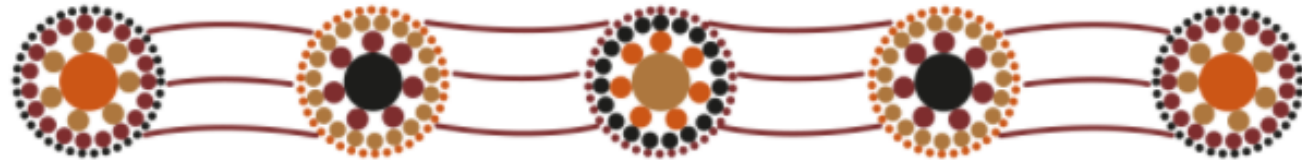




**BRENDAN  
SUESEE**

## 2. Acknowledgement of Country



USQ acknowledges the traditional custodians of the lands on which USQ campuses have been built and whose cultures and customs continue to nurture this land. USQ also pays respect to Elders – past, present and future.

Further, we acknowledge the cultural diversity of all Aboriginal and Torres Strait Islander peoples and pay respect to Elders past, present and future.

Finally, we celebrate the continuous living cultures of First Australians and acknowledge the important contributions Aboriginal and Torres Strait Islander people have and continue to make in Australian society.

**SOUTH AUSTRALIAN ACHPER CONFERENCE**

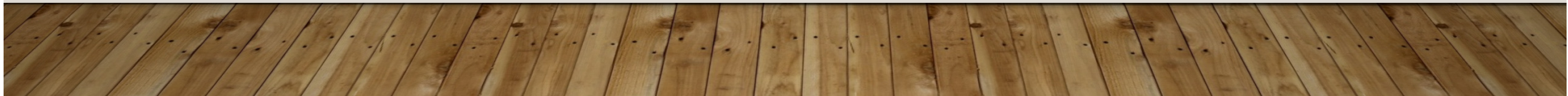
**ADELAIDE 27 AUGUST**

**QUALITY PE CONFERENCE: THE SPECTRUM OF TEACHING STYLES**



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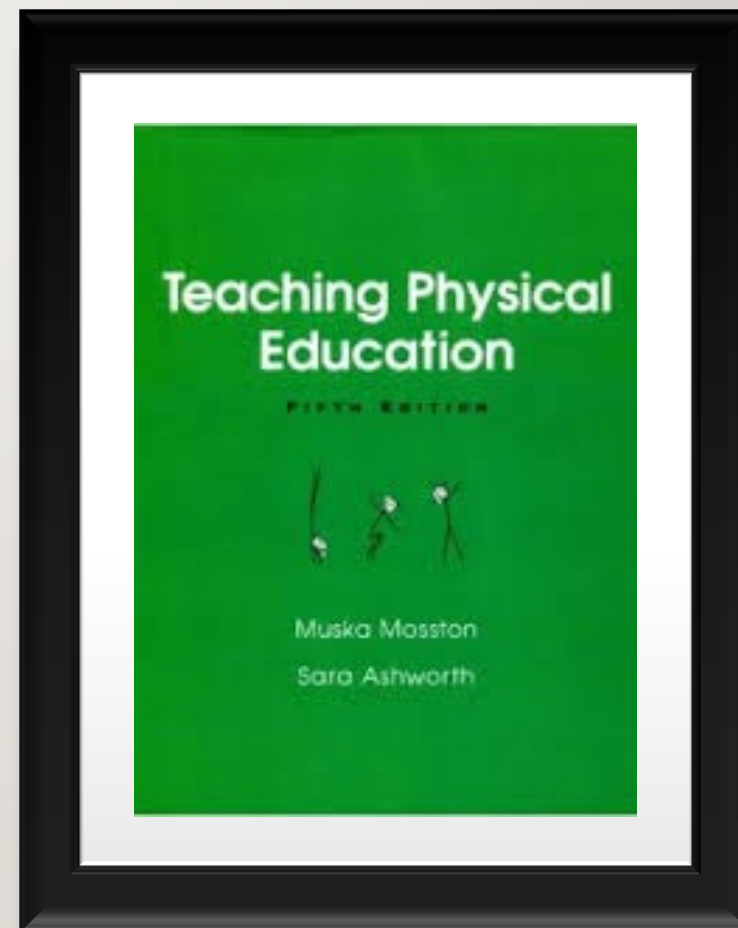
**3 DISCOVERY EPISODES FROM THE SPECTRUM OF TEACHING STYLES.**



# WHAT'S GOING TO HAPPEN IN THIS SESSION?

---

- **Free download**  
<https://spectrumofteachingstyles.org/index.php>
- **In this session you will:**
  - See 3 types of discovery episodes,
  - Participate in groups to create 3 discovery episodes – **Rick's Session**
  - Demonstrate in groups your discovery episodes – **Rick's session.**



# WHAT'S A DISCOVERY EPISODE?

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- M&A (2008) speak about 3 cognitive operations – memory, discovery and creativity.
- Styles A – E require the learner to use **memory** (or recall or knowledge, skill, tactics) and are known as the **reproduction** cluster – reproduce knowledge, movement etc.
- Styles F through K are known as the **production cluster**, styles in this cluster require the learner to engage in **discovery/creativity** – a thinking process that engages learners in the **production** of information that was **previously unknown** to them (Ashworth, 2020).
- Guided Discovery – Style F, Convergent Discovery – Style G & Divergent Discovery – Style H.

## **GUIDED DISCOVERY**

- Defining characteristic is the creation of logical/sequential questions to discover a predetermined response. The teacher uses a series of questions (usually starting with questions which require the student to use memory) requiring the student to reflect on what may just have occurred and culminating with a final question where the student discovers the answer which may be a relationship or tactic (M&A, 2008)

---

## GUIDED DISCOVERY



Pre-Impact – Teacher – objectives, subject matter, design of the logical sequence of q's



Impact set – Teacher/Learner – responds to q's asked by the T.



Post-Impact Set – Teacher/Learner – receives feedback and verifies solution.

## **DISCOVERY EXPERIENCE ONE - GUIDED DISCOVERY!**

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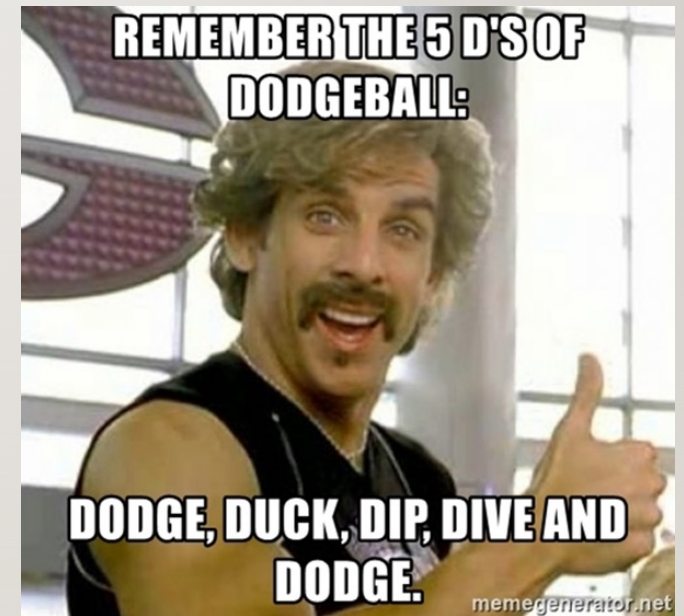
- Play a game of Endball/Endzone.
- Identify the teachable moments .....which are.....?
- When something is going well or when something is not going well.



# GUIDED DISCOVERY QUESTIONS (5W'S + H)

---

- WHAT HAPPENED....?
- WHY DO YOU THINK THAT HAPPENED....?
- HOW COULD YOU MAKE IT HARDER FOR THEM TO....?
- WHEN?
- WHO?
- WHERE?



# BEGINNER VERSION

---

- **What** happened.....?
- **Why** did this happen...?
- **How** could you prevent this from happening....?
- **What** would have made this more difficult for the defender to....?
- **Finish this statement for me** "The closer/faster/slower I move/pass/go the easier/harder it is for the defender to.....?"



# 2 W'S & AN H

---

**WHAT HAPPENED....?**

.....

.....

.....

**WHY DO YOU THINK THAT HAPPENED....?**

.....

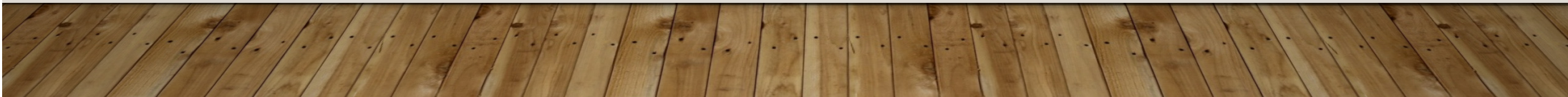
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**HOW COULD YOU MAKE IT HARDER FOR THEM TO....?**

.....

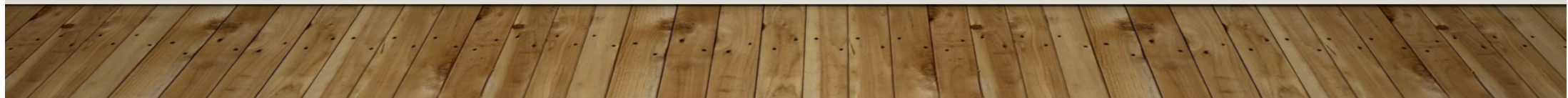
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# WHY DO THIS?

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- When you ask the questions you ask S's to take out your card and write a brief answer to the Q's.
- Then we will share our responses.
- By doing this initially it stops 'free riders' (I don't know so I will not search/try-I'll just get the answer off someone else) and creates an environment/expectations from the T that they expect everyone to think. When we share (in small groups or as a class) there will be people who didn't know and will now get the answer off others but this strategy encourages all to try to discover.



# GUIDED DISCOVERY IN GROUPS?

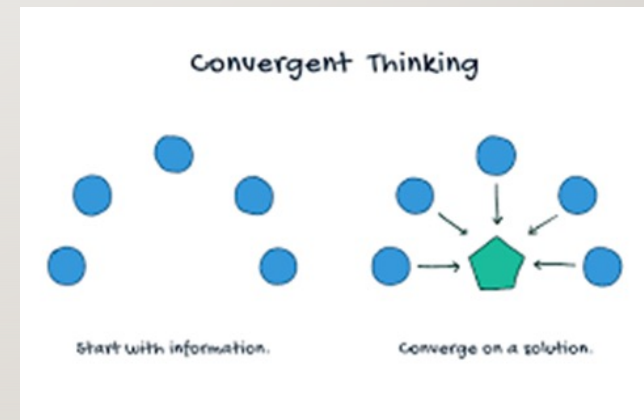
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- Although many learners within a group setting can benefit from this process, *the liability is that learners discover at different speeds*. When one learner has discovered the answer (anywhere in the sequence) and utters it aloud, the other learners who hear (or see) the response become the receivers. *They can no longer discover it. For these students, the discovery process has been aborted* (M&A, 2008, p. 221).

# CONVERGENT DISCOVERY

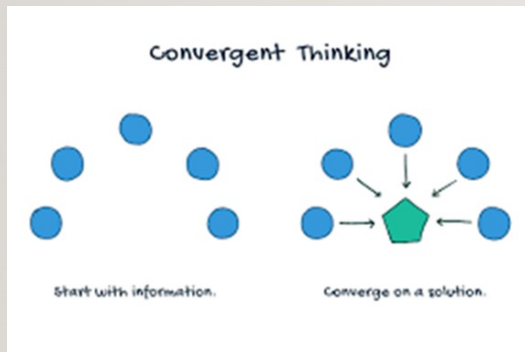
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- Defining characteristic is to discover the correct (predetermined) response using a convergent a process. In the anatomy of the Convergent Discovery style, the role of the teacher is to make subject matter decisions, including the target concept to be discovered, and to design the single question delivered to the learner. The role of the learner is to engage in reasoning, questioning, and logic to sequentially make connections about the content to **discover the answer**. The teacher does not ask the student for one answer if there is in fact many answers. (M&A, 2008).



# CONVERGENT DISCOVERY

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- To discover the correct (pre-determined) response using a convergent thinking process. There will be one correct answer.
- Pre-Impact – Teacher – subject matter decisions, target concept to be discovered.
- Impact Set – Learner – to engage in reasoning, questioning to discover the concept.
- Post-Impact – Learner – verifying through checking or seeing their solution solve the problem!

# CONVERGENT DISCOVERY

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- DANGER!
- Do not use Convergent Discovery if there is more than one answer – Divergent Discovery needed!



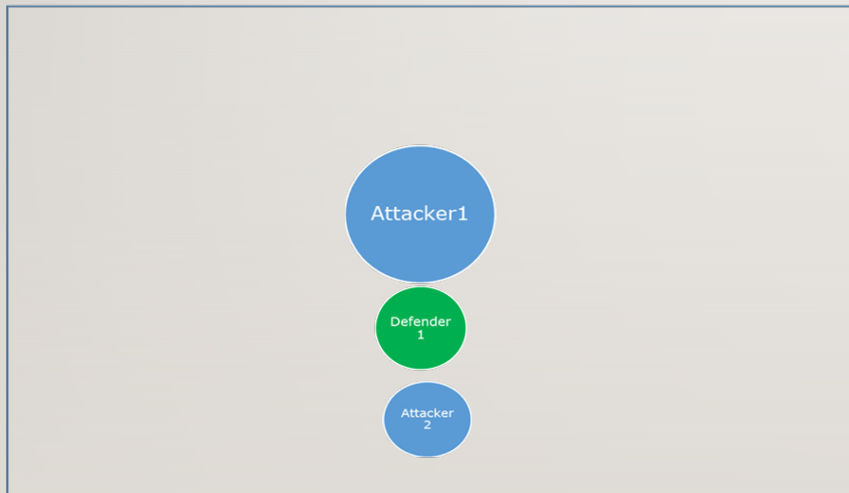


A GSA COULD BE USED TO CREATE AN ENVIRONMENT WHICH ALLOWS THE CONCEPT TO BE TAUGHT (DISCOVERED OR MEMORY/RECALL) **WHEN IT IS THE BEST TO PASS OVER THE HEAD OF THE DEFENDER.** THE GAME HAS A FORMATION OF A RECTANGLE AND ATTACKER 1 (A1) IN A HOOP IN THE MIDDLE AND ATTACKER 2 (A2) AND DEFENDER 1 (D1) AT LEAST 1 METRE FROM A1. IN GROUPS OF 3 WE WILL ASK ALL THREE STUDENTS TO DO 20 PASSES IN TOTAL OUT OF THE CIRCLE. THEY ARE TO DO 10 TO THE LONGEST PART OF THE RECTANGLE (**GAME 1**) AND 10 TO THE SHORTEST (**GAME 2**). THEY THEN ARE ASKED "IN WHICH OF THESE TWO SITUATIONS IS IT MOST APPROPRIATE TO DO A PASS OVER D1?"

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## GAME 1

Figure 1—A pass to the short side of the rectangle.



## GAME 2

Figure 2—A pass to the long side of the rectangle.



# MORE CONVERGENT DISCOVERY!

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- As before but **speed** being the variable to manipulate,
- They can then present their Convergent Discovery episodes to the group.
- Then.....**Go back to Endball** game and see if there is **transfer** of the tactic we discovered.
- Design a series of questions which elicit convergent discovery or 1 answer. Q's should converge on answer or preferred solution. Game provides a situation for preferred response through manipulating rules, space etc.

# PRODUCTION THINKING: “IF-THEN-BECAUSE” WITH THE IDEA THAT S’S WILL EVENTUALLY DO THIS UNPROMPTED/NO SCAFFOLDING.

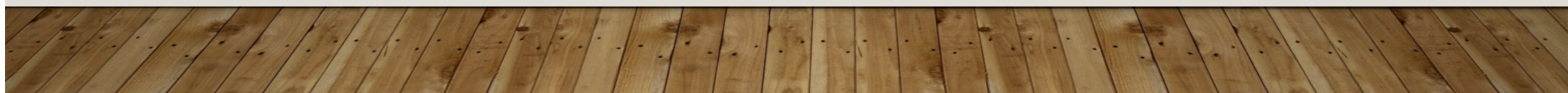
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## “If-Then-Because”

**IF** I am .....

**THEN** I can/not .....

**BECAUSE**.....



# DIVERGENT DISCOVERY

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- defining characteristic is to discover divergent (multiple) responses to a single question/situation, within a specific cognitive operation. In the Anatomy of the Divergent Discovery Style, the role of the teacher is to make decisions about the subject matter topic and the specific questions and logistics to be delivered to the learner. The role of the learner is to **discover multiple designs/solutions/responses to a specific question** (M&A, 2008).



# DIVERGENT DISCOVERY

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- is the creation of two or more “responses to a single question/situation, within a specific cognitive operation”.
- **Pre-Impact – Teacher – Subject matter, questions delivered to the learner.**
- **Impact Set – Learner – discover multiple solutions to the problem/question.**
- **Post-Impact Set – Learner – verifies solutions.**

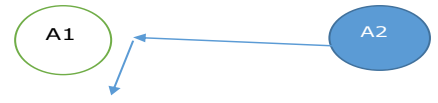
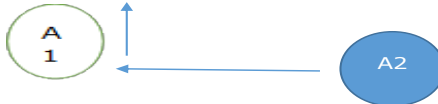
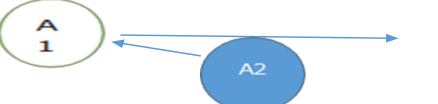

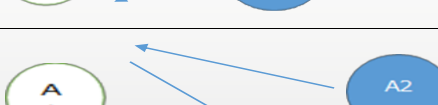


**DIVERGENT DISCOVERY**— IS THE CREATION OF TWO OR MORE “RESPONSES TO A SINGLE QUESTION/SITUATION, WITHIN A SPECIFIC COGNITIVE OPERATION”.

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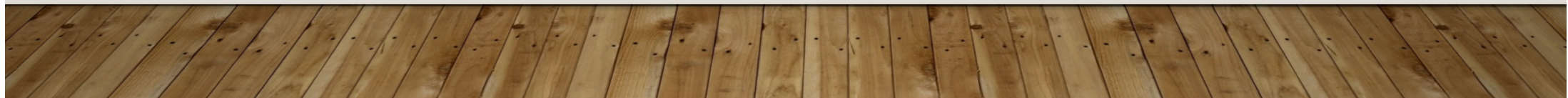
# DIVERGENT DISCOVERY

Possible Solutions	Diagram
A2 Leads in towards A1 and goes to left.	 A diagram showing a green circle labeled 'A1' on the left and a blue circle labeled 'A2' on the right. A blue arrow points from A2 towards A1. From the tip of this arrow, a second blue arrow branches off to the left, indicating a divergent path.
A2 leads in towards A1 and goes to the right	 A diagram showing a green circle labeled 'A1' on the left and a blue circle labeled 'A2' on the right. A blue arrow points from A2 towards A1. From the tip of this arrow, a second blue arrow branches off to the right, indicating a divergent path.
A2 leads in towards A1 and then straight back	 A diagram showing a green circle labeled 'A1' on the left and a blue circle labeled 'A2' in the center. A blue arrow points from A2 towards A1. A second blue arrow points from A2 straight back to the right, indicating a divergent path.
A2 leads in towards A1's right and then straight back to left	 A diagram showing a green circle labeled 'A1' on the left and a blue circle labeled 'A2' in the center. A blue arrow points from A2 towards the right side of A1. A second blue arrow points from A2 straight back to the left, indicating a divergent path.
A2 leads to A1's left and breaks back to the right	 A diagram showing a green circle labeled 'A1' on the left and a blue circle labeled 'A2' on the right. A blue arrow points from A2 towards the left side of A1. A second blue arrow points from A2 back to the right, indicating a divergent path.

# DIVERGENT DISCOVERY EPISODE

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- Participants to write their 'create space' strategies on post-it notes (and post to white board) and demonstrate what they created. (5-10 minutes).
- **Then.....**Go back to Endball game and ask 1 student (in their group of 3) to choose a 'space creating' option from the white board. Play a 3 v 3 or 4 v 4 game of Endball to see how effective the strategy is. If it is not successful (or even if it is) pick a new strategy from the whiteboard and go again.
- The **Divergent Discovery** episode can then be extended (or cycle back on itself) by asking the participants to then pick 3 from their Divergent Discovery episode and trial each 5 times to evaluate which one (**Convergent Discovery**) is the most effective/successful?





# CARDS TO SCAFFOLD DISCUSSION/THINKING

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## **Claim, Support, Question #1**

Space, Predict, Aware, Anticipate, Rapid, Plan, Sense, Strategy, Thinking, Analyse, Move, Dodge, Lead-Off, Fake, End Zone, Wing, Side Line, Centre Court, Boundary, Bounce Pass, Chest Pass, Lob Pass, Technique, Agile, Footwork, Vision, Effective, Drawing Defenders, Creating Space, Marking, Tagging, Staying Tight, Man to Man, Zone, Losing your Marker, Pass and Move, Communication, Closing Down, Over-Lap

**How can the OFFENSIVE team use Game Sense to best effect in this game?**

- 1. Make a CLAIM about the topic**
- 2. Identify SUPPORT for your claim**
- 3. Ask a QUESTION related to your claim**

# CARDS TO SCAFFOLD DISCUSSION/THINKING

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## **Claim, Support, Question #2**

Space, Predict, Aware, Anticipate, Rapid, Plan, Sense, Strategy, Thinking, Analyse, Move, Dodge, Lead-Off, Fake, End Zone, Wing, Side Line, Centre Court, Boundary, Bounce Pass, Chest Pass, Lob Pass, Technique, Agile, Footwork, Vision, Effective, Drawing Defenders, Creating Space, Marking, Tagging, Staying Tight, Man to Man, Zone, Losing your Marker, Pass and Move, Communication, Closing Down, Over-Lap

**How do you know when your DEFENSIVE game play is effective?**

- 1. Make a CLAIM about the topic**
- 2. Identify SUPPORT for your claim**
- 3. Ask a QUESTION related to your claim**

# CARDS TO SCAFFOLD DISCUSSION/THINKING

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## **Claim, Support, Question #3**

Space, Predict, Aware, Anticipate, Rapid, Plan, Sense, Strategy, Thinking, Analyse, Move, Dodge, Lead-Off, Fake, End Zone, Wing, Side Line, Centre Court, Boundary, Bounce Pass, Chest Pass, Lob Pass, Technique, Agile, Footwork, Vision, Effective, Drawing Defenders, Creating Space, Marking, Tagging, Staying Tight, Man to Man, Zone, Losing your Marker, Pass and Move, Communication, Closing Down, Over-Lap

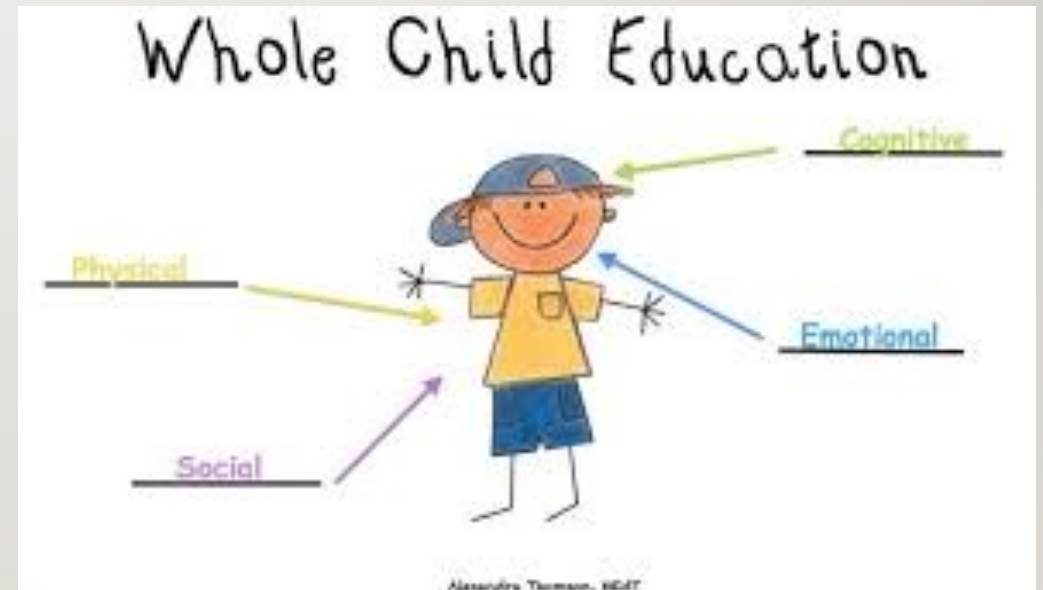
**What LEARNING will you TRANSFER to ANOTHER INVASION GAME?  
(Choose a more CHALLENGING or COMPLEX topic)**

- 1. Make a CLAIM about the topic**
- 2. Identify SUPPORT for your claim**
- 3. Ask a QUESTION related to your claim**

# WHY DO I NEED TO DO THIS?

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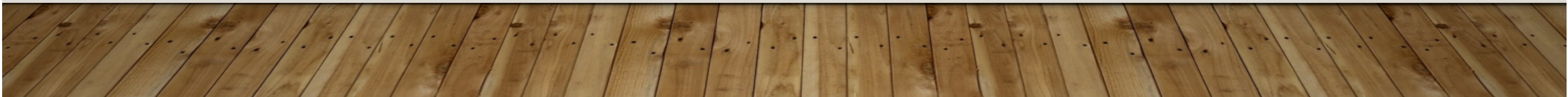
- Not developing the 'whole' person.
- Development Channels – Social, Physical, Ethical, Emotional & Cognitive
- Just developing someone through the reproduction cluster styles – using memory/recall
- ACARA document



# ACARA ELABORATIONS

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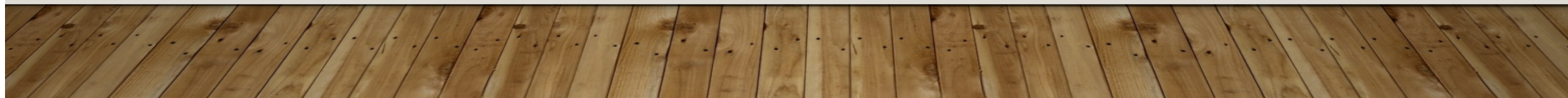
- modifying rules, equipment or scoring systems to allow all participants to enjoy and succeed (years 7/8, p. 50), Divergent Discovery
- explaining and justifying the movement concepts and strategies selected in response to movement challenges (years 7/8, p. 50), Convergent/Divergent
- designing and refining movement concepts and strategies to manipulate space and their relationship to other players in this space (year 7/8, p. 49), Divergent Discovery
- designing and performing movement sequences to create, use and defend space (year 7/8, p. 48), Divergent/Convergent Discovery
- travelling, marking and intercepting to achieve and retain possession (year 7/8, p. 48), Divergent Discovery



# ACARA ELABORATIONS

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- experimenting with the manipulation of force and speed applied to an object to examine the difference created in movement paths (years 9/10, p. 59), Divergent Discovery
- attempting different ways to solve a movement challenge and discussing which ways were successful or not (Foundation, p. 16), Divergent Discovery
- demonstrating movement concepts and strategies to create scoring opportunities (3/4, p. 30) Divergent Discovery
- developing strategies that exploit the playing space to create overlaps and extra attackers (5/6, p. 39) Divergent Discovery
- designing a sequence of passes between teammates to maintain possession or move a piece of equipment from one point to another (3/4, p. 38) (Convergent Discovery)



# ACARA ELABORATIONS

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- proposing changes to the rules and/or conditions to create a more inclusive game or to allow for a fairer Contest (3/4, p. 41) (Divergent Discovery).



**TIME FOR...**

**QUESTIONS**

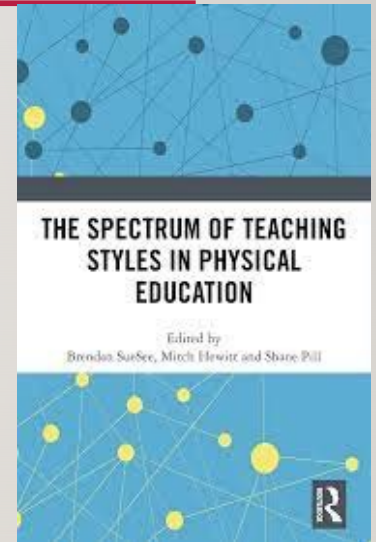
memegenerator.net



# RECOMMENDED READING:

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- Hamada, M. **Game-based learning and using visible thinking routines - asking meaningful questions**. Active and Healthy Magazine Special edition – Game Sense, 22 2/3 (2015), 7-12.
- Brendan SueSee & Shane Pill (2018) **Game-Based Teaching and Coaching as a Toolkit of Teaching Styles**, Strategies, 31:5, 21-28, DOI: [10.1080/08924562.2018.1490233](https://doi.org/10.1080/08924562.2018.1490233)
- SueSee, Brendan and Pill, Shane and Hewitt, Mitch (2020) Reconciling approaches: Mosston and Ashworth's Spectrum of Teaching Styles as a tool to examine the complexity of any teaching (or coaching) approach. In: The spectrum of teaching styles in physical education. Taylor & Francis (Routledge), London, United Kingdom, pp. 73-84.



# REFERENCES IMAGES

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- <https://memegenerator.net/instance/63307750/dwight-the-office-time-for-questions>
- <https://www.npr.org/2018/04/13/601576029/will-robinson-meet-danger-danger-will-robinson-the-lost-in-space-reboot>
- <https://krmangalam.com/blogs/the-key-attributes-for-ensuring-holistic-development-of-kids/>