

Examining Digital Technology and Virtual Learning for Ice Hockey Coaches in Atlantic Canada: Creating a Hockey Podcast to Support Communication and Leadership Education

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Abstract

In the sport of ice hockey, coaching and leadership have been examined through many facets. Technical skill development, player management, and the ability to improve performance have been notable areas of inquiry. As the critical role of coaching leadership and communication are emerging, there is limited research available which explores the context of digital or virtual communication practices to support the development training of ice hockey coaches. Thirteen (n=13) ice hockey coaches participated in this study which examined coaching leadership training. The use of online training methods was noted by 84% (11/13) of the respondents. This paper will focus on general communication & leadership practices using digital and virtual learning within coaching experiences. Creating a mobilization process in which podcasting was utilized as an accessible dissemination process will also be discussed. Results demonstrated that asynchronous online learning was a common option for ice hockey coaching training and coaches also used cell phones, group texts, online video streaming for leadership and training purposes. Overall, the results offer perspectives regarding digital and virtual leadership experiences of coaches and highlight the use of podcasting to share those valuable educational experiences. Future recommendations for continued study, specifically within podcasting are offered.

Key Words: Communication, Ice Hockey, Coaching Leadership, Podcast, Performance, Virtual -Online Learning

I. Introduction

According to Gough (2023), hockey is the most popular sport in Canada, followed by soccer and basketball. In an academic setting, the influence of coaching behaviors on athlete performance has been one of the most investigated topics in coaching science (Gilbert & Trudel, 2004). Coaches are engaged with providing and assessing various technical skill development and training at various levels. Performance assessment has become a field of expertise that is crucial for researchers and practitioners (e.g., coaches, strength and conditioning coaches, scouts, program directors), who need to be aware of the mechanisms that predispose hockey players to perform in key situations (Bournival et al., 2023). Hockey coaches are in a unique position to support best practices for communication and leadership both on and off ice when working alongside youth players. There are several modes available for coaches which can contribute to this process. In person discussions or the use of online virtual options. James and Deibel (2011) revealed that online and virtual learning have many benefits to offer current information. Sport is characterized by generating a multi-level network where competition, support, conflict resolution and the creation of new contacts are continuous. Comprehending these intricate patterns are complex and interconnected (Izquierdo & Anguera, 2021). Furthermore, as Turman, (2017) explained, the interaction between coaches and athletes takes place in very different contexts (informal sessions, preparation for games, conversations in the locker room etc.). This interaction provides a wide range of communication possibilities and types of messages. This leaves much to be explored about the coach and player communication within leadership training for ice hockey.

More research is needed to better understand perceptions, the use of digital technology to support leadership training, and the most accessible delivery approach. Within this context, rapid changes in technology and a need to support continued learning for ice hockey coaches, and sport professionals need to adhere to current practices and academic research. This can promote educational practice through accessibility, and targeting intended audiences (Eisenmann, 2017).

Leadership

Leadership in sport is an emergent field which has been gaining attention on a national scope (Jones & Khan 2017). More specifically, understanding the optimal leadership training for coaching minor hockey, has been intriguing. The objective of this paper is to examine the digital and virtual learning experiences for ice hockey coaches that support leadership. Lara-Bercial & Mallett, (2016) investigated characteristics of coaches and relationship to leadership. The findings of this study revealed coaches were characterized by a common set of personal characteristics, which included an exceptional work

ethic, strong communication skills, a quest for continuous improvement, and effective leadership behaviors that inspired their athletes. The use of podcasting to explore communication has the potential for continued growth and education through a flexible and convenient modality (Shaw & MacNamara, 2021).

Hockey in Canada

As the IIHF reported, current registration for Canadian hockey players is 513,684 members (IIHF, 2024). Considering that the total number of registered players with the IIHF is 1,563,749. Canada's registration is 1/3 of the total membership of an organization that governs 81 countries. Hockey in Canada has been conceptualized as a cultural truism and a way of life, with a connection so powerful and strong that it has united a vast nation from coast to coast (Cairnie, 2019). Hockey as a national entity has often been compared for its ability to harbor kinship bonds within ethnic, class, and cultural groups.

Podcasts

As hockey leadership and education continues to grow, the use of digital technology to disseminate knowledge within a convenient and accessible mode has been flourishing (Huang, 2015). As Sullivan, (2019) explains, podcasting is expanding rapidly as a popular cultural phenomenon, connecting listeners to audio content created by professionals, radio stations, and amateur hobbyists. Between 2006 and 2017, the percentage of Americans aware of podcasts grew from 22% to 60%, and those who had listened to at least one podcast grew from 11% to 40%. Monthly listenership is also increasing, with the percentage of Americans listening to a podcast in the past month growing from 9% to 24% between 2008 and 2017 (Edison Research, 2017). Sports podcasts are also great for emotional connections between individuals, such as coaches, players, and families. It's a brilliant medium for building an emotional connection between the audience and the show, and that connection is heightened with sports podcasts because the emotion elicited is also heightened (Salveson, 2024). Additionally, utilizing digital technologies, such as a podcast can provide a convenient method for busy coaches to access pertinent educational and leadership resources. Yang et al. (2024) noted that information satisfaction boosted perceived expertise, both of which significantly predicted podcast continuance intentions. Since sports podcast listeners tend to be avid fans who devote more cognitive resources to processing in-depth analyses and information quality. Williams & Kendall, (2007) posited that sport coaches make limited use of peer reviewed articles to seek information to inform their practice.

II. Literature Review

According to Brehm (2022), new media formats such as podcasts are revolutionizing the production and dissemination of knowledge in and outside of higher education. A podcast refers to a type of digital media that allows for automatic downloading of audio or video files over the Internet. This auto downloading capability, which is enabled through user subscription to a Really Simple Syndication (RSS) feed from the source site, distinguishes a podcast from a regular downloadable audio or video file on the Web (Brehm, 2022). Podcasts are typically produced on a focused topic with consistent updates of new content or episodes. After user subscription, podcast content from the source site is directly delivered to the user's computer or mobile devices without him or her checking back to the site to seek updates. Podcasts include audio podcasts and video podcasts, the latter of which are also called videocasts or vodcasts and refer to podcasts (Huang, 2015). There is no doubt that podcasts have a wealth of potential to support new learning delivery. Educational attributes that may be offered to coaches include increased learning, motivation, enjoyment, interest, and retention of learned material.

Johnston et al. (2021), examined the effectiveness of podcasts within sport. Educational podcasts offer instructors and students a new, unique approach to learning material which may translate to real-life situations. Students may take the learned materials from podcasts and apply them to internships, or real-world practices in the sport. Podcasts are also an easy way for students to learn, utilizing while on-the-go. Previous literature demonstrates a demand for such podcasts from both educators and students to form new ways of learning which satisfy students with different learning styles.

III. Methodology

This qualitative study was situated with a constructivist paradigm. As researchers, we assumed the existence of socially constructed realities by the participants and the various consequences of those realities for individuals (Patten, 2015). During the semi structured interviews, participants constructed their leadership and communication experiences through interactions with the interviewers. The researchers listened, documented and recorded the lived experiences as responses to questions.

This qualitative research study utilized open ended, semi structured interview questions to collect data specific to the training and coaching experiences of hockey coaches from Atlantic Canada.

Procedure

Data were collected for this study during the period of November 2022-May 2023. Participants were recruited via an email sent from the project partner The Atlantic Hockey Group (AHG). The participant sample (n=13) were comprised of minor hockey level coaches who volunteer with the AHG, and instructed youth aged 4-18 years. The sample for this research were purposive, as ice hockey coaches, both male and female participants were invited to participate. Recruitment also involved notices through social media and direct email within the Atlantic Hockey Group organization. There were small inducements of a Tim Horton coffee card offered for study participation. Participation was voluntary, and coaches were invited to complete a short interview with a member from the research team. The interviews took place in person and/or online via Zoom™, depending upon location and availability of each participant. All participants self-identified as male (i.e., n=13) who ranged in age from 23 to 52 years. The average years of coaching was 9 years.

Table 1. Participant characteristics

Characteristic	<i>n</i>
Gender	
Male	13
Age Range	23-52 Years
Mean Years of Experience	9 Years

Data Collection

The research team developed an interview guide consisting open ended questions which included general experiences about ice hockey leadership training, social emotional Learning and connections to leadership, communication, and professional development training. The interviews concluded by asking participants if they had any additional responses or information they wished to share about the topic of hockey leadership. Data were collected in person and via telephone calls. No video recordings were obtained.

For this paper, three questions served as focal points of analysis relating to communication and leadership practice. Interview questions analyzed specifically for this paper included:

1. Social Emotional Learning includes aspects of enhanced leadership, empathy, understanding, self -regulation, behavior support, trust, honesty, inclusivity etc.... What is your experience with these specific components, were they taught explicitly or included within your coaching training? If yes, what types or when?
2. In your coaching career, how often are you provided with leadership training? What types of training did you receive as Professional Development?
3. When coaching young ice hockey players, are there other barriers or challenges with your players? What types of training do you feel would be beneficial for coaches?

Field notes were taken by the researchers at the end of sessions to ensure key messages were highlighted and sessions were also recorded with permission for transcription purposes. Ethics approval was obtained from Cape Breton University prior to engaging in our interview process.

Data Analysis

The first authored researcher read and reviewed the raw data transcripts sets several times and listened to audio files which were played during the analysis to assist with conceptualization of ideas presented. Data were organized and analyzed using a coding process that led to the construction of themes (Saldana, 2014). Inductive content analysis was employed as this project included non-complex research and the sample size (n=13) was small (Vears & Gillam, 2022). The data were analyzed using thematic analysis. The main codes were developed by researchers who read and reviewed each transcript. During this process, memos and notes were created and filed. Using an inductive approach, codes were applied to names and definitions. Themes were developed from discussions and codes. As the analysis process progressed, the researchers further developed main themes. Finally, quotes were extracted from the transcripts and researchers crafted a narrative which identified the research objectives.

Study Quality

During the study, the research team implemented several strategies to ensure quality and cohesiveness in conducting the qualitative study. First, the study highlighted the gap in literature regarding ice hockey, communication, coaching youth, and podcasting. This study emanates from a community partner concern for general leadership development training that included communication and professional development training. Extensive fieldnotes, journaling and reflexive writing were explored by researchers conducting interviews. The fieldnotes were useful for researchers to discuss any questions and comments which arose during the interview process. We feel, the notes and discussions provided for a quality study that addressed bias, and assumptions.

IV. Results

In this section, one major, over-arching theme will be presented through analysis of three questions posed to hockey coaches that reflected individual digital technology experiences. These structured interviews were transcribed verbatim and filed within a Microsoft™ office team. The emergence of the communication theme occurred during our iterative and co-constructed analysis processes among the research team. As noted by Williams and Moser (2019), coding in qualitative research is comprised of processes that enable collected data to be assembled, categorized, and thematically sorted, providing an organized platform for the construction and development of meaning. One main theme if communication will be examined that highlighted the use of digital technology by ice hockey coaches. To further describe, and to add context, coaches shared how ice hockey training was delivered through the digital tools, types of devices used and how those devices were used for communication purposes.

Participants described the use of online learning for initial coaching training practices which were mandatory from Hockey Canada as a requirement for volunteers who wished to coach minor hockey. As participant 2 explained:

“My training courses were old and online, it was not interesting, but just... a set of old videos”. Additionally, participant 3 described the training as being “accessible, as it was easier and convenient to reach people from across the country by uploading videos to watch on computer”. Many participants described general experiences of hockey training and development by modality, content, and interest. Several eluded to training as being hockey technical specific, and not necessarily engaging. They talked about various aspects related to their online learning experiences, digital technology, devices and overall importance of effective leadership, relationships, and communication. Participants also spoke about communication devices that were used with coaching youth. Participant 1 explained that cell phones were easily used for updates for communication, especially when a player was having “a bad day at school, with a test or something personal “. Participant 1 also described an issue with cellphones and text messages from a parent during late night hours, as follows “ I am getting a message at like midnight from a parent asking me to help their kid”. In general, participants revealed that convenience was a positive point within online or virtual training.

Participant 3 detailed the use of laptops to access YouTube videos from a hockey coach living in Ontario. “ I can show my players these drills andthey get it, we can do this first , then practice on the ice. The use of virtual learning added additional training modes for coaches who also referenced podcasts and other modes to share valuable education professional development which might be offered locally. As participant 6 explained “ I work full time and have a family, its busy trying to get to any sessions but if I can pop on a podcast , that is really easy to do on my drive to work.

Table 2. Online Learning and Technology

Virtual Purpose	Technology Utilized
Training Certifications & Professional Development	Laptops Zoom
Communication with Players & Parents	Smart Phones IPads Email

Podcast Development

Using practical applications from the data, researchers developed a podcast series which aimed to disseminate knowledge specific to leadership, effective communication within hockey, and personal skill development. Oslawski-Lopez, & Kordsmeier (2021) also support the notion that using a podcast to engage individuals through learning was a more popular

approach than reading. In addition, Walter (2020) revealed that using a podcast as a teaching tool was an effective strategy for promoting student learning.

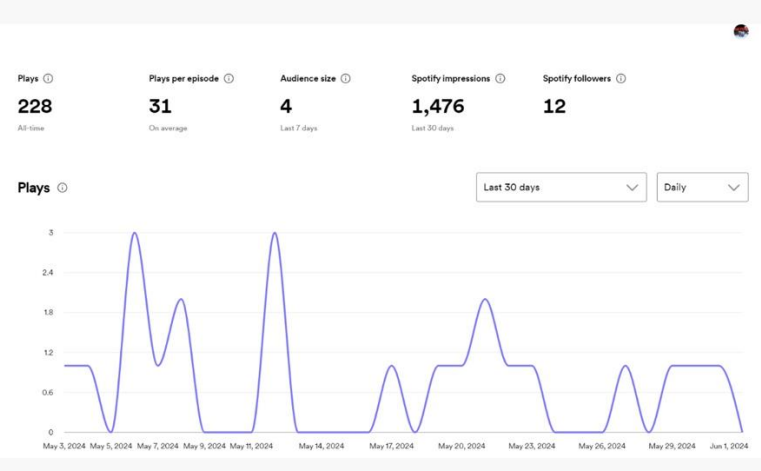
Figure 1. Beyond the Ice Podcast Episodes Plays

Episodes

NAME	STATUS	FORMAT	LENGTH	PLAYS	ADS	DATE
Beyond the Ice with Cam Squires	Published	Audio	24:59	68	0	Published 4/11/24 ...
Beyond the Ice with Chris Culligan	Published	Audio	39:53	72	0	Published 4/9/24 ...
Beyond the Ice with Mike Chiasson	Published	Audio	24:40	34	0	Published 4/9/24 ...
Beyond the Ice with Charlie Bourgeois	Published	Audio	25:45	54	0	Published 4/9/24 ...

Beyond the Ice Podcast was created to share information collected during his study. Currently, there are 4 episodes currently available with 228 plays. There were 1,500 impressions on Spotify (the number of times the show or any of the episodes were shown to others on Spotify over the last 30 days). 95% of our listeners are from Canada, 4% in USA, with less than 1% in Switzerland and Denmark respectively. To examine the audience of the podcast, 60% are male audience and 40% female audience. In terms of ages for the audience, 60% of audience is in the 35-44 age range.

Figure 2. Beyond the Ice Impressions and Plays



V. Discussion

The findings of this study emphasize the importance of using virtual and online learning for ice hockey development and training practices. Many coaches have experienced training using the zoom platform through laptops and iPads. Smart phones were used often for communication practice with coach to player, and parent to coach interactions. This supports the growing change from traditional in person educational delivery and communication standards. Usage and delivery modes specific to online learning and professional development training were examined by researchers. Another important aspect noted was the use of podcasts to disseminate knowledge. This study suggests that many coaches have received training for ice hockey using pre recorded video segments, and through a zoom platform. Types of devices used for communication and training were also captured. Laptops, smart phones and iPads were used most. Incorporating podcasts as a tool for delivering and sharing knowledge is convenient, engaging and one that can be included as an option for ongoing educational training for coaches and players.

VI. Conclusion

The purpose of this study was to investigate the use of digital technologies within hockey coaching leadership in Atlantic Canada and explore podcasting as a mode for mobilization. Main use of digital technologies for communication and leadership included smart phones, iPads and computers.

Findings provided evidence that coaches utilized digital methods for communication as it was time convenient, but many supported both in person and virtual options.

There is a need for additional research to further explore online learning possibilities within hockey training. Limitations for this study included a small sample size, and a sample which was representative of a small region in Atlantic Canada. This research may have the potential to inform coaches, hockey administrators, players, and parents about succinct opportunities to train coaches using online or virtual learning programs. These important findings were guided from discussions surrounding the need for convenient and reliable development training to support efficient communication best practices. Implications from this study support the ongoing need for training and professional development for training development modalities. Further research is also required to investigate the use of podcasts for minor hockey coaches regarding communication and leadership training.

VII. Further Research

Additional and continued research is also encouraged to explore training delivery modalities and platforms. Specific research examining the use of podcasting topics, delivery, guests and formats could also be useful. Replicating the study within other regions of Canada or USA would also be important to allow a larger sample and broader base of study.

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