Reactionary Time
or
How fast does my shot need to be to score goals?

There are many factors which attribute to goal scoring. One of the main ones is the shot speed a player can shoot the puck. The faster the shot speed, the better chance the shooter will score. But how fast is fast enough? To better understand this we need to look at the reactionary time of goalies at each level of hockey.

From general reactionary studies conducted by others and collecting actual reactionary time of hockey goalies, it has been determined collegiate goalies have reactionary time in the range of 212 to 232 milli seconds. Based on this, to consistently score, collegiate players need to be able to beat a goalie on average with a reactionary time of 222 milli seconds, thus a shot speed of 68 MPH when shooting 22' directly in front of the net. This is shown in chart below (**68** bolded in red).

The chart shows the suggested training distance for shooters highlighted in yellow, and the shot speed needed to beat goalies in their division. This shot speed is what we refer to as the players "Working" shot speed here at SuperShooter2. Working shot speed is the speed (velocity) the player can shoot the puck at the SuperShooter2 and hit each of the four corner chutes in a row AND receive the puck.

It takes considerable practice to be able to shoot and hit the chutes at the defined speeds and distances. Typically players start 2-4 feet closer than the distance highlighted, and at roughly 70% of their maximum hockey shot speed to develop their accuracy and ability to receive the returned puck. The goal is always train at a minimum of 75% accuracy. As accuracy hits 75%, start shooting harder, then move back two feet as that speed is mastered.

Age	8	9	10	11,12	13,14	15,16	16,17	18,19,20,21		
Division	Mite	Squirt	Squirt	Pee Wee	Bantam	Midget	Midget	Collegiate	Pro	Pro
Reactionary Time	0.484	0.395	0.349	0.313	0.283	0.259	0.238	0.221	0.205	0.192
Distance	**Velocity (MPH)**									
D= 89' (Red Line)	125	154	174	194	214	235	255	275	295	316
D = 64' (Blue Line)	90	111	125	140	154	169	183	198	212	227
D= 50'	70	86	98	109	120	132	143	155	166	177
D = 35' (Top of Circles)	49	60	68	76	84	92	100	108	116	124
D = 29.5'	42	51	58	64	71	78	84	91	98	105
D = 22' (Top hash mark)	31	38	43	48	53	58	63	68	73	78
D = 20' (Center of Circles)	28	35	39	44	48	53	57	62	66	71
D = 18'	25	31	35	39	43	47	52	56	60	64
D = 16'	23	28	31	35	39	42	46	49	53	57
D = 14'	20	24	27	31	34	37	40	43	46	50
D = 12'	17	21	23	26	29	32	34	37	40	43

Typically it takes players 5-10, 200 shot training sessions to get a good feel of the SuperShooter2 and have the ability to hit the corners **and** receive the puck back. During these initial training sessions, adjust distance 2-3 feet and find what distance is comfortable for you. Remember, at first you want to be shooting 70 percent of your maximum shot speed so your accuracy is high and you will have the ability to receive the returned puck.

Oh, note the speed required for collegiate players to score direct from the blue line – a whopping 198 MPH! This speeds basically is not obtainable, thus only deflected, or screen shots score at this distances. More on this in a later session.

Have fun training! Coach John

https://www.researchgate.net/publication/222249544_AgeRelated_Differences_in_the_Preparatory_Processes_of_Motor_Programming