Siller Drill Complexity Tool

A Hockey Coaching Tool from Greg Siller of Pro Learning Systems

One factor that most amateur coaches do not take into consideration when utilizing drills is the concept of *drill complexity*. Why is this important? Drill complexity is a measure of how physically and mentally intense, demanding, and challenging a particular drill is; and where in the practice that drill is executed. This intensity is a taxing factor on a player's ability to learn, process the drill information, execute the drill, and retain the information being taught and performed. Drill complexity is a factor that advanced coaches should be aware of as it affects the flow of a practice and the players' ability to actively engage in the drill as well as the rest of the practice.

Although there is no simple formula that provides drill complexity information, I have evaluated several drill attributes that affect their overall complexity and have created a tool that gives coaches a good approximation of this complexity, and, when planning your practices, and at what point during the practice to employ a particular drill.

Drills that measure low on the complexity scale are drills that are familiar or should not be difficult for the players to learn. These drills can be used anytime during the practice and have a complexity level of 1 associated with them. Drills that measure high on the complexity scale are new or highly modified drills, or are drills that require a lot of mental and physical processing to execute, due to their flow or player involvement. These complex drills (complexity level 3) should be introduced early in the practice as players have the most physical and mental energy available for new learning. Drills that are of medium complexity, fall in the middle of these two extremes and can be used during the early or middle portion of the practice. These drills have a complexity level of 2 associated with them.

Attributes to consider when determining drill complexity in your practice plan include the following;

1. ***Drill Type*** – Is this a new drill (most complex, level 3), an existing drill that you have used with your team already (least complex, level 1), or a modified existing drill (medium complexity, level 2)?
2. ***Player Movement*** – Do players skate and execute the drill on the full rink (most complex, level 3), half-rink or specific area of the rink (medium complexity, level 2), or are they stationary (least complex, level 1)?
3. ***Maximum Pace of the drill*** – Is the drill performed as a fast paced drill (most complex, level 3), moderate paced drill (medium complexity, level 2), or slow/stationary drill (least complex, level 1)?
4. ***Drill Rest Interval for each player*** – Drill Rest Interval is the interval of time a player may be idle before executing the drill again. For example, if a drill is executed for 30 seconds and the player rests for 30 seconds before executing the drill again, then the Rest Interval is 1:1. Is the rest interval 1:1 or less (most complex, level 3), between 1:2 and 1:4 (medium complexity, level 2), or greater than 1:4 (least complex, level 1)?
5. ***Total Time of Drill*** – The complexity level for a drill increases with time. Are you spending 4 or more minutes on the drill (most complex, level 3), 2-to-4 minutes on the drill (medium complexity, level 2), or 1-to-2 minutes on the drill (least complex, level 1)?
6. ***Point in Practice when drill is executed*** - Are you executing the drill late in the practice (most complex, level 3), middle of practice (medium complexity, level 2), or early in practice (least complex, level 1)?

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7. ***Previous Drill Complexity*** – Was the previously executed drill highly complex (level 3), medium complexity (level 2), low complexity or this is the first drill of the practice (level 1)?
8. ***Simultaneous Participants*** – Does the drill have 6 or more simultaneous participants including the goaltender (most complex, level 3), 2-to-5 simultaneous participants (medium complexity, level 2), or individual participation (least complex, level 1)?

For the example below, we are planning to execute a new *Give-and-Go* drill, moderately paced, with half-rink positioning, involving individual execution, during the middle of a practice. The corresponding complexity of this drill is medium (level 2) and is recommended for execution either during the beginning or middle portion of the practice.

Drill Name: Give-and-Go Using The Boards		
Drill Attributes	**Description**	**Attribute Complexity**
Drill Type	New = Level 3 Modified = Level 2 Existing = Level 1	3
Movement	Full Rink = Level 3 Half Rink = Level 2 Stationary = Level 1	2
Max. Pace	Fast = Level 3 Moderate = Level 2 Slow/Stationary = Level 1	2
Drill Rest Interval for each player	Rest interval 1:1 or less = Level 3 Between 1:2 and 1:4 = Level 2 Greater than 1:4 = Level 1	2
Total Time of Drill	4+ minutes = Level 3 2-4 minutes = Level 2 1-2 minutes = Level 1	2
Point in Practice	Late = Level 3 Middle = Level 2 Early = Level 1	2
Previous Drill Complexity	High = Level 3 Medium = Level 2 Low = Level 1	1
Simultaneous Participants (including goaltenders)	6 or more = Level 3 2 to 5 = Level 2 Individual = Level 1	1
Total Attribute Points	**Add the values from each Of the 8 Drill Attributes**	**15**
Drill Complexity	Low Complexity = 8-12 Med. Complexity = 13-18 High Complexity = 19-24	**Medium**

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Drill Name:		
Drill Attributes	**Description**	**Attribute Complexity**
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Movement	Full Rink = Level 3 Half Rink = Level 2 Stationary = Level 1	
Max. Pace	Fast = Level 3 Moderate = Level 2 Slow/Stationary = Level 1	
Drill Rest Interval for each player	Rest interval 1:1 or less = Level 3 Between 1:2 and 1:4 = Level 2 Greater than 1:4 = Level 1	
Total Time of Drill	4+ minutes = Level 3 2-4 minutes = Level 2 1-2 minutes = Level 1	
Point in Practice	Late = Level 3 Middle = Level 2 Early = Level 1	
Previous Drill Complexity	High = Level 3 Medium = Level 2 Low = Level 1	
Simultaneous Participants (including goaltenders)	6 or more = Level 3 2 to 5 = Level 2 Individual = Level 1	
Total Attribute Points	**Add the values from each Of the 8 Drill Attributes**	
Drill Complexity	Low Complexity = 8-12 Med. Complexity = 13-18 High Complexity = 19-24	

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