Think You Know Basketball Analytics? Meet This Harvard Math Grad
By Steven Goff, Washington Post   11/09/2017

WASHINGTON, D.C. — Patrick Steeves' mind is a little different from the rest of ours. The George Washington University (GWU) graduate student often watches basketball not as sport, but as an analytical and mathematical problem. He sees the games as a series of expected returns and probabilities. Steeves attended Harvard as an undergraduate and played for their basketball team, the Crimson. As an example of how his mind works, he recalled watching a Crimson teammate bolt to the basket for an open layup. The team's best 3-point shooter, however, stood alone some ways back behind him.

Take the easy 2 points or pass the ball?

"Pass it," Steeves thought to himself.

The player passed.

"Everyone was yelling, 'What are you doing? Take the layup!'" Steeves recalled.

"Our best 3-point shooter wide open in the corner has a better than a two-thirds chance of making that shot. It's a different way of seeing things," he said, "that you wouldn't necessarily pick up just playing basketball.

"The math definitely helps."

The open shooter made the shot, by the way.

Impressive Numbers — In Many Areas

Steeves has his own numbers worthy of consideration:
      Six, as in six seasons of college basketball.
      3.75, his grade-point average while earning a Harvard degree in applied mathematics and economics.
      Three, the number of Ivy League seasons he missed with injuries.
      Two, the years of additional playing eligibility granted by the National Collegiate Athletic Association (NCAA).

Instead of entering the workforce after graduating from Harvard, Steeves decided to pursue a master's degree in business analytics at GWU. At the same time, he opted to continue playing basketball, this time for the GWU Colonials.

As a starting player in 10 Colonials games, the 6-foot-8 Canadian forward averaged 6.6 points and 2.9 rebounds per game during the 2016-2017 season. He is expected to play a greater role this season, as the squad is now quite young.

The team has nine newcomers and only one returning regular with more than two years of experience.

Strong Voice For New Guys On Team
"I've seen enough things to communicate and have a strong voice for some of the new guys on the team," said Steeve, who will turn 23 in January.

The Colonials, who were 20-15 and finished sixth in the Atlantic 10 in 2016-2017, were picked for 11th place in the 14-team preseason poll last month. They will open the campaign Friday at home against Howard.

When not playing ball this fall, Steeves is handling three high-level graduate courses: optimization methods, stochastic foundations and sports analytics. He is also conducting an independent study on how machines interact with human language.

Goal To Work In Artificial Intelligence
His long-term goal is to work in artificial intelligence in perhaps Silicon Valley, New York or Montreal, Canada, his hometown.

Over the summer, Steeves interned at the Boston branch of Analysis Group, an economic, financial and strategic consulting firm. A year earlier, he had turned down a full-time job offer from that company in order to continue his education and basketball. He also passed up work in investment banking in Manhattan.

The thought of staying in school didn't strike him until his senior-year basketball season was ending. Ivy League schools do not allow graduate students to play, so if he wanted to stay with basketball, he would have to enroll elsewhere.

"Why not?" he said. "It was always my dream to play Division I basketball, and I thought it had been crushed at Harvard. It would've been a waste not to use those extra years."

At Harvard, Steeves sat out his freshman year with a stress fracture in his left foot. About a week before the first game of sophomore season, he tore a ligament in his right knee. Complications and additional surgeries kept him from playing at all during his junior year.

Until preseason of his senior year, he doubted he would ever play. But the knee began to heal, and he was able to play 26 games and average 9.1 points, 3.8 rebounds and 2.4 assists while shooting 46 percent on 3-pointers.

Colonials coach Maurice Joseph has known Steeves for many years, as both are from Montreal.
"When he finally got a chance to play, I was ecstatic for him, but I thought that would be it," Joseph said.

"I thought he would cash in his chips, go on with his Harvard degree and take over the world."

GWU met Steeves' academic and athletic needs. And the Colonials acquired a player with experience, despite the injuries that had kept him on the bench so much of the time.

"He's a high-IQ guy," Joseph said of Steeves. "Some book-smart students are not as savvy on the court and some students who have trouble in the classroom are savants on the court. With Pat, he's an intelligent student, but he also has a good feel for the game."

RACE response: What are the central ideas of the article? Use at least two details from the article to support your response. To elaborate, explain, and extend: write several sentences in which you link information given in the article to your own observations and experience.

Close Reading: Interaction with Article/Annotation	
Points	**Criteria**
5-4	Insightful and thoughtful interaction with the article (questions, inferences, comments, connections, reflections). **At least 1 *thoughtful* annotation per paragraph/segment.**
3-2	Moderate insight and interaction with article (questions, inferences, connections, comments, reflections). **Fewer than 1 annotation per paragraph/segment.**
1-0	Minimal or no insight and interaction with article. **Fewer than 3 annotations.**
R.A.C.E. Response	
Points	**Criteria**
5-4	Student writes a detailed response restating the question, including the title of the article and author, textual evidence from the article, explains/extends/elaborates on the evidence, using transitions and a closing sentence. **Appropriate amount of borrowed vs. original material**
3-2	Student writes a response which may lack a restatement of question, the title of article and author, textual evidence, explanation of evidence, transitional words, and a closing sentence. **Too much borrowed vs. original material.**
1-0	Student writes a few sentences but no cohesive, well-organized paragraph. May lack a restatement of question, the title of article and author, textual evidence, explanation of evidence, transitional words, and a closing sentence. **More than half borrowed vs. original material.**
Mechanics	
Points	Criteria
5-4	Student has **no** spelling, capitalization , punctuation, or grammar mistakes
3-2	Student has **some** spelling, capitalization, punctuation, or grammar mistakes
1-0	Student has **many** spelling, capitalization, punctuation, or grammar mistakes
Formatting and Citation	
Points	Criteria
5-4	Student has **no** formatting and/or citation mistakes
3-2	Student has **some** formatting and/or citation mistakes
1-0	Student has **many** formatting and/or citation mistakes or has not formatted/cited the article at all