

Developing Decision Making Skill

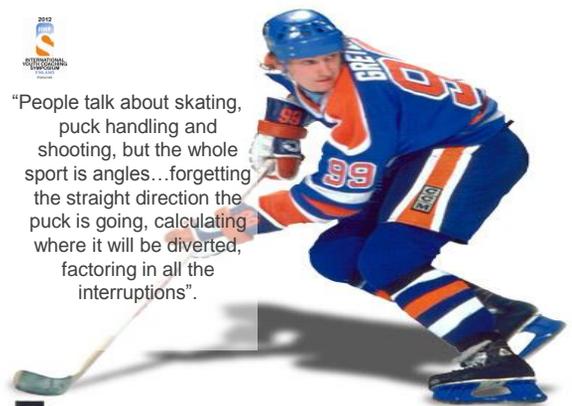
Professor Damian Farrow

Overview

- What is Decision Making?
- What qualities separate elite players from the rest?
- How can this information be applied to the coaching of decision making?
 - On Ice training
 - Off Ice training

Decision Making Skill

- The ability of a player to quickly and accurately select the correct option from a variety of alternatives that may appear before the puck is struck or an opponent moves.
 - knowing in advance, what is about to occur
 - "reading the play".
 - "the good driver in heavy traffic"



"People talk about skating, puck handling and shooting, but the whole sport is angles...forgetting the straight direction the puck is going, calculating where it will be diverted, factoring in all the interruptions".

Qualities of Skilled Decision Makers



Vision and Awareness



Skilled players don't possess superior visual function

Vision and Awareness



Skilled players do possess superior selective visual attention (measured by dual-tasking)

Skilled players often search for information more effectively



Skilled are faster and more accurate in pattern recognition of sport specific stimuli



Skilled make better choices in the right time frame



Skilled have better core skills providing enhanced decision making capacity



Core Skill Influences Response Selection Choices



When a pass option required the non-preferred side – different (less optimal) options were selected



Developmental Histories of Skilled Decision Makers

- Abundant early unstructured play/practice opportunities
- Early exposure to playing with and against adults
- Preponderance of rural and semi-rural backgrounds
- Generic pattern recall ability (hockey, basketball, netball)
- Broad exposure to a range of different sports until age 12-14

(Abernethy, Baker & Cote, 2002)

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Summary of Decision Making Qualities

- See patterns of play and their likely outcome
- Make on/off puck decisions at the right time
- Have superior selective attention – can dual task
- Visually search patterns effectively
- Usually have well developed core skills

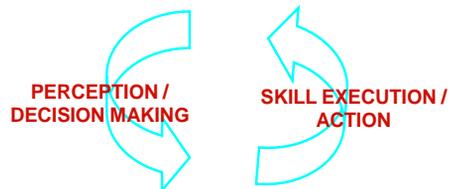
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Coaching Decision Making



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Decision and Execution Skills Need to be Integrated not Isolated



HOW?

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Game-Based Training Approaches



**Development of skill (not solely technique)
in a game environment**

Practice Specificity It's the Little Things that Bite You!



- “Transfer of practice to game conditions depends on the extent to which practice resembles the game” (Rink, 1993)
- How does this activity/drill relate to the game?

The Team Sport Training Conundrum



- To many simplified drills, often de-contextualised from the game setting
- Why?
 - Component based methodology
 - Easier to control
 - Contamination of physical effects on skill
 - Influence of conditioning staff?
 - Lack of perceived practice quality & volume
 - Player confidence
- “We play games!”

Implications of Specificity



- Consider how the skills are integrated together within a game context
 - Do you practice these links sufficiently?
- What game pressures influence a skills execution?
 - Are you exposing (overloading) player's to these pressures?
 - Highly variable environment
- More “gamelike” decision making practice activities can lead to a reduced individual skill practice volume
 - Consider your weekly practice cycle. Are the core skills getting enough volume?

Key Decision Making Constraints

- Player density
- Time available to dispose of ball
- Similarity of situation to other situations encountered
- Number of choices available
- Structured or unstructured play
- Change of attentional focus – (narrow – broad)
- Speed of play:
 - Running with the ball at speed
 - Looming defenders
 - Slow play situations
 - Stationary v moving with puck

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Manipulating Decision Making Constraints

CONSTRAINT	EXAMPLE	ACTION ENCOURAGED	LEARNED OUTCOME
Rules	3sec rule	Must move puck quickly	Faster team responses
	No voice	Visual scanning	Awareness
Field Markings	No behind goals	Direct attack	Moving puck directly through traffic
	Hourglass shape	Use of width and then angling back to mid-rink	Using width to clear defence & commence attack
Team Numbers	2 Att v 3 Def in back half	Promote 2v1 counter attack	Better connection with loose teammate
Level of Defence	Full-Active-Passive	Execution under relative time stress	

Coaching Questions / Instructions

- What are you going to do?
 - Pass, Hold, Drive at opposition
- What is the player in possession of the ball going to do?
- Where are you going to move to defend this situation?
- Where are you going to move to assist your teammate?
- Any of the above questions but manipulate the time-clock

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Game Changers: How Videogames Trained a Generation of Athletes

Chris Suellentrop Wired January 25, 2010

Making the First Three Seconds Count
College Football Deploys High-Tech Aids for QBs
Jon Weinbach The Wall Street Journal: August 2007



For Pro Athletes, Practice That's All in the Thumbs
Chris Keane for The New York Times: April 2, 2010



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Video-Based Training



Designed to train the perceptual / decision making elements of performance

Advantages

- Low-impact
- Enjoyable and appealing
- Record of results
- Coach doesn't need to be present

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Viewing Perspective Influence



(a)

(b)

Mann, Farrow, Shuttleworth & Hopwood (2009)

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Summary: Is Decision Making Trainable?



- Yes!
- Important to know what aspect of decision making is the limiting factor to a players performance (core skill, visual scanning, knowledge etc...)
- Players developmental experiences will influence their ultimate decision making capacity

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Summary: Core Training Principles



- Apply principles of strength & conditioning:
 - Volume
 - Frequency
 - Intensity
 - Overload
- Use a combination of On and Off Ice activities

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