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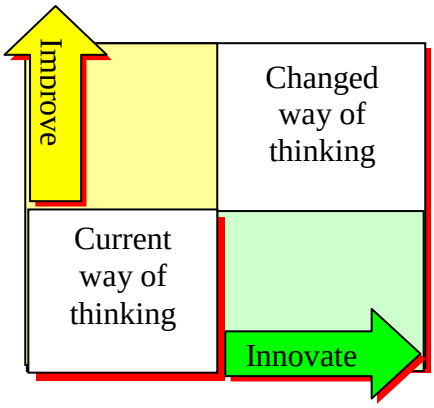
Shot Charts

I have always believed in Einstein's definition of insanity. People who think they can get different results doing the same thing. In order to change and grow you need too change the way you think. You can either innovate or improve in the way you think and do things. When we innovate we grow horizontally. We expand our knowledge into areas we have never tried before. People with a fixed mindset have a hard time with this type of growth. Clive Woodward in his book titled Wining! calls it "inherited thinking". People so steeped in tradition that they refuse to see things differently. He calls it the biggest curse to innovations in any organization. You will hear the phrases; "but this is the way we have always done it." "We have never done that before."

When you improve at something you grow vertically. By paying attention to the details you drill down and eliminate mistakes and become more efficient. In order to improve you need to measure and evaluate. Too often people assume that what they are doing is working fine.



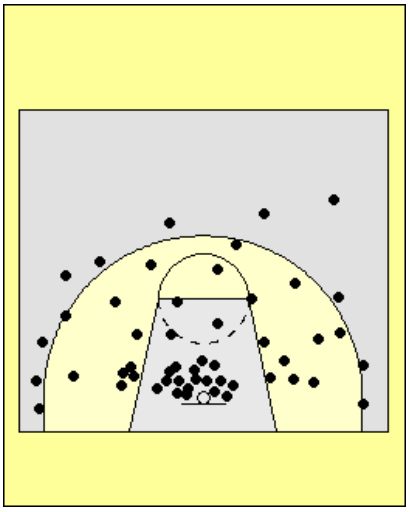
You cannot use just one method to grow. If you only improve eventually new innovations will prove your way of doing things obsolete. The people who built type writers constantly improved. Try buying one in a store today. The personal computer made them obsolete. Apply this concept to basketball. Coaches who taught the two handed set shot refined it too an art. Eventually the innovation of the one handed shot replaced it.

If you only innovate you may never master anything. You end up constantly chasing new idea. You also have to be careful that you are just trying to catch up to someone else who has already mastered the innovation. The dribble drive is the latest in a long list of innovative offenses.

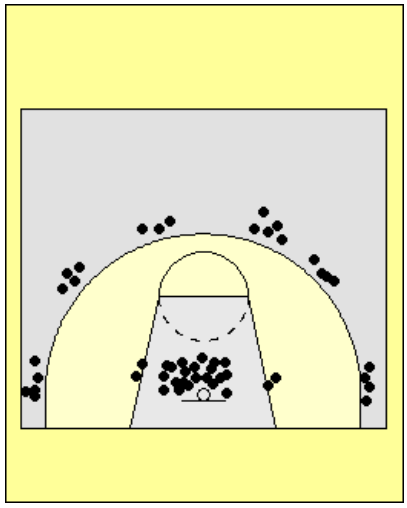
This summer I spent the majority of my time studying shooting percentages. I was looking for innovations and ways to improve. It has been a consistent weakness across genders and levels within our national programming. I have also seen this at our U15 and U17 championships. In order to measure what was happening I looked at shot charts of all levels of competition. I also looked at some from the senior men's teams at the tournament I saw in London. If no shots

charts were provided I did my own. I did not want mirages to occur. I wanted to see what was actually happening. My findings are by no means validated as the gospel on shot charts. I want to just share some observations and to start you thinking.

Look at the two shot charts. What do you notice of a positive and negative nature?
These are only of the attempted shots, not the makes.



This was the typical shot chart that I have seen from teams that shoot a low percentage. The majority of the shot are still at the rim. Look at the number of shots between the three point line and the key. Many of these are forced shots late in the clock. The bunch just outside the block are often bad angle lay ups or forced fall always in the post. Also notice the sheer randomness of the shots Some people at first glance think this is a better shot chart because it would be tougher to scout. The problem is the team has no idea where the shots are coming from also.



This was the shot chart of a typical team that shot a higher percentage. The majority of the shots where still at the basket. The clusters outside the three point line were usually players who were good at shooting these shot from their spots. The lack of in between shots is also by design. I know we want players to develop the in between game, but every high level coach I asked this summer; what kind of shot will you give up, said the same thing, the contested shot off the dribble.

Possession analysis

At the Canada Games I often kept a possession analysis of the teams I was watching. I found it very interesting to see what types of shots teams were getting at the various phases of the offense. It also told me what type of shots their defence was vulnerable too.

My chart looked like this:

Possession # O/D	**Phase FB/T/M/L**	**Action**	**Result**

Here is an example of an offensive possession.

Possession # O/D	**Phase FB/T/M/L**	**Action**	**Result**
#3 O		**UCLA – H/L (p)**	**2 + F**

This was the third offensive possession of the game. They ran a fastbreak, looked for transition,

but went into a UCLA cut; hit the high post who hit the low post ducking into the front of the rim. The basket counted and he was fouled. The (p) meant that it was a shot I think the player and team had practiced. This system works for me. It allowed me see what teams were doing in each phase of the clock.

If the team walked the ball up the floor the phases would look like this: **FB/T/M/L**
Teams that were being pressed often had a phase that looked like this: **FB/T/M/L** They never got set up and ended up with a shot late in the clock.

Often the action was PE (post entry) PP (penetration principle) or PR (pick and roll) if they created the 5 on 4, I noted this action. If something stalled it the 5 on 4 kept track. For example a team may not be reversing the ball once it initiates it offence.

If I used an (NP) it meant a non practiced shot. This was usually a shot vs. two defenders, off balance fall ways, at a speed or angle that the player was not used too, out of his/her range, or shooting a shot not normally taken during that phase. Teams that had poor shooting percentages often had numerous (NP)'s late or early in the shot clock.

The results could be a score, a foul or a turnover. If the ball changed hands I wanted to know if it was a violation or a turnover. If time permitted I included a player number. Without a spotter sometimes this is not possible.

Here is an example of a defensive possession.

Possession # O/D	**Phase FB/T/M/L**	**Action**	**Result**
#5 D		**MM –SPR**	**CS - R**

This was the fifth defensive possession. The team did not have an advantage situation. They did get caught in transition as not everyone got back in position before the offensive had an opportunity to score. They played straight man to man defence (MM) and forced the offence into the late clock. They ran a side pick and roll (SPR) and we contested the shot (CS) and secured the rebound (R).

Ideally we would like to see every defensive possession with no FB /T. This means that they had to attack five on five for the entire possession. This allowed me to see how and when teams were scoring against the defence. If I could I would also put in what defensive technique was being used. So on the side pick if the defence switched I would put down (SW).

Keeping stats like this is not easy to do live, but it does give you an accurate account of what is happening. You can do it after game while watching the DVD of the game. I have no results as yet as I want to spend some more time analyzing more games.