

# **United States of America**

## **Ice Hockey**

A Thesis Study of Space Utilization and Management in Ice Hockey

Presented by Steve Persian

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## SECTION I: INTRODUCTION

Really now...how important is it to be in the right place or right space at the right time?

In sports and in society, references are made all the time to this concept. We've all heard something similar...."Johnny is just lucky, he scores goals because he's in the right place at the right time"....or, "I sure wish I lived closer to the arena"....or, "Why isn't there a place to sharpen skates closer to the house"... and so on. In Society....."I'll take the corner office"....or, "Put the picture where people can see it". While these are simple examples, they represent a conscious and subconscious value of space. The goal of this thesis study is to review multiple facets of space utilization and management on the hockey ice surface. In order to fully appreciate the use and management of space, we will first assess in further detail how space affects and presents itself in everyday life. We will then review how space use and management contributes to sports in general terms, and then take time to review other influences that change its value and use. Once we've assessed these elements, we will complete a deeper look at various sports, including football, baseball, soccer and so on, evaluating methods of space management and utilization within these sports. At this point, we will review in more detail space use and management in ice hockey by looking at several hockey game like scenarios.

In the end, we will draw conclusions on how the use and management of space in sports, and ice hockey in particular affect performance and success. We will answer the question.....**how important is it to be in the right place or, right space at the right time?**

## **Section II: THE DEFINITION OF SPACE**

Depending on whom you ask space can be defined in many ways. According to William Shatner's Star Trek character, Captain Kirk, 'Space is the final frontier'. For the purposes on this thesis, we won't go quite that far, but let's look at how it's more commonly defined in the 21<sup>st</sup> century. According to Webster's dictionary:

**Space:** An empty area (usually bounded in some way between things); An area reserved for some particular purpose

**Management:** The act of managing something;

**Utilization:** The act of using;

Therefore, we will define 'Space Management and Utilization' as:

**“An empty area reserved for something that is being (or will be) managed or used”**

## **SECTION III: SPACE IN EVERYDAY LIFE**

### **PERSONAL SPACE**

Everyday, we have hundreds of moments that make us manage and utilize space. A good example is when we drive our car. Many decisions are made, such as what lane to be in, when to change lanes, how fast or slow we should be driving, why the 'other driver' didn't signal when he/she wanted to come into 'my space' and why the space in the parking lot at the front of Target is full. Another example is during our childhood, when our parents remind us 'not to stand too close'. As a society, there are unwritten 'rules' for personal space. If you don't believe it, test it for yourself. Go stand close to someone

you don't know and see what their personal space reaction is. Odds are the person will back up. A good space for this test is an elevator.....

## **REAL ESTATE**

One of the biggest decisions we make in our lives is where we are going to live and call home. The value of this property, or Real Estate, can be vastly different depending up a variety of factors. To assist me with understanding how the value of Real Estate is determined, I spoke with a Real Estate agent from a local Real Estate Company in the Twin Cities area. June Patrin has been an agent for approximately 20 years. She called out the following factors as having an impact, positive and negative, on the value of real estate:

- Location – How convenience to day to day activities/needs is the Real Estate
- Economics – How is the economy impacting the Real Estate market
- Supply and Demand – Availability
- Personal Interest – How badly is the particular Real Estate desired
- Uniqueness – Is this Real Estate unique and have special value

To look at an example, let's look at the prices of 2 homes of equal size, quality, age and have generally similar characteristics, both with the home and with the land they are on. Further, both of these homes are in the western suburbs of the Twin Cities area of Minneapolis and St. Paul, Minnesota.

House 1 125' of Sandy Lakeshore on Lake Minnetonka, Charming 3 bedroom home.....	Distance to downtown 15 Miles	Listing Price \$999,900
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House 2 100' of Lakeshore on Lake Byllesby, Walkout Rambler, 3 bedroom home	45 miles	\$279,000
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I certainly don't claim to be a Real Estate agent, but it would appear that the location of the homes listed above has a significant impact on pricing. Again, while this is a very simple illustration, my goal is at the very least provoke the idea that space, or location, has value. Furthermore, the value of the space has external conditions that affect its perceived and therefore real value.

**BUSINESS SPACE:**

The space that business entities occupy is very valuable, depending upon, you guessed it, primarily the same factors listed above. Assuming this is correct, I won't provide a pricing example. However, I do want to share an example of how changing conditions can have an impact on the value of space. This example, a real life example that recently occurred, involves a gas station in Long Lake, Minnesota. For the past 30 years, the gas station has experienced a continued demand for gasoline. Business has, at least from the outside, looked to be successful. The station has several components that aided with its success, including being located in a high traffic area, have reasonable accessibility and was generally well managed. At the end of August, 2005, the gas station closed its doors forever. The land has been sold and the building is being torn down. Now, there are a number of factors that may have led to this decision, so I asked the owner, a friend in

fact, what was the deciding factor? Ultimately, the decision was made because the new highway being built would take approximately 70% of the traffic that was currently going right past the gas station and now bypass the city. In his words, “the business is moving West and I won’t be able to make it”. Said differently, his location, or space, was no longer valuable for this type of business. Oddly enough, another gas station has also closed since I began to write this thesis in late June.

Ultimately, location in business matters. Obviously, certain kinds of businesses are more affected by location, but they are all affected. In order to be most successful, you need to be in the right space.

#### **SECTION IV: SPACE IN SPORTS**

As we move forward, we will begin to dig deeper into the issue of space in sports.

Ultimately, this thesis will attempt to prove that space management is a key factor in being successful. Before we review specific sports, we are going to make some general comments about several elements of space in sports. These elements include:

- Key areas where it matters and where it doesn’t
- Elements that affect the value of space
- Space and time
- Speeds effect on space management and utilization

#### **KEY AREAS WHERE IT MATTERS AND WHERE IT DOESN’T**

My assertion is that the space we occupy (or don’t occupy) always matters in sports. It has a direct affect on what we are doing, as well as what our opponent is able to do (or

may be attempting to do.) There is no time in which the control (or lack of control) of space does not affect play. That said the effects of this control can and will most certainly vary. It can range from having a direct and significant impact on results to having virtually no effect at all.

Another key factor to consider regarding where it matters and where it doesn't are the rules that govern a game. Many rules are put into effect to control space. A simple example within hockey is the rule about off-sides. This hockey rule clearly says that you can't be in a certain space before the puck is. Not only would this dramatically affect how the game is played, but it would also change the skill requirements as well as other aspects. All that said, let me repeat my initial phrase. The space we occupy or don't occupy always matters.

## **ELEMENTS THAT AFFECT THE VALUE OF SPACE**

Now that we've determined that space everywhere matters to some degree, what are some of the elements that affect the value of space in sports? Similar to the real estate and business examples provided earlier, there are elements that affect the overall value of space. Some of those elements may include:

1. Skill level – a player or team's respective skills will affect the value of the space they occupy. For example, a player of strong skill may be more likely to control more space due to his/her skills. Other players and coaches may 'give them more space'. I know I've done this on occasion.

2. Game conditions – the current conditions of a game can have an effect on value. This may include the score of a game, the quality of the field/surface being played on, weather conditions and so forth. All of these can have an effect on what space is most coveted.
3. Time – how much or little time is left may have an affect on space value. As an example, in a closely contested game, strategies may be altered to control precise space, making it more difficult for the opponent.

In most situations, these factors, along with others, work together to impact the value of space.

## **SPACE AND TIME**

While this was mentioned above, the issue of time needs to be further explored. Time matters. When you arrive, how long you stay and when you leave are all important factors with respect to space in sports. The time you occupy space will have a direct impact, large or small, on the results of the subsequent events to follow. With hockey, for example, imagine the puck being along the boards. Two players from each team are trying to gain control. The puck comes out and two players from the same team continue along the boards, while the opposing two players move quickly with the puck. The effect could be significant. Arguably, a five on three scenario has been created, for at least a short period of time, because the time of occupying the space, in relation to its value, has changed. My point here is simple. Since the value of space changes, the time you spend in a specific space must be ‘timed’ appropriately.

## **SPEED'S AFFECT ON SPACE MANAGEMENT AND UTILIZATION**

Speed in almost every sport matters. Many individual sports assess speed as a measurement for success. The fastest competitor is deemed the winner in a lot of sports. He or she who finishes first....gets to the finish line...controls the space first....wins. In team sports, speed may also be factor for success, and it may also affect space. Furthermore, faster teams will most likely develop strategies to support this skill factor, while slower teams may adopt other styles or strategies. A good example is football. Teams that have players, such as receivers or backs, often leverage that within their offensive plans. Down field passes, quick hitting runs or outside plays will most likely be considered as the playbook is developed, all to leverage the skills of the players and control space that's valuable in a football game. In sports, and in hockey, speed primarily solves or covers up problems....take advantage of your speed.

## **SECTION IV: SPACE IN SPORTS**

After taking a look at some of the factors that affect space in sports, we are ready to look briefly into several sports, other than hockey, where the management of space seems to play a role in the success of a team.

For the purposes of an evaluation into other sports, I researched several text books dedicated to these individual sports. While we may agree or disagree with the author on strategy, the message throughout each review is very clear. The management of space is critical and needs to be considered.

## **SOCCER**

In reviewing soccer, I was drawn to two books. “*Soccer Fundamentals, A better way to learn the basics*”, was written by Danny Mielke. The other book was titled, “*New Soccer Techniques, Tactics and Team Work*”, written by Gerhard Bauer. In numerous situations, Mr. Mielke addressed the need to move to space or control space. In chapter 5, dedicated to Executing the Throw-In, Mr. Mielke offers this point of view:

***By the time a player throwing in the ball is ready, a second field player should be ready to make a move. (p. 41)***

Clearly, this is a demonstration of how the movement to space prior to the pass is important. It also demonstrates the need to control the space and get there quicker and sooner. Later in the book, Mr. Mielke addresses the issue of moving against your opponents. On page 79, Mr. Mielke writes:

***Soccer involves constant movement. Even when you don't have the ball, you likely will need to move to an open space, evade a defender or mark another player. Perhaps the most important movement you will make is that of moving with the ball while an opponent is guarding you. The main ingredient of success in this situation is to shield the ball from an opponent's charge or elude their charge by faking, also known as feinting.***

Furthermore, Mr. Mielke addresses the concept best when he writes,

***When you make the decision to move against an opponent, you may want to consider the following three elements. First, where are you on the field? Don't play around with the ball near your own goal. Second, where are your teammates? A decision to pass or try to carry the dribble depends on the availability of your teammates. Third, where are your opponents? If several opponents are close, would it be a good idea to shield the ball, feint, or kick the ball out of bounds? The decision depends on the situation. (p. 84)***

Within Mr. Bauer's book, he makes many references to time and space. Within the Team Tactics section, Mr. Bauer speaks about the *(Manipulation of Space)*, and *(Playing for Time, p. 91)*. Later in the section, Mr. Bauer explains the advantages of covering space (chart on P. 94, referenced on p. 107), including:

- *Economical movement, saves energy*
- *Same starting position for all players for own offensive action*
- *Method gives better mutual support than one-on-one coverage*
- *Consequently, better chance for wall or double pass*

## **LACROSSE**

LaCrosse, often referred to as hockey on grass because of its similarity to hockey, also aims to control and manage space. In reviewing LaCrosse, I utilized a book published by and titled "*Coaching Youth LaCrosse*" (American Sports Education Program, second edition)." Within the publication, there are a number of references to space that I would like to highlight. The first is on p. 129. Within this section, emphasis is being placed onto team tactics, specifically moving to get the ball. The book goes on to explain that

*....often a player cuts for the ball and runs out of space on the field or gets too close to the ball carrier. You must teach players how to make space for themselves or their teammates. Making space refers to the act of clearing an area for another player to cut into to receive a pass...*

On p. 132, there is a section titled '*Spreading the Field*' that spends additional time on space. A great example of how space and the control of space play a key role in LaCrosse can be summed up with the following excerpt,

*All team games that use a ball make using space properly a challenge. Offensive players must keep reasonable distances between each other and the ball to create space for teammates to pass into, run through, and move the ball efficiently in. When attackers bunch up, the defenders are brought too close together, which makes it easy for them to defend....*

Substitute the word 'puck' for 'ball in the above excerpt and see what happen. Lastly, I'd like to highlight an offensive concept called "dodging" presented on page 229. For these purposes, dodging is best described as "*when the ball carrier moves to cleared space to take a shot or make a pass to an open player*". At the core of this concept is the use of 'cleared' or open space. Without this cleared space, this offensive strategy does not work.

## **BASKETBALL**

In assessing the use of space management within the sport of basketball, I reviewed a book titled, "*Coaching Basketball Successfully*" (second edition), written by Morgan Wootten. Let me first say that, while this was not my favorite sport to review and research, this book was my favorite book to review. While the book had a primary focus on tactical execution of strategies, both offensive and defensive, the beginning of the book spoke to coaching in general. Two things stood out to me that I will share this upcoming hockey season. The first was on p. 17, which were the ten commandments of sports for parents. I won't recite all of them, just two:

***Number 4: Teach him to enjoy the thrill of competition. Don't say winning doesn't count, because it does.***

***Number 5: And hear this parents: Try not to relive your athletic life through your child in a way that creates pressure. Don't pressure him because of your pride.***

The other main coaching point I liked was a poem about "Players as Models". This is located on p. 39. The spirit of the poem is that you set an example to younger players, so set one you will be proud of. This is a great message that I will certainly share with my players.

As for space management, it was my impression that each and every offensive and defensive strategy that Coach Wootten worked from was built upon controlling space. Since his main offensive weapon was the fast break, this certainly supports the notion that getting to and controlling open space quicker than your opponent will make you successful. Another key strategy, the 'Five Game Motion' offense (starting on p. 102), lives on the concept of moving players to open space to gain advantage and scoring chances. Also, the 'Drift' offense (p. 110) is built on space management as well. In fact, Mr. Wootten summarizes the Drift offense with the following,

***I call our basic zone offense 'Drift', because it's designed to get the players to drift into the open spaces and seams in the zone they are playing against.***

From a defensive standpoint, Coach Wootten focused on a pressure defense. This also clearly demonstrates that controlling space is very important. Whether the defense is a man to man, blitz trap, blitz switch or full court press (p. 156-169), each are examples from Coach Wootten that space control is critical to success. While there are different

pressure points, the goal of each scheme is the same. Stop the other team by attacking them in the space where the ball resides.

## **HOCKEY**

I often tell the teams I coach that offense starts in the defensive zone and defense starts in the offensive zone. What is inherent in this statement is that being in control of the right space allows you to transition the most quickly, be the most effective and be at the biggest advantage for success. Similar to the sports we just reviewed, space management in hockey is equally important in both the offensive and defensive strategies of the game.

Please note I purposely did not review any books on hockey. I wanted to utilize the other sports I researched, along with my own personal opinion, to support my thesis. Let's take a closer look at several common scenarios that exist in the game of hockey. Through these, I will clearly demonstrate that the control and management of space and the time it affords players are significantly important.

Lastly, before we proceed, I want to set some ground rules. Being on offense assumes control of the puck, while being on defense assumes the other team has possession. Here we go!

### **The 3-on-2 Conventional:**

When the 3-2 break takes place, the offensive team is vying to best access open space, attempting to read the defense and capitalize on outnumbering their opponent. Since

defensive players are generally directed to control the middle of the ice, most offensive strategies emphasize one offensive player driving to the net, while the other will drop back. This is a perfect example of where both teams are assessing the best space to be in to either maximize (or minimize) the scoring opportunity. Much of the value of the space that is being controlled must be measured as the play unfolds.

### **The 3-on-2 Pick and Roll:**

Please bear with me and my terminology. This was a concept taught at the symposium that clearly demonstrates the value of controlling and managing space. Using the example above, let's play out this scenario. The puck carrier has the puck wide. Once he/she carries the puck across the blue line, he/she breaks to the middle of the ice, behind a player that has attacked the 'onside' defender. The offensive player attacking the defender turns his back onto the defensive player and then 'rolls' through the middle of the defensive players. Either he/she is open or the original puck carrier has a clear path to a scoring chance. This assumes that the other offensive player has driven to the net as well. This is a bit similar to the LaCrosse example noted above in which a player clears space.

### **The Seam breakout:**

Most likely, this is my terminology for a common breakout. Here's what I mean. The defenseman breaking out the puck passes the puck up to a winger on the half boards waiting for a breakout pass. The off-side winger (or the center) breaks up the ice in-between the '*Seam*' of the opposing defenseman who are positioned on the blue line.

The breakout demonstrates that quick control of the seam will give the offensive player a space advantage, contingent upon accurate passing. In fact, it also opens up the puck side boards, if the onside opposing defenseman cuts to the middle.

### **The 1-2-2 Offensive Zone formation:**

Interestingly enough, many folks refer to this as an offensively ‘fore-check’ method, but it’s really a defensive strategy that begins in the offensive zone. The strategy is simple. Four players are never lower than the top of the offensive zone face off circles unless there is clear puck possession. Teams that utilize this approach are placing higher value on controlling space in the neutral and defensive zones by limiting their commitment to offensive space. What’s interesting is that offensive opportunities often arise due to confusion on the part of the opponent to deal with this strategy. In fact, as a side note, I coached a Pee wee A team two years ago that ran this in the 3<sup>rd</sup> period of a tournament championship game against the 3<sup>rd</sup> ranked team in the state (at the time). We outscored the 2-0 in the period and out shot them 14-2. They had no idea how to overcome this configuration. Ok, ok. No more boasting.

### **Running Down Low in the Offensive Zone**

This is my most favorite example of the value of controlling and managing space.

‘*Running Down Low*’ is an offensive zone strategy that is nothing more than placing a player in a position, where your opponent is least likely to venture when the puck isn’t there....behind the net. Most defensive zone coverage systems don’t routinely place a player behind the net because it’s generally not a perceived risk. The perceived risk for

goal scoring is in front. My viewpoint is slightly different. In viewing the use of space in ice hockey, I firmly believe that the space behind the goal line is extremely valuable and the management, use and proficiency of this space will lead to successful offensive play. I've used this at every level I've coached with outstanding success. In squirts, for example, I coached the off side winger to go behind the net and station himself on the puck side goalpost. Yes, literally stand there. The onside winger with the puck was instructed to simply throw the puck around the boards when they were fighting for possession. Keep it simple. Minimal thinking involved. Just throw it behind the net. The center remained high in the slot to act as the primary 'front of net' shooter, as well as the 1<sup>st</sup> player back if the puck started heading out of the zone. This offensive set up produced a great deal of goals that were initiated from behind the net. The player behind the net was invariably left wide open to find the best pass or bring the puck out from behind the net. Defensive players were reluctant to leave the front of the net, mostly, I assume, because they were constantly told to stay in front. The offense we set up opened up the player by simply managing space that was uncomfortable for a defender to venture into. And, when the other team decided to actively cover the player behind the net, this was an even better situation. We would then coach our onside winger and center to manage the puck, since the front of the net was now wide open. We also utilized this system very effectively in Pee wee's. However, we added the element of movement. We either moved to open space closer to the puck or further from the puck depending on the opponent's coverage, however, all behind the goal line. As I am coaching the Bantam A

team this season, it will be interesting to incorporate this system into our schemes and measure its success.

## **SECTION VI: CONCLUSION**

At the beginning of my thesis, I posed the question,

**“How important is it to be in the right place or, right space at the right time?”**

In completing my research in both the sports world as well as other areas of life, it is very apparent that the value of space, and the management of space, it is vital component of success.

My conclusion is that the individual and team that best manages space will have a noticeable advantage. Specific to the game of hockey, in situations where the level of skill is reasonably close, the team that best manages and utilized areas of the ice most effectively will win more often. I will further state that the best players to play the game of hockey are often times not the most skilled, they simply have two traits that set them apart. First, they know where to be. Second, they know when to be there. And, quite often, their ability will extend to their teammates and make them more successful as well. I'm sure a player or two come to mind....

Thank you for the opportunity to research this topic. I've gained a better understanding of space use and management, as well as other principles of sports leadership.

## SECTION VII: REFERENCES

**Soccer Fundamentals, A better way to learn basics**, author Danny Mielke, published by Human Kinetics Publishers, Inc, Copyright 2003.

- Referenced pages are noted within text of document

**New Soccer Techniques, Tactics & Teamwork**, author Gerhard Bauer (introduction by Franz Beckenbauer), published by Sterling Publishing Co, Inc, Copyright 2002

- Referenced pages are noted within text of document

**Coaching Youth LaCrosse, American Sports Education Program (second edition)**, published by Human Kinetics Publishers, Inc, Copyright 2003, 1997.

- Referenced pages are noted within text of document

**Coaching Basketball Successfully (second edition)**, author Morgan Wooten (with David Gilbert), published by Human Kinetics Publishers, Inc, Copyright 2003, 1992.

- Referenced pages are noted within text of document

Minneapolis StarTribune Newspaper – October 30<sup>th</sup>, 2005

- Home section

June Patrin, Realtor, Edina Realty, Minnesota

Webster's Dictionary, On-line version