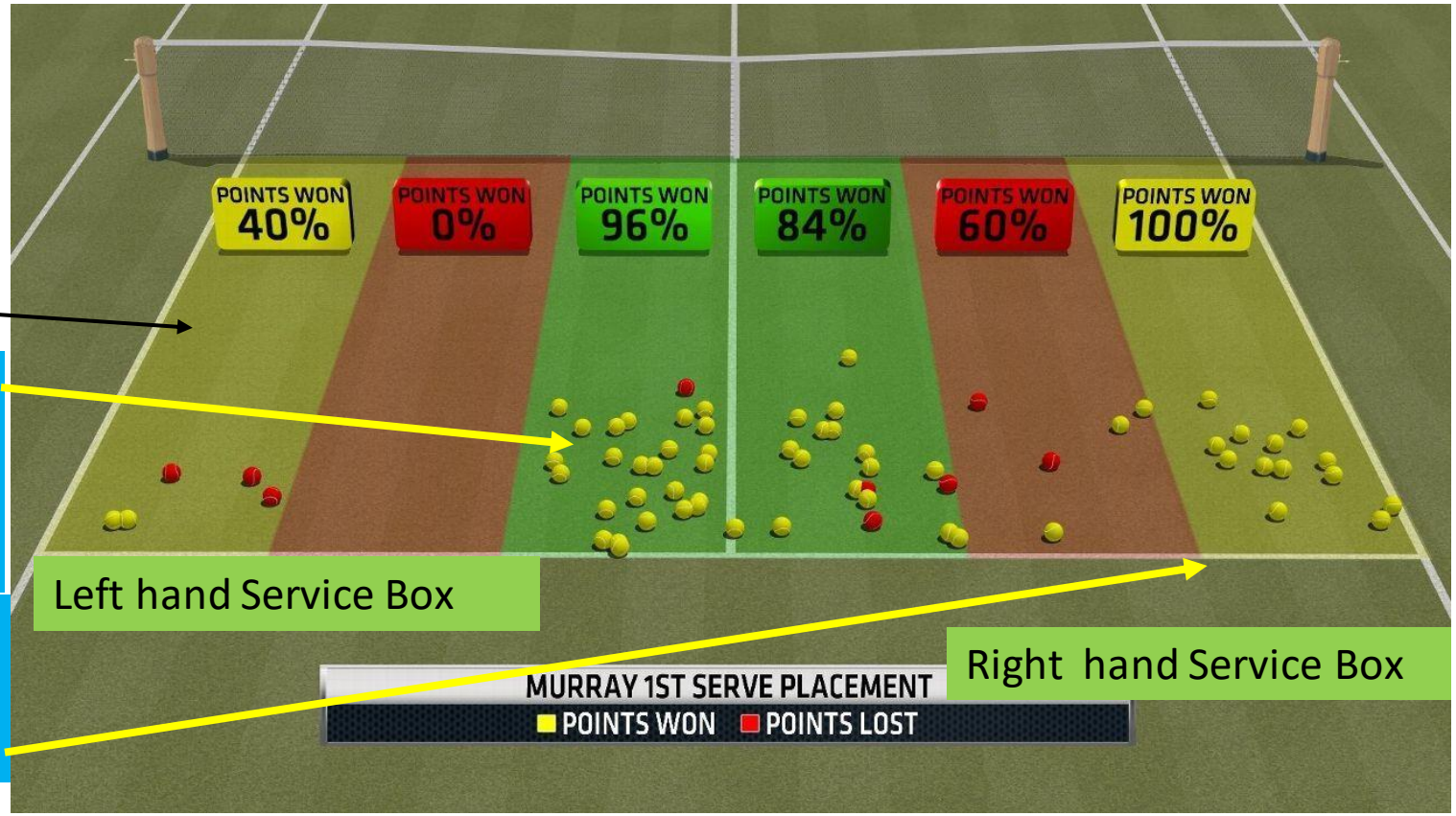
Heat maps

- Heat maps in sport are used to identify the frequency of events spread in a given area. Heat maps can then be used to provide feedback and identify strengths and weaknesses.

Analysis of data:
This heat map shows the percentage of first serve points won related to the position in the service box where the ball was hit/served.
Strengths: Serving down the middle two lanes and the far-right side.
Weaknesses: Serving on the far-left and middle right.

Action to improve performance:
Serve the majority of serves down the middle of the court when serving to the left-hand service area.

Action to improve. Serve the majority of serves to the far right of the court when serving to the right hand service

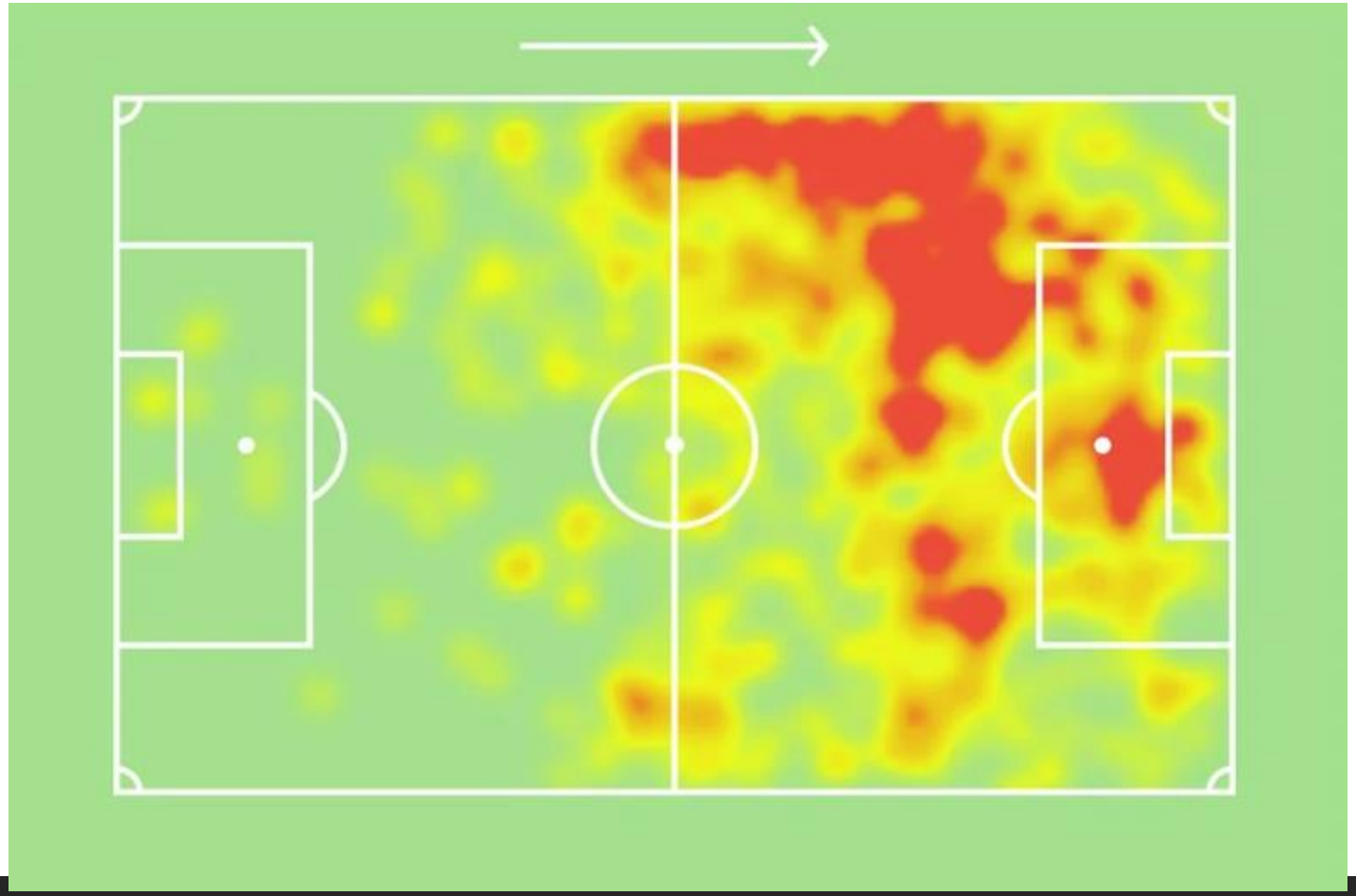


Heat maps your own example

- Heat maps in sport are used to identify the frequency and pattern of events spread in a given area. Heat maps can then be used to provide feedback and identify strengths and weaknesses.

Analysis of data:
This heat map shows the frequency of position of Christiano Ronaldo on the soccer pitch. **Strengths: Weaknesses**:

Action to improve performance:



Heat Map 1

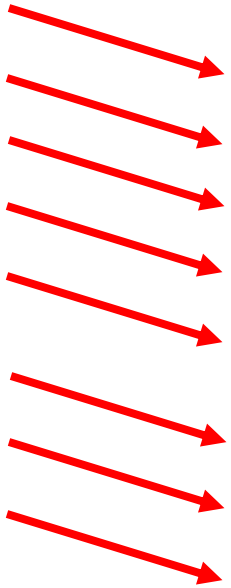
- Watch a video (youtube clip) of elite volleyball game eg the Olympics, World Championships
- Using the template given. create a heat map for a serve shot for a player or the team.
- **Note: Heat maps focus on one element only.**
- Volleyball serves. Where does a team start their serve runup from ? or
- Compared to their runup starting positon where does the server make contact

Is there an identifiable pattern?

How does this help the server's execution of the serve skill.?

-
- .

Heat Map Elite Video –Server Starting Position/ Server Contact Position

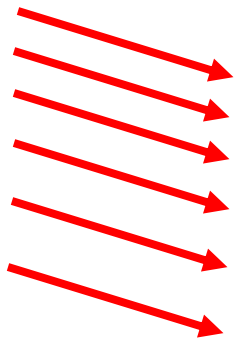


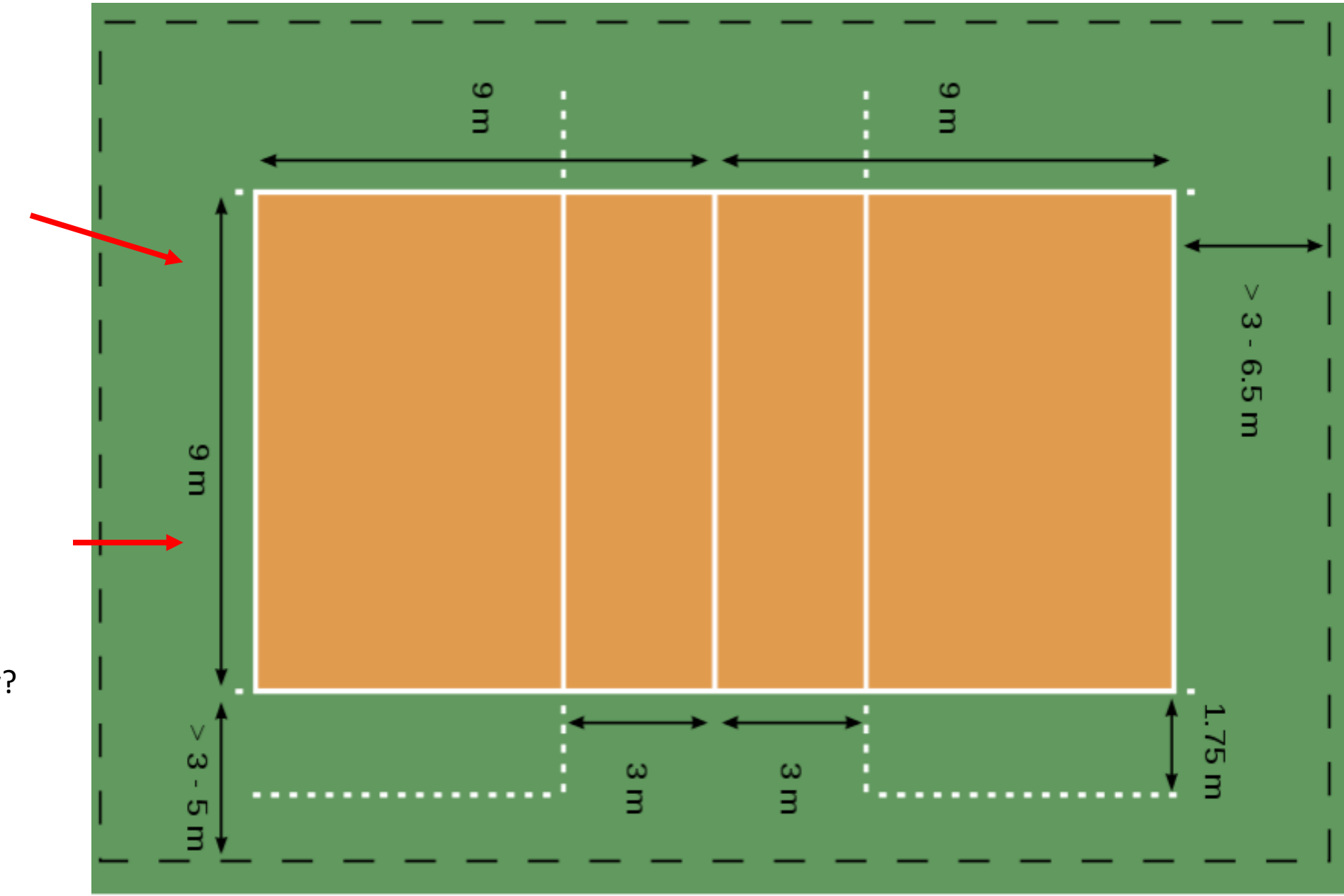
Start position of serve .

Can you identify at least 2 trends?

Click and Drag arrows

Heat Map Me –Serve Starting Position/ Contact Point Position





Click and drag arrow.
Place the start of the arrow at the servers starting position and the arrowhead at the ball hitting point.

What patterns can you identify?

What is the reason for this pattern.

Heat Map 2

- Watch a video (youtube clip) of elite volleyball eg the Olympics, World Championships. and create a heat map for a serve shot for a player or the team.
- Eg Volleyball serves.

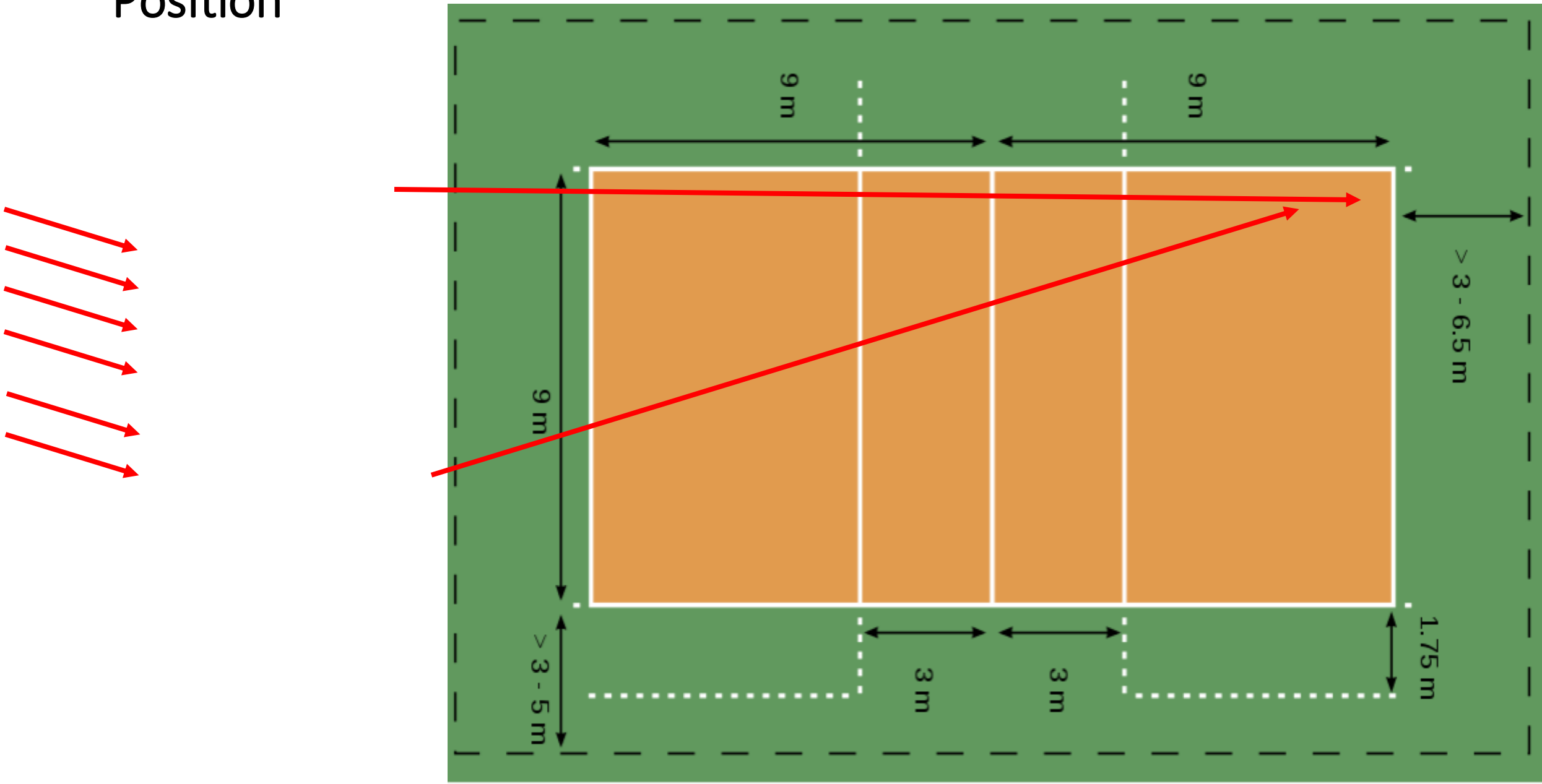
Where does a team start serve to on the court?

Using a court map, mark the ball position it goes to when the team you are observing serves. (don't record any other shots.)

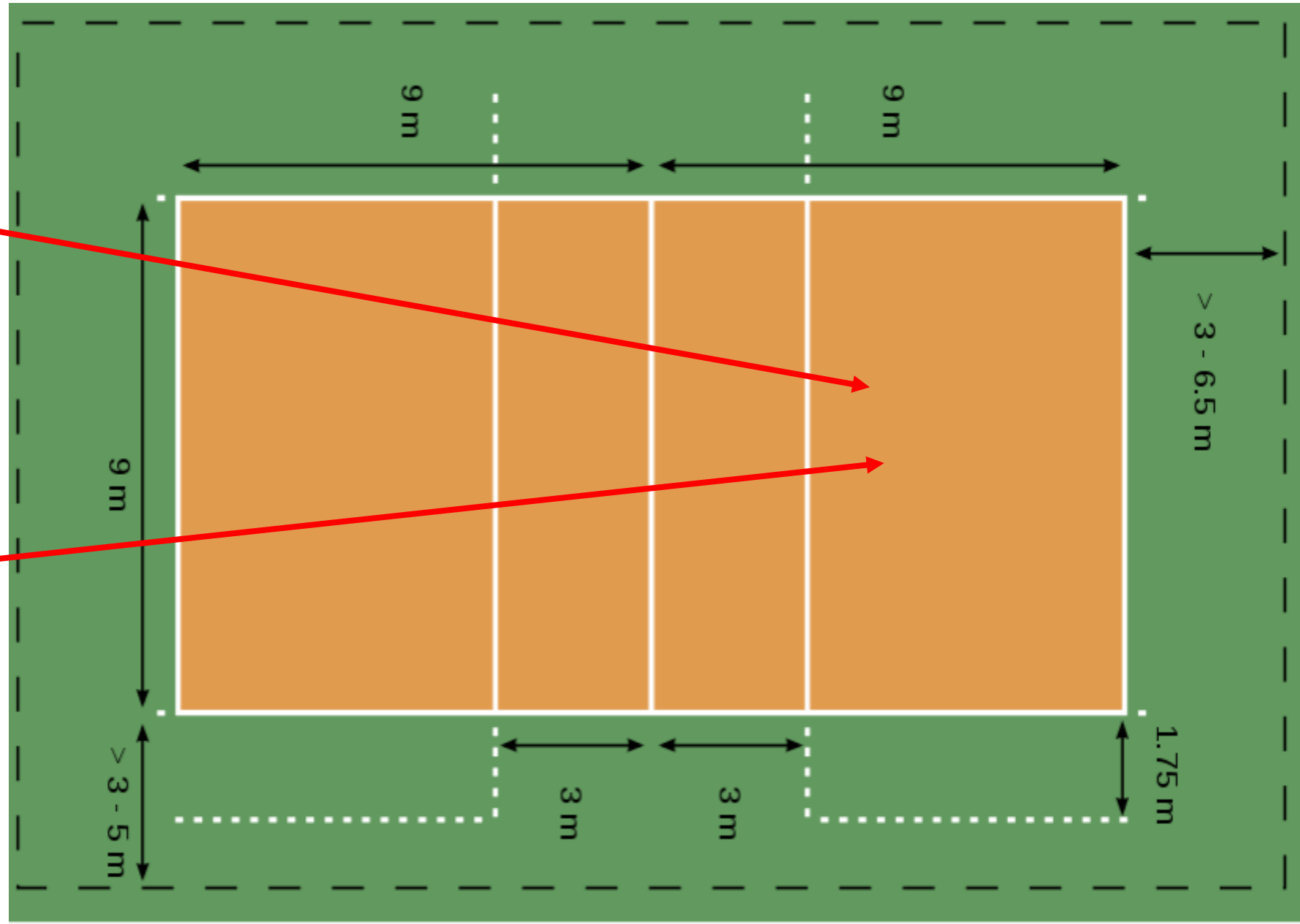
- Is there an identifiable pattern?
- Strategy in terms of court placement of serve?

.

Heat Map Elite –Serving Starting Position/ Target Position



Heat Map Me –Serving Starting Position/ Target Position



Volleyball Serving Target Heat Map

Before biomechanics

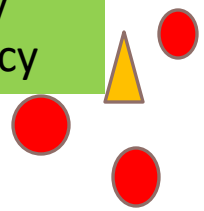
- Insert photo of heat map of your serves (10 serves)

1.Discussion of heat map pattern.
2.Recommendations to serving technique

Volleyball Serving Target Heat Map 1

Insert photo of heat map

Good consistency and accuracy



Lacks accuracy power is optimal

Lacks power and accuracy

1.Discussion of heat map pattern.
Knowledge of results (outcome)

What is good
what to improve

Volleyball Serving Target Position Heat Map 2 (with Biomechanics)

- Insert photo of heat map

1. Compared to Heat map 1 the pattern is…improved/ the same or more scattered/ deeper / shorter
Clustered / dispersed/ random.
(note this heat was served from the baseline compared Hmp 1 which was served from the 3 m line)
2. Biomechanically- to **gain momentum** I moved forward before tossing the ball.
To **give the ball energy** a high toss onto a hard open hand **(rebound energy).**
To ensure the flight was above the net I hit the **aiming point high**, which also allows for **sequential summation of the body** levers, hips, shoulders, arms.
3. recommendations- need to…..

1.Discussion of heat map pattern.
2. Biomechanics Successes
3. Recommendations

Volleyball Serving Target Heat Map 1 vs 2

Insert video worst video and best of your technique.

.
2.Recommendations to serving technique **Knowledge of performance**

Video 1
poor technique

- ❑ Correct foot forward
- ❑ Not moving forward first
- ❑ Tiny Toss- T-rex
- ❑ Toss forward
- ❑ Low Aim
- ❑ Dead Fish/ Gecko/ Frozen Fish

Video 2
improved technique

- ❑ Correct foot forward
- ❑ moving forward first
- ❑ High Toss
- ❑ Toss forward
- ❑ High Aim
- ❑ Gecko/ Frozen Fish

What is good
what to improve
Key cues to help

Refere to serving blooper guide

Volleyball Serving Heat Map 3 with biomechanical application (PB)

- Insert photo of heat map

1.Discussion of heat map pattern.
2.Recommendations

Serving Bloopers Index

1. Wrong foot forward

2. Not moving forward first

3 Tiny Toss- T-rex

4.Over the back fence

5. Low Aim

6. Dead Fish

Volleyball Biomechanical Analysis-My Developing (1 of 3 blooper attempts)
Serving Coaching Improvement- No forward momentum Step Error

What is good, things to consider and Coaching tips to improve

The aiming point is towards the ceiling as gravity will cause the **trajectory** to be **parabolic**

The contact and projection point is high. The ball is hit on the heel and hard palm of a tensed hand with fingers spread (gecko).

Insert Image

Correctly position feet such that the foot corresponding to the hitting hand is forward.

Note that the ball is tossed without a step.Whilst **beginning to step the ball is tossed** at least 2 metres upward and forward. This **ensures time** to track the ball and prestretch the shoulder for forward hit.

Stepping forward into the ball creates momentum to give enough force hit the ball over the net

To **add power** to the serve the server uses **sequential summation of forces**, by using the step, hips, shoulders and elbow, wrist

Volleyball Biomechanical Analysis-My Developing (2 of 3 blooper attempts) Serving Coaching Improvement-

- Add title of Serving Blooper 2

Volleyball Biomechanical Analysis-My Developing (3 of 3 blooper attempts) Serving Coaching Improvement-

- Add title of Serving Blooper 3

Volleyball Biomechanical Analysis- Serving My Personal Best Performance with biomechanical application.

What is good and Coaching tips to improve

The aiming point is towards the ceiling as gravity will cause the **trajectory** to be **parabolic**

The contact and projection point is high. The ball is hit on the heel and hard palm of a tensed hand with fingers spread (gecko).

Insert Image/ video

Correctly position feet such that the foot corresponding to the hitting hand is forward.

Whilst **beginning to step the ball is tossed** at least 2 metres upward and forward. This **ensures time** to track the ball and prestretch the shoulder for forward hit.

Stepping forward into the ball creates momentum to give enough force hit the ball over the net

To **add power** to the serve the server uses **sequential summation of forces**, by using the step, hips, shoulders and elbow, wrist

Digging

Insert a digging graphic.

Volleyball Biomechanical Analysis- Digging Elite Performer

Squeeze shoulders to maintain flat platform with arms .
Ensure platform **finishes near shoulders** to direct ball upward.

The arms are straight and outstretched. The ball hitting the **flat surface** between the wrist and elbows.

Hands with thumbs in the centre, palms up flat. **Provides a flat platform with greater contact area. Giving greater control.**

Feet- wide base for **stability.**
One foot in front of the other so that **momentum can be transferred** forward.

Move feet such that you position incoming ball so that the digging action contact is slightly above the hips and below the shoulders and **in front to the body**. –**Stronger position allows the transfer of momentum forward.**

Volleyball Biomechanical Analysis- Digging My Performance

Insert **image of you** digging

Squeeze shoulders to maintain flat platform with arms . Ensure platform **finishes near shoulders** to direct ball upward.

The arms are straight and outstretched. The ball hitting the **flat surface** between the wrist and elbows.

Hands with thumbs in the centre, palms up flat. **Provides a flat platform with greater contact area. Giving greater control.**

Feet- wide base for **stability.**
One foot in front of the other so that **momentum can be transferred** forward.

Move feet such that you position incoming ball so that the digging action contact is slightly above the hips and below the shoulders and **in front to the body**. –**Stronger position allows the transfer of momentum forward.**

7 Digging Bloopers- Index (see following slides)

1.Narrow Base	Correction –Wide base -
2.Knuckle Duster	Correction-Palms up thumbs together
3.Elephant	Correction- Arms for digging platform move from knee hips to shoulders.
4. Matrix Bullet	Correction-Dig High (as in twice your body height high)
5.Over the Back Fence	Correction- Arm platform follow through to stop at shoulders.
6.Loose Shoulder Shrug	Correction-Squeeze shoulders when forming platform (prevent elbow bend).
7. Hips OCD-	Correction –Turn and face hips in the direction of the setter to the centre of the court such that the ball will be high and away from the net.

Create a slide for each blooper with you demonstrating the blooper.

Volleyball Biomechanical Analysis – My Developing Digging Coaching Improvement

Intentional Error Blooper Reel-Elephant and Matrix Bullet

- What is good and Coaching tips to improve

Insert picture that best illustrate the issue

video of me

Analysis Good Elements -

Analysis of elements to consider-

Action To improve

Move feet such that you position incoming ball so that digging action contact is slightly above the hips and below the shoulders **in front to the body**. –**Stronger position allows the transfer of momentum forward.**

Ensure platform finishes near shoulders to direct ball upward.

Volleyball Biomechanical Analysis- My Developing Digging Coaching Improvement

What is good and Coaching tips to improve

Position incoming ball such that digging action contact is slightly above the hips and below the shoulders in front to the body. –**Stronger position allows the transfer of momentum forward.**

The arms are straight and outstretched. The ball hitting the flat surface between the wrist and elbows.

Hands with thumbs in the centre, palms flat. **Provides a flat platform with greater contact area. Giving greater control.**

Feet- wide base for **stability.**
One foot in front of the other so that **momentum can be transferred** forward.

Insert image or video

Click on image to play video

Squeeze shoulders to maintain flat platform with arms .
Ensure platform finishes near shoulders to direct ball upward.

Volleyball Biomechanical Analysis – Digging My Personal Best Performance

What is good and Coaching tips to improve

Position incoming ball such that digging action contact is slightly above the hips and below the shoulders in front to the body. –**Stronger position allows the transfer of momentum forward.**

The arms are straight and outstretched. The ball hitting the flat surface between the wrist and elbows.

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Click on image to play video

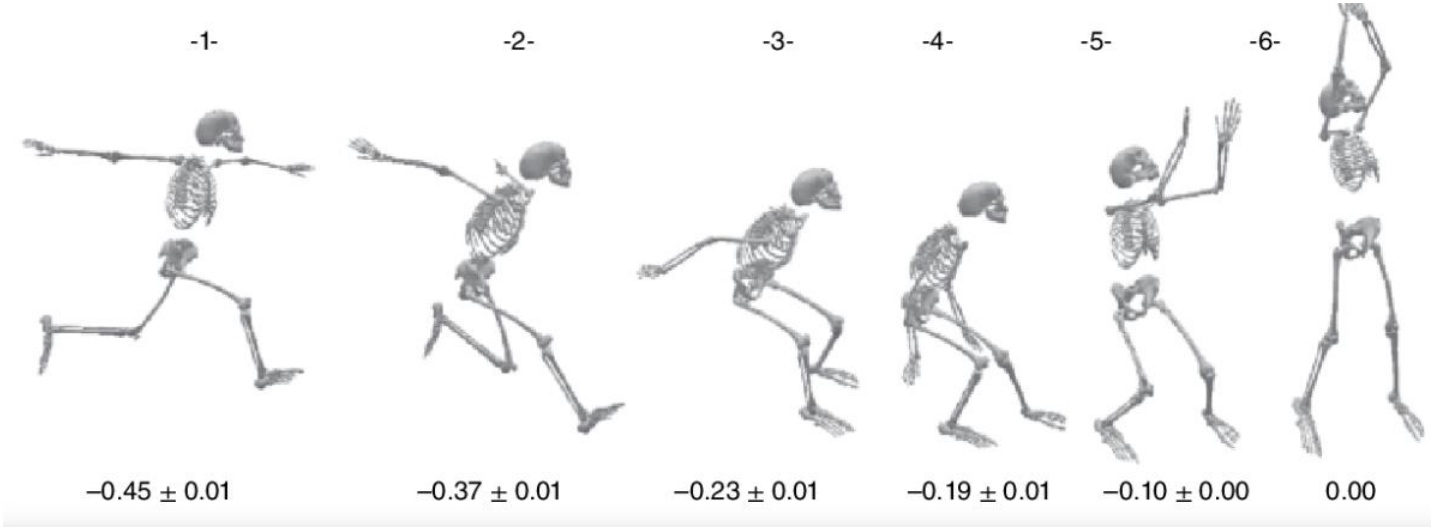
Squeeze shoulders to maintain flat platform with arms .
Ensure platform finishes near shoulders to direct ball upward.

Spiking

Find a graphic that

You photo screen shots version –not capt jack marrow

- 1. Cape –Batman
- 2. Long Step
- 3.Spiderman/ Superman
- 4. Thor-Hammer



Spiking Patterning

- Insert 2 movement pattern
- Spiking (with a ball)
- video with dots

Volleyball Biomechanical Analysis- Spiking **Elite Performer**

Ensure ball is high and in front of the body.
High- height give time
In front- enables momentum of the body to be forward and this gives power to the ball.
If the ball is not in front, spiker needs to transition back before going forward .

Ready position is with non hitting foot forward. (long step plant, together step) Jump is made with two feet, motion forward into the ball as the ball drops into the spikers hitting zone. It is important not to jump too early as **momentum** is lost.

Hit the ball on the heel of the palm of a rigid hand. Provides a hard hitting surface.

Open hand has more directional control than a closed fist

Once contact with the ball is made the wrist snaps to create top spin to cause the ball to accelerate to the opponent's court.

Sequential Summation of forces by the body parts being introduced in sequence. is important for generating maximum force.

Biomechanical Analysis-My Developing Spiking- Coaching Improvement

Ensure ball is high and in front of the body.
High- height give time
In front- enables momentum of the body to be forward and this gives power to the ball.
If the ball is not in front, spiker needs to transition back before going forward .

Hit the ball on the heel of the palm of a rigid hand. Provides a hard hitting surface.

Open hand has more directional control than a closed fist

Insert photo or video of spiking action

Jump is made with two feet, forward into the ball as the ball drops into the spikers hitting zone. It is important not to jump to early as **momentum** is lost.

Sequential Summation of forces by the body parts being introduced in sequence. is important for generating maximum force.

Once contact with the ball is made the wrist snaps to create top spin to cause the ball to accelerate to the opponent's court.

Biomechanical Analysis-Spiking -My Personal Best Performance

Ensure ball is high and in front of the body.
High- height give time
In front- enables momentum of the body to be forward and this gives power to the ball.
If the ball is not in front, spiker needs to transition back before going forward .

Hit the ball on the heel of the palm of a rigid hand. Provides a hard hitting surface.

Open hand has more directional control than a closed fist

Insert photo or video of spiking action

Jump is made with two feet, forward into the ball as the ball drops into the spikers hitting zone. Arm swing It is important not to jump to early as **momentum** is lost.

Sequential Summation of forces by the body parts being introduced in sequence. is important for generating maximum force.

Once contact with the ball is made the wrist snaps to create top spin to cause the ball to accelerate to the opponent's court.

Roles and responsibilities -Lessons from Geese

- Flying in a V-formation enables geese to increase their range by 85%. The lead goose is rotated, so the load is shared.
- The lead goose breaks the air resistance and the rest of the group fly in “broken air”
- Source https://c1.staticflickr.com/2/1049/5142119589_1aaf74ded4_b.jpg

Roles and responsibilities -Lessons from Geese in Volleyball

- Each goose does its own flying but also has a role within the group. Same in volleyball.
- Roles include setters, receivers, middle hitters/blockers outside hitters and liberos
- Source https://c1.staticflickr.com/2/1049/5142119589_1aaf74ded4_b.jpg

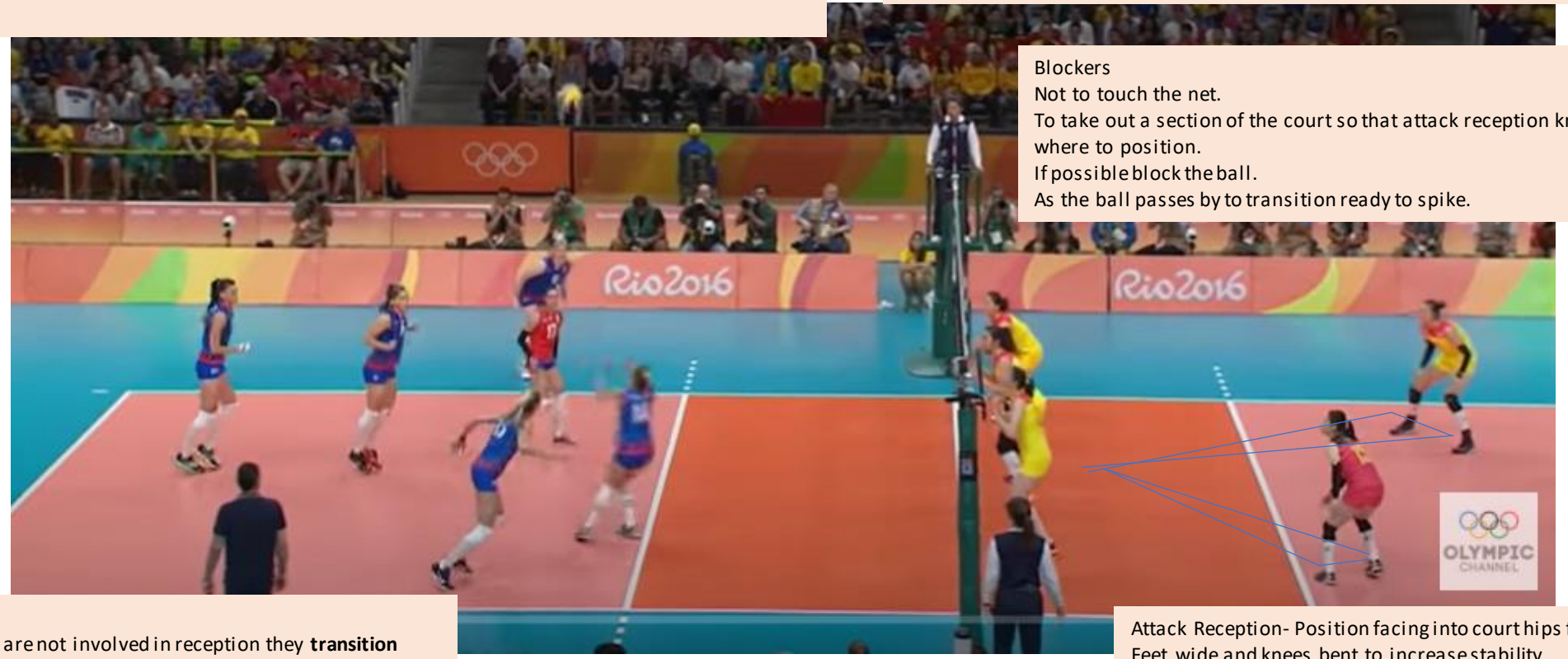
Team Roles and Responsibilities _Lessons from Geese

Receivers -each have a corridor no one is stacked one behind another .
Role –

1. **communicate whether the ball is in, out, short or long**
2. **if it is in their corridor, they must take it.**
3. **If it is between corridors, communication, talk "mine". And follow through with action.**
4. **Receivers' role is to put the ball high first then preferably setting in the setting target area between position 2 and 3 up high .**

Setter

1. **Stay out of the reception.**
2. **Must take the second ball**
3. **Side on and play the ball high and in front of the spikers and set to a corridor .**



Blockers
Not to touch the net.
To take out a section of the court so that attack reception know where to position.
If possible block the ball.
As the ball passes by to transition ready to spike.

Spikers –

1. Once they recognize they are not involved in reception they **transition back from the block** ready to run forward .
2. All spikers **begin as if they were being set** the ball.
3. If the ball is in your corridor your responsibility is to hit **it high, in and deep.**

Attack Reception- Position facing into court hips facing to setting zone.
Feet wide and knees bent to increase stability .
If the ball is received the ball must be played high.

Volley North

Team Roles and Responsibilities _Lessons from Geese-Receiver

Receivers -each have a corridor no one is stacked one behind another .
Role –

1. **communicate whether the ball is in, out, short or long**
2. **if it is in their corridor, they must take it.**
3. **If it is between corridors, communication, talk “mine”. And follow through with action.**
4. **Receivers' role is to put the ball high preferably setting up high .**

Create your version of this slide using this image found at
https://www.youtube.com/watch?v=IBc8v65hB7Q

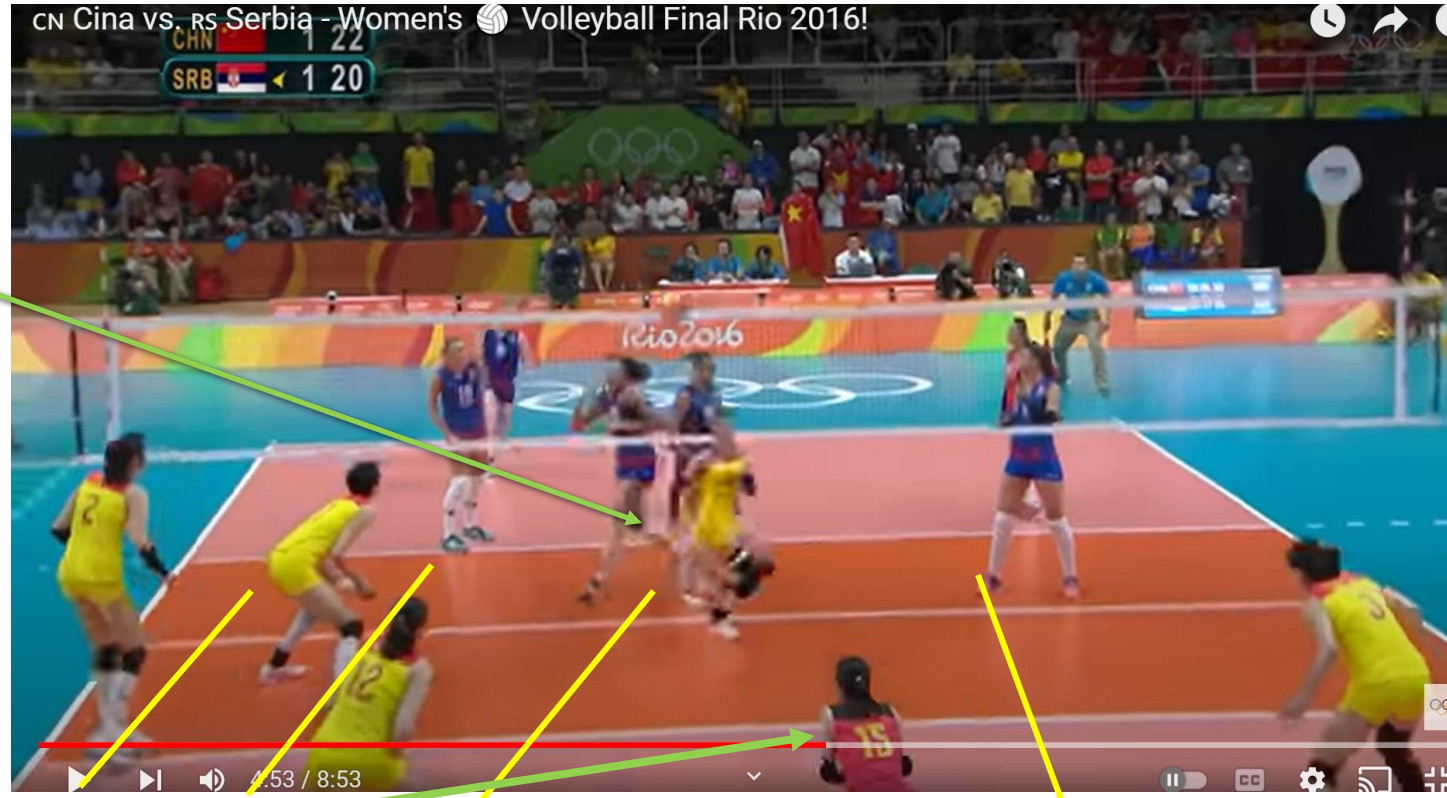
Receiving Roles

Receivers -each have a corridor no one is stacked one behind another .
Role –

1. **Hips are not facing target area not the net but**
2. **communicate whether the ball is in, out, short or long**
3. **if it is in their corridor, they must take it.**
4. **If it is between corridors, communication, talk "mine". And follow through with action.**
5. **Receivers' role is to put the ball high first then preferably setting in the setting target area between position 2 and 3 up high.**

Yellow team China is receiving. Note players have turned and faced to the Setter target position before receiving the ball.

Setter has come from the back court and is rapidly journeying to a target position between position 2 and 3 just off the net



The player in the red top is a specialist receiver called a **libero**. What do you notice about their receiving corridor. Why ?

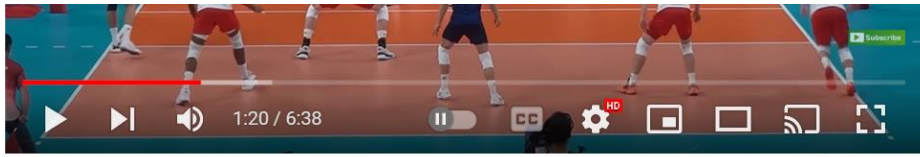
Volley North

Team Roles and Responsibilities –Receiver Roles

Receivers -each have a corridor no one is stacked one behind another .
Role –

1. **communicate whether the ball is in, out, short or long**
2. **if it is in their corridor, they must take it.**
3. **If it is between corridors, communication, talk "mine". And follow through with action.**
4. **Receivers' role is to put the ball high preferably setting up high .**

Annotate your version of this slide as per the previous slide. But select your own image from https://www.youtube.com/watch?v=G9Ox3d62B_o
The time stamp below may help.
Mark up with corridors , identify libero, hip directions



Poland vs Iran 2:3 Tokyo 2021 OG Highlights

Team Roles and Responsibilities _Lessons from Geese- Setter

Setter

1. **Stay out of the reception (don't take the first ball).**
2. **Must take the second ball**
3. **Turn and face. Side on and play the ball high and in front of the spikers and set to a corridor.**

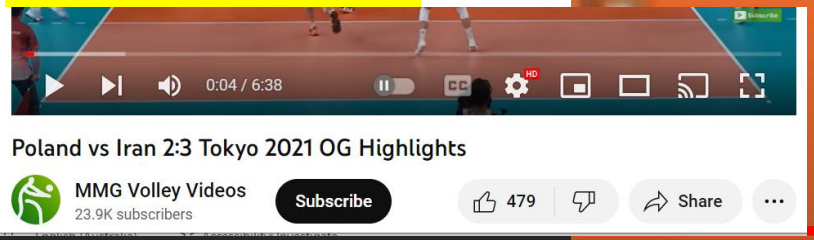
Team Roles and Responsibilities _Lessons from Geese- Setter Roles

Setter

1. **Stay out of the reception (don't take the first ball).**
2. **Must take the second ball. If the receivers are accurate this should be between position 2 and 3 just off the net. But if not the setter travels to wherever the second ball is travelling to.**
3. **Turn and face. Side on and play the ball high and in front of the spikers and set to the intended spikers corridor.**

Replace this image with your own expert example.

Try here



Team Roles and Responsibilities Our Setter Roles

Title the slide **Collaborative Team Roles and Responsibilities Lessons from Geese-Our Setter Role**

Capture a video and screen shot from our sessions.

Analyze and annotate.

Compare Contrast and Annotating against the Expert Setter Roles slide

- -good
- -Things to consider
- -improvements

Team Roles and Responsibilities Our Receivers Roles

Title the slide **Collaborative Team Roles and Responsibilities Lessons from Geese -Our Receivers Reception**

Capture a video and screen shot from our sessions.

Analyze and annotate.

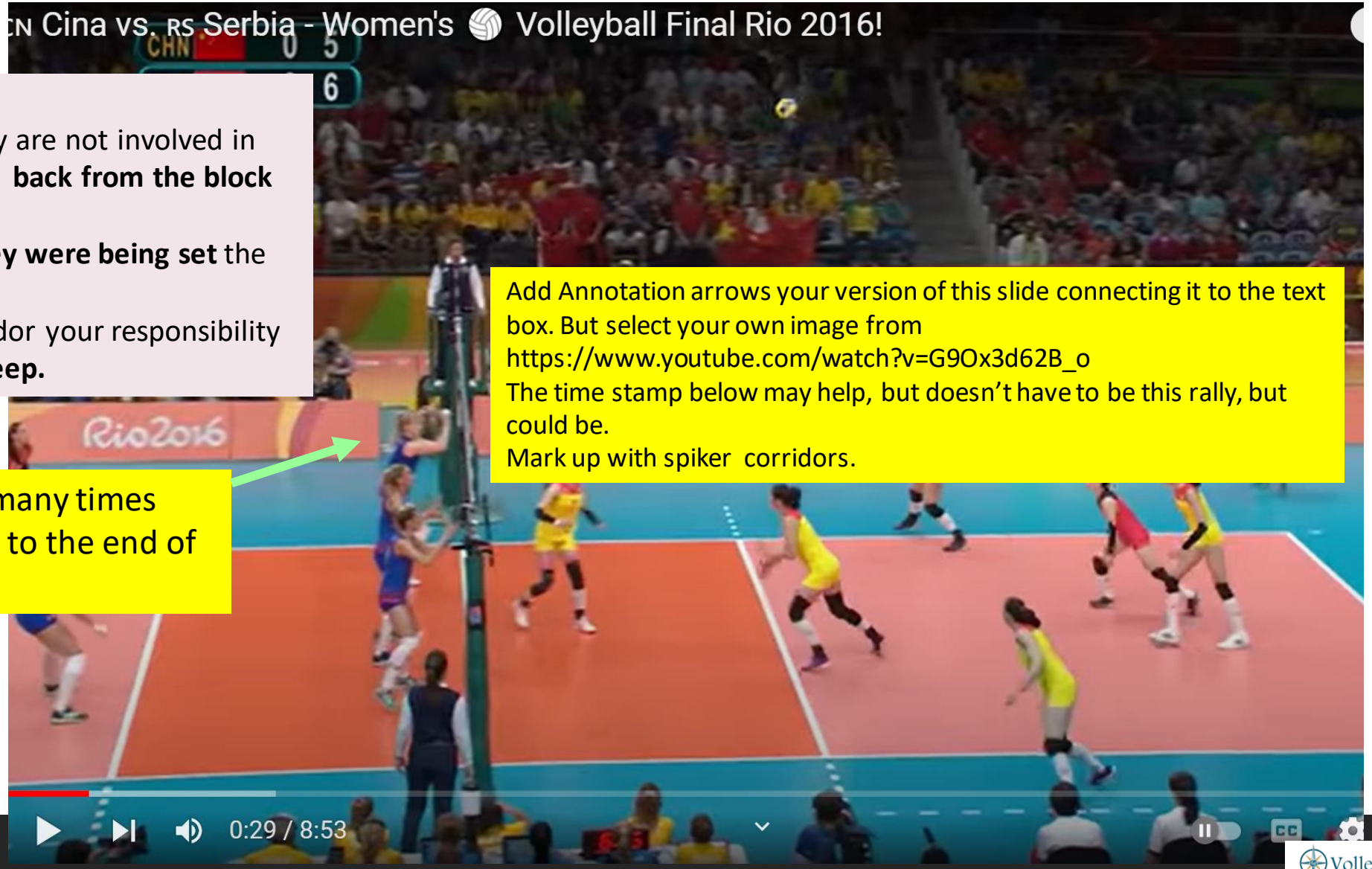
Compare Contrast and Annotating against the Expert Receivers Roles slide

- -good
- -Things to consider
- -improvements

Team Roles and Responsibilities -Spikers Role

Spikers –

1. Once they recognize they are not involved in reception they **transition back from the block** ready to run forward .
2. All spikers **begin as if they were being set** the ball.
3. If the ball is in your corridor your responsibility is to hit **it high, in and deep.**



Add Annotation arrows your version of this slide connecting it to the text box. But select your own image from https://www.youtube.com/watch?v=G9Ox3d62B_o
The time stamp below may help, but doesn't have to be this rally, but could be.
Mark up with spiker corridors.

In this clip from 28secs how many times does this player transition up to the end of the rally?

Team Roles and Responsibilities Our Spiker Roles

Title the slide **Collaborative Team Roles and Responsibilities Lessons from Geese-Our Attack Reception**

Capture a video and screen shot from our sessions.

Analyze and annotate.

Compare Contrast and Annotating against the Expert Spiker Role slide

- -good
- -Things to consider
- -improvements

Lessons from Geese- Collaborative Team Roles and Responsibilities-Blocker Roles

Blockers Role

Not to touch the net.

To take out a section of the court so that attack reception have less court to cover and know where to position to receive .

If possible, block the ball. Notice fingers and arms are slightly spread to take out more space but not create holes in the block.

As the ball passes -land **transition** ready to spike-Do not stay at the net.

Lessons from Geese- Collaborative Team Roles and Responsibilities-Blocker Roles

In this Youtube clip. Analyse the rally from 1:46 to the end of the rally.

https://www.youtube.com/watch?v=G9Ox3d62B_o

Analyse and annotate a screen shot as per previous and similar to the previous slide to demonstrate the role of the blocker.

Poland vs Iran 2:3 Tokyo 2021 OG Highlights

Collaborative Team Roles and Responsibilities Lessons from Geese-Expert Attack Reception

Attack Reception- Position facing into court hips facing to setting zone.
Feet wide, body low, and knees bent to increase stability.
If the ball is received the ball must be played high. This gives time for the next player to position and execute skill.

Create this slide ready for our practical and video sessions next term when I return.

Team Roles and Responsibilities Our Blocking

Title the slide **Collaborative Team Roles and Responsibilities Lessons from Geese-Our Blocking**

Capture a video and screen shot from our sessions.

Analyze and annotate.

Compare Contrast and Annotations against the Expert Blocker role slide

- -good
- -Things to consider
- -improvements

Lessons from Geese- Collaborative Team Roles and Responsibilities-Attack Reception

This is the same Youtube clip used to analyse previously (for the blocker) thi time find an example demonstrating the role of the attack reception. Analyse the rally from 1:46 to the end of the rally.

https://www.youtube.com/watch?v=G9Ox3d62B_o

Analyse and annotate a screen shot as per previous and similar to the previous slide to demonstrate the role of the attack reception . (note how the blocker doing their role effectively helps the attack reception)

Poland vs Iran 2:3 Tokyo 2021 OG Highlights

Volleyball Biomechanical Analysis- Spiking Elite Performer

Ensure ball is high and in front of the body.
High- height give time
In front- enables momentum of the body to be forward and this gives power to the ball.
If the ball is not in front, spiker needs to transition back before going forward .

Ready position is with non hitting foot forward. (long step plant, together step) Jump is made with two feet, motion forward into the ball as the ball drops into the spikers hitting zone. It is important not to jump too early as **momentum** is lost.

Hit the ball on the heel of the palm of a rigid hand. Provides a hard hitting surface.

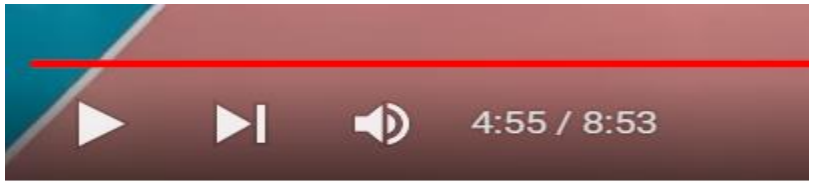
Open hand has more directional control than a closed fist

Once contact with the ball is made the wrist snaps to create top spin to cause the ball to accelerate to the opponent's court.

Sequential Summation of forces by the body parts being introduced in sequence. is important for generating maximum force.

Setters Role.

Find this clip on Youtube Take this clip to 4.55 and annotate setters role (use the previous slide to help)



Team Roles and Responsibilities _Lessons from Geese-Spikers

- .

Spikers –

1. Once they recognize they are not involved in reception they **transition back from the block** ready to run forward .
2. All spikers **begin as if they were being set** the ball.
3. If the ball is in your corridor your responsibility is to hit **it high, in and deep.**

Team Roles and Responsibilities _Lessons from Geese-Blocker

Blockers
Not to touch the net.
To take out a section of the court so that attack reception know where to position.
If possible block the ball.
As the ball passes -land transition ready to spike.

Volley North

Team Roles and Responsibilities _Lessons from Geese- Attack Reception

- .

Attack Reception- Position facing into court hips facing to setting zone.
Feet wide, body low, and knees bent to increase stability .
If the ball is received the ball must be played high.

Collaboration and Skill Development Capabilities

Game Context

Performance Criteria		Score /10	Evidence
Collaboration	Contributing to the Team Environment		
	Helping Assisting Team Members		
	Making Helpful Communications		
	Taking initiative to do tasks that need to be done-bettering the ball		
	Completing required roles		
	Contributing to Positive culture		

TYNDALE
CHRISTIAN SCHOOL
God's Truth Prevails

Thank You

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CHRISTIAN
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