

## Developing Decision Making Skill

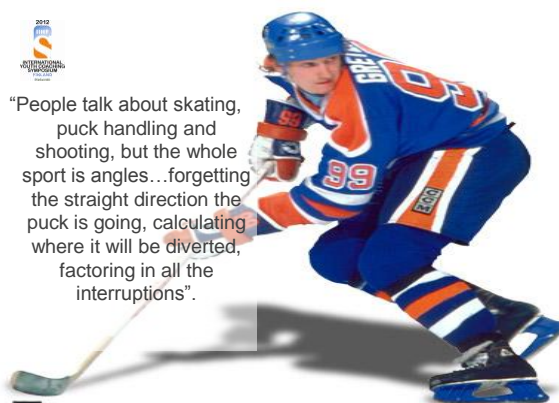
Professor Damian Farrow

## 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



© BPP 2010 | Proprietary and confidential

## Vision and Awareness



?



Skilled players don't possess superior visual function

© BPP 2010 | Proprietary and confidential

## Vision and Awareness



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

© BPP 2010 | Proprietary and confidential

## Skilled players often search for information more effectively



© BPP 2010 | Proprietary and confidential

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



© BWF 2010 | Proprietary and confidential

**Skilled make better choices in the right time frame**



© BWF 2010 | Proprietary and confidential

**Skilled have better core skills providing enhanced decision making capacity**



© BWF 2010 | Proprietary and confidential

**Core Skill Influences Response Selection Choices**

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



© BWF 2010 | Proprietary and confidential

## 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)

© IHF 2010 | Proprietary and confidential

## 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

1

© IHF 2010 | Proprietary and confidential

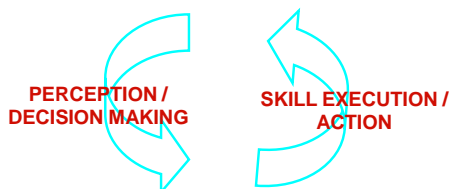
## Coaching Decision Making



1

© IHF 2010 | Proprietary and confidential

## Decision and Execution Skills Need to be Integrated not Isolated



**HOW?**

© IHF 2010 | Proprietary and confidential

## Game-Based Training Approaches



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

© IJHF 2010 | Proprietary and confidential

## 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?

© IJHF 2010 | Proprietary and confidential

## 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!"

© IJHF 2010 | Proprietary and confidential

## 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?

© IJHF 2010 | Proprietary and confidential

## 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

© BWF 2010 | Proprietary and confidential

## 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	

5

## 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 team-mate?
- Any of the above questions but manipulate the time-clock

© BWF 2010 | Proprietary and confidential

## 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



© BWF 2010 | Proprietary and confidential

## 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

© BWF 2010 | Proprietary and confidential

## Viewing Perspective Influence



(a)

(b)

Mann, Farrow, Shuttleworth & Hopwood (2009)

© BWF 2010 | Proprietary and confidential

## 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

© BWF 2010 | Proprietary and confidential

## Summary: Core Training Principles

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

© BWF 2010 | Proprietary and confidential