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Teacher-Coaches' Awareness and Utilizations of Learning Theories

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ABSTRACT

Purpose: The purpose of this study was to explore teacher-coaches' awareness and utilizations of educational learning theories within the conscious competence model of learning. Method: This study was framed with a qualitative constructivist exploratory case study design and used semi-structured interviews and member reflections to ask nine teacher-coaches from the United States about their understandings and use of learning theories. Results: Findings indicated that most teacher-coaches were either unconsciously incompetent, consciously competent, or unconsciously competent about their use of learning theories. Some teacher-coaches did not use learning theories because they drew upon their own personal experiences instead or due to participation and performance differences between classroom and athletic settings. Discussion/Conclusion: As a result, the findings corroborate previous research where coaches or teachers were unconsciously unaware of learning theories. Future research should aim to continue to try and further bring learning theories to the conscious awareness of teacher and coach preparation programs.

Keywords:
Learning theories, conscious competence, teachers, education, sport, coaches

1. Introduction

1.1. Teacher-Coaches' Awareness and Utilizations of Learning Theories

Sport coaches often draw upon different roles and resources when coaching. Martens (1996) identified that sport coaches "require not only expansive technical knowledge of their sport, but also the pedagogical skills of a teacher, the counseling wisdom of a psychologist, the training expertise of a physiologist and the administrative leadership of a business executive" (p. 187). Coaches often coach without formal training unlike teachers who go through structured certifications, coursework, and exams to learn how to teach. Since coaches are spending as much time daily with athletes as teachers do with students, they should have similar understandings of how people learn. Understanding how people learn is imperative to positive sport interactions and can oftentimes determine an athlete's willingness to continue playing (Bloyce & Smith, 2010).

Within the coach education literature (e.g., Fazel, 2013; Lyle, 2007) there have been previous calls to action for coaches to use learning theories as a more prominent portion of coach's work with athletes, with implications for the preparation and training of coaches. The International Coach Federation identifies facilitating learning and results as one of its four core competencies and a hallmark of coaching is integrating tools from other fields including psychology and education (Fazel, 2013). As many outcomes for athletes in sport coaching environments are facilitated by learning, "without understanding learning theories, coaching practice hangs in theoretical abyss" (Fazel, 2013). Coaches are increasingly expected to be aware of the performer's overall

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social and psychological development which extends beyond the coaching environment (Knowles et al., 2005). The prevalence of understanding learning theories within the coach development literature (and, in turn, the conception of the work of coaching itself) has mostly focused on kinesthetic or motor learning, with cognitive and social learning aspects more backgrounded. Lyle (2007) encouraged changes to bring about better coach education including the use of learning theories and more attention towards cognitive skills underlying desirable practice as research at the time was insubstantial. These calls to action provide a rationale to examine how learning theories are and could be further implemented and drawn upon in coaches' practices. In this study, these calls are contributed to by examining how teacher-coaches learn about and make use of learning theory in their work, to inform possible paths for coach development.

1.2. Learning Theories

Two different categorizations could help understand what is meant by learning theories: 1) "Top-Down" categories of learning theories and 2) "Bottom-Up" learning strategies or tools that can be used by educators. Typically, when referencing learning theories, researchers categorize them based on epistemological origins. As summarized in a paper by Cushion and colleagues (2010), three top-down categories are common when considering learning: behaviorism, cognitivism, and social-cultural. In a meta-analysis of articles within the educational field, Woolfork Hoy and colleagues (2013) corroborated these three top-down categories while adding constructivism and the intersection of learning theories as well. The researchers identified 24 studies conducted based on different learning theories that were used in school settings. Each of these top-down categories are defined by their conceptions of the nature of knowledge, knowing, and learning. These underpinning ontological and epistemological stances often then connect specific ideas to understand the nature of learning and specific implications and strategies for practice – what might be considered "bottom-up" strategies.

For example, coaches might consider the specific idea of schema – rooted in a constructivist theoretical stance – to consider athletes' understandings of sporting concepts and to shape or build on those schemas to teach athletes sport specific knowledge. Knowles and colleagues (2005) found that a coach's cognitive representation of what is required to develop a player or team is very similarly related to schemas or mental models of athletic potential. As another example, Mesquita and colleagues (2014) identified reflection as a strategy vital for coaches, based on the theoretical assumption (also a constructivist stance) that knowledge is constructed through experimenting with new and modifying existing information within a context of critical reflection. Additional coaching literature research (Abraham & Collins, 1998; Bowes & Jones, 2006) has highlighted scaffolding, commonly attributed to Vygotsky (1978). Other learning theories useful to the coaching field are reinforcement, facilitation, experiential learning, and transformative learning theories (Fazel, 2013). In some cases, these strategies and conceptual ideas may be specifically linked to a particular theoretical perspective; in other cases, they may apply across theories, with differences in their definition.

Coaches rely (either explicitly or implicitly) on theoretical assumptions as they facilitate athletes' learning. However, there is a gap between what is understood in the literature and what is used by coaches in practice. This gap provides the rationale for this study which aims to understand what coaches, who also teach, utilize or are aware of learning theories. To be clear, the aim of this study is not to identify and prescribe one particular learning theory or set of strategies rooted in particular theories for coaches to use over others. But rather to explore the understanding of what coaches know and how coaches utilize learning theories to help facilitate their coaching. This is consistent with the idea that theoretical eclecticism is preferable to choosing just one model or approach as the only way (Stodter & Cushion, 2016).

1.3. The Conscious Competence Learning Model

To understand how coaches know and use learning theories in their practice, this study applied the lens and framework of "conscious competence". (Cannon et al., 2010; Howell, 1982). The conscious competence model of learning has four stages: 1) Unconscious incompetence – not knowing what to do and having no experience previously; 2) Conscious incompetence – becoming aware that there is knowledge to be gained and having to learn it; 3) Conscious competence – learning what you aimed to learn and being aware and intentional while using it; 4) Unconscious competence – becoming used to doing the skill you have learned and no longer having to be aware of it or be intentional about it. Previous research has explored the conscious competence learning model in different settings such as within social-ecological systems (Rogers et al., 2013), with experiential

learning (Cannon et al., 2010), and in healthcare education (Houldsworth, 2018). When gaining knowledge, learners go through these four stages and learning can be accelerated through feedback or debriefing. This study focuses on coaches' awareness and use of learning theories and related strategies in their work as a specific form of "competence," one of countless competences a coach must draw on.

1.4. Teacher-Coaches

In this study, teacher-coaches – individuals who teach in a K-12 school or college setting and serve as a coach for interscholastic or club sports for school-aged children – were purposefully chosen as a population with multiple professional experiences in preparation or in practice with learning theories. It would be difficult to assume coaches, in general, have knowledge about educational learning theories without any previous formal education. Extant literature has researched teacher-coaches, mainly examining how teacher-coaches navigate the dual roles that they hold (Connor, 2020) and avoiding burnout (Richards et al., 2014). Winchester and colleagues (2013) interviewed 31 teacher-coaches from Canada about how teacher-coaches learn through nonformal, informal and formal learning settings. The researchers also explored competence as a descriptor of learning through theories and recommended future research examine how high school teacher-coaches learn how to coach. Additionally, the researchers recommended that teacher-coaches receive more tailored opportunities to learn how to coach within their schools as time demands make it hard to get all the information needed. Other studies have examined the epistemological beliefs of six teacher-coaches through semi-structured interviews and the created motivational climates both in the classroom and sport with 16 teacher-coaches (Galloway, 2003). These studies provide some foundational research with teacher-coaches (Rupert, 1989), but researchers have not yet examined how learning theories in general have been utilized by teacher-coaches.

1.5. Research Questions

Due to the current lack of research and to further inform applied practice, it would be important to gauge what coaches currently understand about learning theories. This study will aim to answer the following research questions: 1) In what ways are teacher-coaches consciously aware of their use of learning theories in their work as teachers and coaches? 2) What are the reasons behind teacher-coaches' ability to utilize their understanding of learning theories?

2. Methods

2.1. Design

This study was framed with a qualitative constructivist exploratory case study design as the interviewer was a key part of the interviews and helped shape the semi-structured interview experience. Constructivism is the epistemological theory that meaning is constructed and not discovered and that subjects or participants are creating their own meaning in different ways (Gray, 2013). As such, it is important to acknowledge the positionality of the researchers, not as a limitation of the work but to acknowledge the central role that their perspectives play.

2.2. Positionality of the Research Team

The first author is a fourth-year graduate student working towards his Ph.D. in Sport, Exercise, and Performance Psychology and coaches baseball. The first author served as the main interviewer and lead researcher. The second author is a second-year Ph.D. student in education who served as a critical friend in the data analyses, bringing perspectives that were distinct from the other researchers. The third author is an associate professor position in the School of Education who served as a critical friend and qualitative mentor. The fourth author served as an editor and auditor. Given the nature of the work, the varied perspectives of the members of the research team allowed for a form of trustworthiness in the analyses.

2.3. Participants

Participants were nine American teacher-coaches who held roles as both a teacher and a coach in the states of West Virginia (6), Ohio (2), and New York (1). Participants were recruited via a convenience and snowball sampling method. To participate in this study, coaches needed to: (1) be at least 18 years old; (2) hold or working towards teaching certification in the state they taught in; (3) been an assistant or head coach in a sport in the same state at some point; (4) have had experience with both coaching and teaching for at least two years

in each. For participant demographic information please refer to Table 1. Member reflections were conducted with seven out of the nine participants as two declined to respond to the follow-up request.

2.4. Data Collection

After obtaining IRB approval, prospective participants were contacted via email and text. Upon agreement, participants were sent a Google Form with a letter of informed consent, initial demographic questionnaires, method of interview delivery, and the estimated time required. The initial demographic questions functioned as a screening tool to make sure the participant had sufficient teaching credentials to meet the inclusion criteria.

Table 1. *Participant details and demographics*

Participant "Name"	Age	Gender	Experience	Subjects/ Grades Taught	Years of Coaching Experience	Sports/Levels Coached	Faculty Member & Coach at Same School? - State
Cam	40	M	1	World History (10th), AP European History (11-12th)	19	High School Boys Baseball & Girls Basketball	Yes – OH
Cindy	29	F	7	Social Studies (6th)	5	Middle School Girls Volleyball, Basketball, & Softball	Yes – WV
Sal	49	M	21	AP Literature (12th), English (9th)	22	High School Boys Baseball & Girls Volleyball	No – OH
Lacy	57	F	28	Adapted PE (K-12)	25	High School Girls Softball & Volleyball	No - WV
Harry	30	M	2	Social Studies (6th & 7th), Psychology (11th), Civics (12th)	10	Middle School Track & Girls Basketball, High School Boys Football	Yes – WV
Mark	34	M	13	Leadership (College), Major/Career Exploration (College)	14	All Divers Ages 7-90	No – NY
Walt	27	M	5	Math (9th & 10th)	2	High School Boys Baseball	Yes – WV
Nick	50	M	20	Math (8th)	21	High School Golf, Middle School Boys Basketball	Yes – WV
Wade	43	M	17	Science (7th)	23	High School Girls Basketball & Volleyball, Boys Football	No – WV
Average	39.9		14.1		15.7		

The interviews took place over Zoom to provide the most efficient and time-limiting burden to the participants volunteering for the study. A semi-structured interview structure was developed to ask questions flexibly while still gathering specific data for previously prepared questions but not having a predetermined wording or order (Merriam & Tisdell, 2015). The interview guide was developed by the research team and piloted with three different coaches before it was used in the study. The first author conducted all nine of the interviews and kept a reflexive journal to document any biases and increase trustworthiness. Each interview question on the guide was asked but other follow-up questions were included as needed. The interviews were transcribed

initially via Zoom and then sent to two undergraduate assistants who compared the transcript to accurately reflect the interview.

2.5. Data Analysis

The analysis of the transcripts included narrative thematic analysis within a four-step process: 1) gaining familiarity, 2) selecting and focusing, 3) interpreting, 4) member reflection. This approach was chosen as it aligns with exploratory case study approaches. With the cleaned transcripts, the first step of gaining familiarity had the research team (i.e., three authors) reading through each of the interviews. The second step included using open coding guided by a set of four analytic questions developed as more practical and actionable extensions of the research questions. This was conducted with an inductive approach, where the research team read over all the data, coded, and allowed the data to answer the analytic questions. Each interview was coded by two researchers, the first author and one other author to add credibility and trustworthiness. These data analyses processes helped provide reliablity and validity to the qualitative data.

The third step of joint interpretation initially involved meetings where two researchers would discuss the codes and answers to the analytic questions for a specific interview. Through these meetings, initial themes arose within the analytic questions. After the coding and analysis of each interview was discussed, all three members of the research team conducted additional meetings to identify the consensus findings across the set of interviews to develop themes that best answered the research questions, using the lens of "conscious competence" as a framework.

The fourth and final step included a member reflection to provide participants with an opportunity to learn about the findings before publication and contribute to the interpretation and representation of their interviews, thus improving the trustworthiness of the study (Thomas, 2017). Member reflections were conducted with teacher-coaches 5-6 months after the initial interview in a 30-minute follow-up session over Zoom with an opportunity to review their interview transcripts and demographic information and to ask for permission to use quotes that were chosen from each individual. Teacher-coaches were given an opportunity to reflect on their impressions of the results and the main researcher shared about possible future directions.

3. Results

To explore the research questions, we used the four stages of the conscious competence model (unconscious incompetence, conscious incompetence, conscious competence, unconscious competence; Howell, 1982) described above to identify the participant's awareness or intentionality behind their use of learning theories (Research Question #1) and the possible contributing factors (Research Question #2). To clarify, when we use the word "competency," it is not meant to ascribe a certain subjective judgment to the participant's overall ability to teach or coach through the lens of a one-hour interview. The word "competency," as used in this study, is mainly meant to provide context to the collective assessment agreed upon by the researchers of the participant's understanding of learning theories.

3.1 Teacher-Coaches' Unconscious Competency of Learning Theories as Learning Styles: Atheoretical Perspectives of Learning

An overwhelming finding throughout the interviews was participants' tendency to talk about learning "styles" when asked explicitly about using learning theories in their coaching or teaching. Many participants were unconsciously unaware of the difference between learning theories and learning styles, an idea which was made famous made famous by Fleming and Baume (2006) that identified that students typically learned in four different ways: visually, auditorily, kinesthetically, and through reading/writing (Fleming & Baume, 2006). The idea of learning styles is very persuasive in education and in general, "public" discourses about learning, yet has been increasingly called out as a "neuromyth" (Rousseau, 2020). As such, one's appeal to the idea of learning styles as an example of awareness and use of learning theory was expected but also limiting as a representation of what teacher-coaches understood about learning theories.

As Harry, who has two years of teaching and 10 years of coaching experience explained,

> *"We have different types of […] learners [and] all kids are different. You gotta be able to meet them where they are, and I think that that's a big thing with different learning styles and different teaching and coaching styles is understanding that each kid is different and you've got to be able to meet that kid where they're at."*

Although Harry's answer sounds like an effort to be student-centered, responsive, and "meeting them where they are at," he is drawing upon a somewhat flawed conception of learning referencing Fleming and Baume's commonly identified work (2006) of how different students perceive information. Another teacher-coach, Walt, with five years of teaching experience and two years of coaching experience responded similarly, "At some point, you should be able to know, but at the same time, different people have different ways of getting that information to them." This was commonly referenced when teacher-coaches were explicitly asked about how learning theories influenced either their teaching or coaching. Given the theoretical weakness of the idea of learning styles and some participants' taken-for-granted approach to these ideas, learning styles was the most referenced "unconscious incompetence" about educational learning theories.

Some other participants, along with or instead of their mention of learning styles, consciously indicated that they did not remember or were not able to articulate what learning theories were and was a form of "conscious incompetence." As Lacy, who has 28 years of teaching experience and 25 years of coaching experience, explained,

> *"Individual learners because everybody learns differently, so I think those theories come into play in both. I can't honestly tell you that I think about those theories a lot. I know it's something we had to learn, and you try to incorporate, but I think sometimes they happen organically, knowing that you're a visual learner so I need to demonstrate more for you. One may not be as visual they may be tactile."*

Lacy has many years of experience but is aware that she does not remember anything about learning theories from her previous training and defaults to an answer about learning styles.

Similar to Lacy, Nick had 20 years of teaching experience and 21 years of coaching experience and also specifically stated that he did not know about learning theories, when asked.

> *"Probably not much because I don't even know what you mean by learning theories. I mean, I do probably incorporate them but they're not like […] my priority. I do know enough to where you know, obviously different students learn different ways so I've tried to throw out as many different ways as I can and hopefully one or multiple of those ways works for this majority, if not all the students."*

Both Lacy and Nick, more experienced teacher-coaches, seemed to be confused when asked about learning theories, indicating their lack of awareness of learning theories as well as how they might apply ir or inform their work. This could explain some of the unconscious competence of learning theories that were influenced by the schools of thought during the time these participants were in their educational programs. This is a possible contributing factor to why it was more difficult for Lacy and Nick to recall what they had learned about learning theories from their teacher preparation programs.

Finally, Wade, who had 17 years of teaching experience and 23 years of coaching experience, also framed his sense of using learning styles,

> *"I'm going to have kids that learn in several different ways so I'm going to have kids that are very much hands-on, that need to be hands-on in order to learn. I'm going to have some kids that are very much independent. They want to read and learn about it on their own and then tell me how much they've learned about it. Then I'm going to have kids that are going to learn from application, there's so many different ways that kids learn."*

Although Wade is still referring to learning in a way that appeals to the language of "learning styles", he provides a more thoughtful articulation of how his conscious competence of how people learn influences the way he teaches. Ultimately though, when teacher-coaches reference learning styles as the extent of their unconscious understanding about learning theories, it can be limiting to the intentional learning environment created.

3.2 Conscious Awareness and Use of Learning Theories

Some teacher-coaches were able to articulate certain theoretical ideas like Maslow's hierarchy of needs or strategies like scaffolding. They were consciously aware of how they might use these theoretical ideas of learning and how they might influence how they coach. It is also noteworthy that these strategies came up "organically" – not necessarily in response to the question about learning theories, thus indicating a form of "conscious competence" regarding some participants' awareness and use of at least some theoretical ideas about learning. As Mark, who has 13 years of teaching experience and 14 years of coaching experience explained,

> *"I am a huge fan of scaffolding; that's one of the foundational principles that I use. I'm a fan of challenge and support where you provide adequate support and less of a theory and more of a framework. I like the weaning process, so I'm heavy to teach the beginning and then you have to show and learn on your own and take it and run with it. To me, I will look at theories, but I look for the underlying truth or truths and then extract those."*

In this case, Mark was consciously competent and aware of the understanding of scaffolding and the ways that scaffolding benefits the learner. The way that Mark identifies taking out an element of truth from each theory could help teachers and coaches bridge the gap between research and applied practice. The goal of understanding learning theories would not be to be able to regurgitate the original theory. The goal would be to be able to identify some small truth within the research of learning theories that could be applied in the daily life of a coach or a teacher. This conscious competence of learning theories is a good example of how learning theories could be helpful in future teaching and coaching work. Lacy was also very conscious of her understanding and use of scaffolding in her work as a coach,

> *"If you're trying to explain a drill and they weren't getting the concept, or the idea of what you wanted, you got to break it down into smaller sections before you put the whole drill together. So, segmented to where you build up to the whole drill, so it gives them that opportunity to practice the individual parts of it and then put it all together.*

Although Lacy was included in the previous findings section as not explicitly knowing what learning theories were, she was able to describe how she uses scaffolding in a beneficial way for her learners. Of the learning theory strategies named, scaffolding often was the most popular learning theory mentioned. Coaches who are consciously competent about scaffolding may structure their practices or work with athletes in a particular way and novice coaches may just take the same structure and copy it without understanding why or how the steps could be moved or shaped if need be. The intentionality and understanding of why the coach made each pedagogical move is lost if coaches just borrow or copy without understanding learning theories.

Conscious competence of learning theories was also prevalent with Maslow's Hierarchy of Needs. Cam, who has 14 years of teaching and 19 years of coaching experience explained,

> *"One thing I actually referred to a lot and every year to kids is Maslow's hierarchy of needs. I mean it's not necessarily explicitly about an educational theory but, you know the whole idea of if they're not safe they're not going to worry about learning."*

This was also echoed by Cindy who has 7 years of teaching and 5 years of coaching experience,

> *"So [my] main teaching philosophy is relationships first and Maslow's hierarchy of needs; they need to feel loved, secure and safe before they can analyze a world."*

As one of the learning theories that was articulated by teacher-coaches, Maslow's hierarchy of needs provides some context to participants' interest in being student-centered. The teacher-coaches' ability to consider students' or athletes' needs before they can learn is a helpful framework that was identified throughout the interviews. What is important about the teacher-coaches' acknowledgement of learning theories is not necessarily that they were able to name a theory but that they can consciously implement learning theories into their work and the decisions they make on a day-to-day basis with learners.

3.3 The Dangerous Pitfalls of Teaching or Coaching as Creative, Spontaneous Acts

There were some examples of what participants equated as being creative in the moment. Unconsciously, some participants shared examples of using learning theories in their work that seemed to have rich and thoughtful connections. However, when asked, they were not able to articulate their understandings of what they were doing from a theoretical standpoint. As Sal, who has 21 years of teaching experience and 22 years of coaching experience explained,

> *"But she didn't show her work right. So I said, your topic sentence is like X equals the rest of the paragraph, if we're talking in terms of math. What process drew that conclusion? How did you get those observations? So I knew that was probably what she's heard that in math, and even if she was a good math student, she would understand that. […]Yes, I was trying to use some language, drawing upon what's familiar for her because it's been used or heard of in a different setting and now she can use it here as well."*

There is an understanding of how people learn that is present in Sal's response. While sharing an interest in being responsive to students as other participants, instead of appealing to an idea like "learning styles," Sal's

response was rooted in the idea of disciplinary practice and transfer. In this example, Sal was thinking deeply about the nature of a topic sentence for a paragraph and connecting it to her math course to help her write better sentences.

However, later in the interview, Sal denounces learning theories as something that "people who don't actually teach come up with" and that teaching and coaching using learning theories is like "comparing apples to oranges." Sal has seemed to reach an "unconscious competence" level and was also not able to articulate his understanding of learning theories and attributed his teaching more to his own capabilities. In some ways the case of Sal seems like a goal for competence or expertise – it is more important to do the work well than to be able to recite ideas, if given a choice. However, given the full set of findings, a pitfall of "unconscious competence" exists, particularly around an idea like learning theory, which is often disconnected from the strategies themselves or are replaced with "neuromyths" like learning styles.

This pitfall was also exemplified by Mark, who said about teaching and coaching, "It's also a gift of mine. There must be something more than just being smart. So, for me I want to steward and take care of my gift because I've been given it for a reason." While there could be some inherent talent for Mark to teach or coach, other aspiring coaches would have a hard time imitating "his gift" in a meaningful way. During his member reflection, Mark reflected that he was mostly consciously competent of learning theories in an effort to help other coaches learn but admitted he would be unconsciously competent about learning theories if he was not intentional about helping other coaches learn. There certainly seems to be a benefit to being unconsciously competent when teaching but when providing novice teachers or coaches with an articulation of what was done, it is important for teachers and coaches to be able to come down from the "unconscious competence" stage into the "conscious competence" stage.

As an additional facet of this pitfall, some teacher-coaches would refer to the work they did either in the classroom or on the field as "spur of the moment" creativity. As Sal explained,

> *"So, the class is a lab for things and you workshop things through and see if it works, and if it doesn't, you try some different. But I think some of the magic that happens when you're trying to create that secret sauce is you understand every kid's a little bit different."*

Sal references this creative ability to make decisions on the fly and treats teaching as this creative process that is hard to recreate without experience. This quote lends itself to an unconscious awareness of how teachers and coaches effectively help people learn. The way Sal and Mark describe their process as "magic" or a "gift" seems to provide more of an attribution to themselves and makes it particularly hard for others who want to try and emulate what this teacher did difficult. From a student-teacher or assistant coach's perspective, it may be hard to recreate this unconscious competence and it is important that even individuals with a lot of experience are able to consciously articulate how they intentionally helped people learn so that others learn how to replicate those pedagogical decisions. Otherwise, novice teachers or coaches may try to replicate what they see successful teachers and coaches do instead of understanding why those decisions were pedagogically made. It is often hard to tell the difference between unconscious competence and unconscious incompetence and therein lies the dangerous pitfalls of teaching and coaching as a creative and spontaneous act.

3.4 Possible Reasons for Teacher-Coaches' Lacking Articulation of Learning Theories

Less-experienced participants were mostly unconsciously incompetent or consciously incompetent about learning theories and defaulted to talking about learning styles. More experienced participants were at times unconsciously articulating their competence about learning theories but still consciously disregarded learning theories. Overall, the participants lacked explicit articulation about their use of learning theories in their work. These themes could be due to a lack of exposure to learning theories, learning theories not being brought up in their educational settings, relying upon personal experience, level of teacher preparation, or coach certification just requiring minimal first-aid classes.

3.5 Teacher-Coaches Drawing from their Own Experiences

Throughout the interviews, the participants referenced their own sport experiences as a player or from coaches and how that influenced their coaching philosophies. As Sal explained,

> *"I had such an awesome experience in college. The guys that I played for really changed my life and it kinda sounds corny but there's really nothing else that I really wanted to [do but] give kids that same sort of experience at this level."*

Sal's own positive experience in sport gave rise to his interest in working with youth athletes and providing them with a similar kind of experience. This sense of paying it forward was something that other coaches felt as well and how it influenced their work as a coach. Cindy also felt a similar calling to become a coach as influenced by her own experiences. She shares, *"I just grew up playing sports. You know, when I was younger, I was the junior coach when the big kids coach the little kids and stuff and I really enjoyed it."*

For Nick, he drew upon his own experiences as both a player and a student,

> *"A lot of what I do is coaching that took things that when I played things that I liked and didn't like and I always try to remember as a teacher more often put myself in the students' position, what did I feel like when I was a student gets harder and harder to remember, but I think, for some, to some extent things don't change."*

This was one theme that stood out from the coaching side of the participants who tended to draw upon either their own playing experience or what they experienced from their coaches. Coaches, like Sal and Cindy, tended to draw upon their own sporting experience in their coaching more often than examples like Nick when he drew upon his own academic experience for his teaching.

A couple reasons could explain why coaches drew from their own sporting experience. One reason could be that coaches had nothing else to draw upon other than their own experiences and would coach as they had been coached as a default plan. Other reasons could include coaches who just had such a positive experience in their own sporting lives that they wanted to share that same experience with their athletes. Or in Lacy's case, having such a negative experience encouraged her to become a better coach:

> *"I can remember like when I was in high school it's like I didn't always have the best coach. And I can remember my thought was I'm going to go into this because I'm going to be a better coach than what I had. I want to be a better coach than what I experienced."*

However, when coaches only rely upon their observations of coaching to inform their practice, they are likely to be absent of the foundational ideas that motivate the use of these approaches. These positive experiences are helpful to inspire coaches into the profession but having learning theories to support them once they are working with students and athletes on a daily basis is necessary, to better highlight the distinctions between "incompetence" and "competence"

3.6 Participation/Performance Focused Differences that Affect Student and Athlete's

Motivation Additionally, differences between a setting's focus on participation or performance-based outcomes as well as learners' motivation to learn seemed to impact the way that learning theories were seen as having a role. In youth sport, coaches often focus on participation outcomes with athletes to just "learn the game" while playing sport. Unfortunately, as athletes grow older, performance becomes the focus sooner than expected. In the classroom, participation is largely the focus of teachers' day-to-day existence as Wade explains,

> *"You certainly as a teacher run into very unmotivated students that don't want to do anything and you find yourself trying the same techniques that you do to get that extra little bit out of your athletes, you're trying that in the classroom. Then you know the concepts of teamwork, especially in science, when we're doing a lot of hands-on stuff, working together in groups, you talk about teamwork and each carrying their own weight."*

Wade provides some insight into differing levels of motivation for students and athletes, particularly ones who feel like they have to go to school versus athletes who choose or want to be a part of the team or sport. Walt validated this feeling and also stated,

> *"So it does get frustrating at times when it doesn't work out the way you want it to and when a kid just isn't motivated, but I mean it happens way more in school like I said, because you have to be there and baseball practice baseball sports you choose to be there."*

With this difference in performance and participation focus, teacher-coaches are finding that they use different learning theories to try and stimulate or encourage learning on a day-to-day basis. Teachers may find this more difficult as self-selection is more prevalent to sport and team dynamics while students are required to be in school. However, this offers a good opportunity to use learning theories, as Cam and Cindy do with Maslow's hierarchy of needs to assess if a student's needs have been met and if they are ready to learn.

Nick expands more upon this idea of needs being met at home before students or athletes can learn in the classroom or in sport,

> *"A lot of them don't have the parental support, so they don't have anyone encouraging them or trying to show why they need to do well. That's the hardest part and that's the biggest difference I'd say between teaching and coaching. Teaching they are not choosing to be in my math class people on my basketball team are choosing to try out so it's easier to motivate and reach the ones who are doing it by choice."*

Nick acknowledges that there are students that are easier to reach and motivate who are there by choice and want to be a part of the basketball team. In this case, as someone in both settings, teacher-coaches are often able to draw upon their motivational tactics with their athletes that can then help motivate students who are more participation-focused in the classroom.

4. Discussion

This study provides an exploration into what teacher-coaches understand about learning theories and how they use learning theories in both their teaching and coaching settings. The findings of this study suggest two important considerations for the use of learning theory: (1) that teacher-coaches often have an unconsciously competent or consciously incompetent use of learning theories, and (2) possible reasons for teacher-coaches' articulation of learning theories were drawing from their own experiences and performance and participation differences in the learners they were interacting within each setting.

4.1 Teacher-Coaches' Unconsciously Competent or Incompetent Use of Learning Theories

The finding of teacher-coaches being unaware at times of their use of learning theory in the classroom and on the field is supported by previous research (Zipp & Maher, 2013). In a tangential field within kinesiology, physical therapy education has conducted studies to identify if instructors or educators are familiar with certain learning strategies. Similar to the participants in this study, researchers Zipp and Maher (2013) found that educators in physical therapy education were unaware of the learning strategy of mind mapping. The researchers found that it was not used primarily due to the faculty's lack of awareness but were interested in exploring it once made aware. The teacher-coaches in this study were either unconsciously unaware of the different kinds of learning theories or unconsciously competent and using them but weren't able to articulate their understanding of the theories and how it influenced the decisions made in the classroom or on the field. Just like Zipp and Maher's finding (2013), when asked in the interview and in member checks, the participants in this study were equally interested in learning more about how learning theories could be beneficial to their current work but just hadn't considered it yet or hadn't translated what they had learned in their teacher preparation programs to their work in the classroom or with athletes. Since previous research has called for more awareness of learning theories in coaching (e.g, Fazel, 2013; Lyle, 2007), helping coaches understand what learning theories are and how they can be beneficial might a useful avenue for research to help coaches add learning theories to their toolbox of skills or strategies they can use in their coaching.

For participants who were consciously aware of learning theories, scaffolding, as a bottom-up learning theory strategy, was referenced the most by teacher-coaches. This is reflective of the amount of attention given to scaffolding by researchers (Abraham & Collins, 1998; Bowes & Jones, 2006; Jones & Thomas, 2015) and corroborates that scaffolding could be useful as a learning theory strategy for coaches in athletic settings. Participants in the study were not consciously aware of top-down learning theory categories like behaviorism, cognitivism, social-cultural, or constructivism and this provides some insight into how learning theories should be disseminated to working practitioners. Bottom-up learning theory strategies seemed to be more accessible or understandable as something that coaches could use such as scaffolding, modeling, or Maslow's hierarchy of needs compared to the top-down learning theory categories. This might have to do with the applicability of these theories which is more visible than the broader theories like behaviorism and cognitivism.

4.2 Possible Reasons for Teacher-Coaches' Understanding about Learning Theories

Some possible reasons for teacher-coaches' understandings about learning theories could be related to their tendency to draw from their own experiences, differences in teacher and coach preparation programs, or performance/participation differences between learners in each setting. These findings overlap with previous research suggesting that teacher-coaches found their informal learning situations, such as past playing

experience, as being useful in learning how to coach (Winchester et al., 2013). However, the participants in the 2013 study acknowledged that time was a major impediment to learning in more formal settings and the researchers recommended that future tailored opportunities for coaches to learn how to coach in formal settings was needed. Since coaches seem to build on their own experiences, it might be important that more athletes are coached by coaches who use learning theories as some of these athletes will build on their experiences to coach in the future. This shows the importance of modeling learning theories to allow more athletes to be coached using a theoretical orientation.

After conducting member reflections in this study, some participants reflected upon the fact that they were more likely to use learning theories in a classroom setting compared to athletic settings. These participants attributed this difference to the performance and participation differences within each setting and what learning theories were called for in that learning environment. This corroborates research conducted by Galloway (2003) where the researcher interviewed 16 teacher-coaches and found that when athletes perceived their coach as performance-focused, the athletes also exhibited performance-focused goals and became more anxious during their performances. Teacher-coaches in Galloway's study also stated that they felt they were able to engage with their athletes in learning more than their students due to self-selection into the sport or activity which is similar to the sentiment expressed by participants in the current study. The possible reasons for differences in articulation by teacher-coaches in each setting corroborate findings from previous literature regarding informal/formal learning settings and performance and participation differences in learners.

5. Conclusion - Limitations and Future Directions

Limitations of the study include the number of participants included. The exploratory case study method limits what can be made of other teacher-coaches who may be in similar situations. This study brings to light the understanding and conscious or unconscious competence of just the participants included in the study. However, it may be possible to consider that if these wide-ranging participants from various backgrounds are experiencing this lack of conscious competence of learning theories, that others may as well and that it may be important to include learning theories as a conscious part of coach education moving forward. Another possible limitation is the focus on cognitive learning rather than including motor learning as a possible focus of an athlete's learning process.

Future directions could include the inclusion of learning theories as the main focus of a formal training course as researchers have asked for (Winchester et al., 2013) and help provide neophyte teacher-coaches with more to coach from than their own personal experiences as a player and coach. Future directions could also include more inclusion of learning theory as a part of professional development or career development programs for teacher-coaches in school settings. Future research can help to bring learning theories more into the conscious awareness of experienced teachers or coaches who are successful and help make novice coaches and teachers aware of learning theories and how they can be useful in their work with athletes or students.

This research adds to the literature by providing insight that even teacher-coaches who might have some exposure to learning theories were not consciously using that knowledge. The findings should not indicate that teachers or coaches should not use learning theories at all, on the contrary, they should continue to illuminate that there is a gap in understanding or utilization of learning theories. In conclusion, building conscious awareness of the use of learning theories would be beneficial to both teachers and coaches in both classroom and sport settings to help the learning experience of young students and athletes.

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