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THE EXPLORATION IN THE USE OF ANDRAGOGY IN COACHING ADULT CROSSFIT
ATHLETES

by

Tiffany M. Peltier

A.A., Coastline Community College, 2010
B.S., American Military University, 2017

A Research Paper

Submitted in Partial Fulfillment of the Requirements for the
Master of Science of Education

Department of Workforce Education and Development
in the Graduate School

Southern Illinois University Carbondale

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RESEARCH PAPER APPROVAL

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A Research Paper Submitted in Partial

Fulfillment of the Requirements

for the Degree of

Master of Science in Education

in the field of Workforce Education and Development

Approved by:

Dr. Lin Zhong, Chair

Graduate School
Southern Illinois University Carbondale
April 9 2020

AN ABSTRACT OF THE RESEARCH PAPER OF

Tiffany M. Peltier, for the Master of Science degree in Workforce Education and Development, presented on April 9, 2020 at Southern Illinois University Carbondale.

TITLE: THE EXPLORATION IN THE USE OF ANDRAGOGY IN COACHING ADULT CROSSFIT ATHLETES

MAJOR PROFESSOR: Dr. Lin Zhong

In 1970, Malcolm Knowles defined andragogy as “the art and science of helping adults learn” (Knowles, 1970 p. 38) and his theory has been used in higher education institutions and many organizations since then. In this qualitative study, the philosophy of andragogy is examined to determine the value of utilizing andragogy in coaching adult CrossFit athletes. While andragogy is a multi-faceted topic, this study specifically leverages Malcolm Knowles’ assumptions and principles of adult learners as well as Bob Pike Group’s “5 Laws of Adult Learning” in *Creative Training Techniques* (1989). The coaches who participated in this study are current CrossFit coaches in the greater Charleston area. Of the nine coaches asked to participate, five volunteered to participate. Observations, semi-structured interviews, and participant field notes were used to collect data identifying the perceived value of adult learning principles and laws. The results reveal four out of five coaches utilize the following andragogical principles and laws together: 1) motivation to learn and having fun, 2) orientation to learning and readiness to learn, and 3) athletes’ self-concept, experience, and assisting them to carry out the learning activities. Findings suggest that coaches who utilize the andragogical principles and laws are more effective coaches—ultimately, they have a greater connection to their athletes than those who do not use the andragogical principles. These findings provide evidence of the importance of knowing, understanding, and applying andragogical principles and laws when coaching adult athletes.

DEDICATION

I dedicate this research project to my family, my husband, all my athletes, and the owner and coaches of Starboard CrossFit. Without your understanding, patience, and encouragement, I would not have been able to complete this research.

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CHAPTER 1

INTRODUCTION

Background

Teaching is an art and science that has been scrutinized and cross-examined over the years to identify the soundest principles, theories, and laws that lead to effective learning. Pedagogy—the act of teaching *children*—is content based, in which learning is established based on developing, managing, and delivering content. Conversely, andragogy—the act of teaching adults—is learner-based, a process by which facilitation is used to assist in content acquisition and resource gathering. The term “andragogy” (stemming from the Greek word *anere* for adult, and *agogus*, meaning “leader of”) is used to define the process of facilitating adult learning (Knowles, 1970, p. 37). Malcolm Knowles (1970) identified andragogy as “the art and science of helping adults learn” (p. 38).

The term “coach,” slang for tutor, first documented use was in the 1830s at Oxford University to define the tutors who “carried” a student through an exam. It was not until 1861 that the term was also used in the athletic sense. Today, the sport coach is looked up to as a leader, an expert in the field, and a mentor. Over the years, there has been much debate over the most effective coaching philosophies, and there have been countless books written on coaching in general; however, the majority of these books, articles, and papers have been written for coaching *children*. As such, there is very little research—especially in the United States—regarding coaching adults. Coaching, as a whole, is interactive, in that a functional relationship with athletes is necessary to facilitate effective learning, positive experiences, and performance improvement. To make it more challenging, these aforementioned benchmarks must be met while keeping the stages of development, goals, and needs of the individual athlete in mind.

Learning and sports are not just for the youth of today. There has been an exponential rise in adult learners and sports participants all over the world. In the United States, the National Center for Education Statistics reported that the number of college students over the age of 25 was over 11% higher in 2016 than 2006. Similarly, the number of adults participating in sports above the age of 25 rose 6% from 2003 to 2015 (Woods, 2017). These statistics determine that adults over the age of 25 are becoming more involved in their education as well as in sport. For years, the adult athlete has been prevalent in endurance sports like triathlon and running, but the greatest increase in adult athletes in the recent years has been in the sport of CrossFit, which is predominantly comprised of gymnastics, Olympic lifting, and plyometric techniques. Since its conception in 2000, CrossFit has grown exponentially in popularity. As of 2017, of the four million CrossFit members, only 24% are 24 years and younger, 42 % are 25-35, 19% are 35-44, 8% are 45-54 and less than 6% are 55-65+ (RallyFitness, 2017). Although many athletic programs, associations, and organizations like CrossFit have countless courses and certifications available for coaches, an athlete-centered course founded on andragogy is not one of them.

Andragogical principles and theories, such as Malcom Knowles' assumptions and Bob Pike's Laws of Adult Learning, have been applied to adult education endeavors in the military, businesses, and universities around the world. In general, as a sport coach, there is a very specific degree of teaching required to instruct new athletes how to move properly. The process for learning a new movement in sport is the same process required to learn a new task for work: gained experience to practical application. A deeper look into non-scholarly articles in effective sport coaching, training manuals, books, and websites reveal that many principles of andragogy are discussed as effective tools, but the principles are not identified as andragogical. Items like goal-oriented, athlete-centered, self-directedness, experiential learning, and internal motivation

are prominently highlighted in the texts, and andragogy rests on these central assumptions about adult learners.

Need for the Study

In short, there is great need for additional research to be conducted on the practical application of andragogical principles to sport coaching in general. However, more specifically, research into andragogical applications for CrossFit coaches is even more critical as the majority of CrossFit members are adults over the age of 25. It can be argued that Malcom Knowles' assumptions and principles coupled with Bob Pike's Five Laws of Adult Learning are suitable for coaching adult athletes in sport, particularly CrossFit, yet there is little to no evidence available currently. With the rise in adult participation in sport, it is important to understand how to better coach adult athletes. Callary, Rathwell, and Young (2017) and Flett (2014) both state that there is a need for further research in the area of andragogy and coaching adult athletes. The purpose of this study is to research and track the positive outcomes of applying andragogical principles to coaching adults in sports.

Problem Statement

The use and value of Andragogy in sport coaching, specifically CrossFit, is not addressed in critical literature or scientific study. As adult participation in sports increases, so does the need for coaches to be effective in teaching and coaching adult athletes. With the limited research available, adult-specific coaches have little way of furthering their own education or contributing to research through providing feedback for furthered study. It becomes easy to see how large businesses in the sport coaching industry may overlook this area of learning for coaches.

Research Questions

1. What is the value of andragogy in coaching adult CrossFit athletes?
2. How do CrossFit coaches apply andragogical principles to their coaching strategies, if at all?
3. What andragogical principles do CrossFit coaches find to be most effective in their coaching strategies?

Significance of the Problem

As Malcolm Knowles and other educators have established, teaching adults is significantly different than teaching children. The same could be said for coaching adult athletes. Adults—those over the age of 25—, have life experiences, maturity, and motives by which they filter information for learning. Understanding andragogy while coaching adults could create a more positive environment and enhance the coach/athlete relationship, thereby simultaneously improving the performance of the athlete and the credibility of the coach. Callary et al. (2017) noted that coaches who used andragogical approaches in coaching appeared to work more effectively with their adult athletes, while the coaches who did not choose to apply andragogical principles appeared to be more disconnected from their athletes.

Definitions of Terms

Andragogy: The art and science of helping adults learn; involving the study of adult education theory, processes, and technology toward that goal (Knowles, 1980, p. 43)

CrossFit: Constantly varied functional movements performed at high intensity (Glassman, 2018, p. 3)

Coach: A person who is responsible for managing and training a person or team. (Coach, 2018)

CHAPTER 2

REVIEW OF LITERATURE AND RESEARCH

Introduction

This chapter addresses the foundation on which this andragogical study is designed. The first section of this chapter discusses the main works that resulted in the acceptance of andragogy as a field of education. The second section is a detailed discussion of the application of andragogy in coaching adult CrossFit athletes. While the works studied for this research were not directly related to Andragogy in CrossFit, the methods of coaching sport, regardless of the discipline, remain quite similar.

Andragogy

Malcolm Knowles Assumptions

Malcolm Knowles is a well-known name in the education field for his work in identifying and describing the differences between adult learners and child learners. In 1968, Knowles wrote and published his first article titled “Andragogy, Not Pedagogy.” His concept of Andragogy in this article was quickly accepted and recognized throughout North America as the definition for andragogy (Reischmann, 2004). Knowles’ theory of andragogy, the art and science of helping adults learn, is founded on two main defining characteristics. First, the notion that the adult learner is self-directed and autonomous, and second, the notion of the role of the teacher/instructor as a facilitator/coach who facilitates learning and presenting content. Although Knowles first published the six principles of adult learning in his book *The Modern Practice of Adult Education: From Pedagogy to Andragogy* in 1980, his most recent book, *The Adult Learner*, (2005) outlines the six adult learning principles into the following: a) the learner’s need to know – why, what and how; b) self-concept of the learner – autonomous and self-directing; c)

prior experience of the learner – resources and mental models; d) readiness to learn – life related and developmental tasks; e) orientation to learning – problem centered and contextual; and f) motivation to learn – intrinsic value and personal payoff (Knowles, Holton III, & Swanson, 2005).

After Knowles' concept and definition of the term andragogy and the accepted assumptions and principles upon which his definition is based, Knowles (1984) created an intuitive outline detailing the process in which adults learn best. He published this outline in his book, *Andragogy in Action: Applying Modern Principles of Adult Learning*. The table below (Table 1) outlines an eight-step process for the effective facilitation of instruction for the adult learner.

Table 1

<i>Knowles' 8-Step Process – Effective Facilitation of Adult Instruction</i>	
1. Preparing the Learners	Creating the course syllabus and giving it to potential learners to notify them of the purpose, objectives, course time and place, registration, cost, target audience, and potential benefits.
2. Setting the Climate	Set the climate conducive for learning. Paying attention to the physical environment (temperature, training material, and technology) and creating a climate of mutual respect and supportiveness.
3. Involving Learners in Diagnosing Learners Needs	Involving the learner in the gap analysis; identifying their present level of competence in relation to their aspirations. When an adult is involved in this process, they are more likely to be motivated to learn.
4. Involving Learner in Defining Objectives	Once the gap or needs are identified, the learner lists them to identify the specific goal for training. This goal or goals will guide the student activities, resources needed, support and overall behavioral outcome and required performance.
5. Involving Learner in Developing Objectives	Involving the learner in the design process of the training. Designing the flow of the program to meet the desired outcome and performance.

Continued

Table 1. Continued

6. Involving Learner in Developing Instruction Outline	Involving the learner in creating projects and learning contracts. Designing the outline sequence based on the readiness of the learner.
7. Helping Learners carry out Learning Activities	Allowing the learner to study independently or single internships, experimenting with techniques and activities; like group learning, and workshops
8. Involving Learners in Evaluating Learning	Evaluations are more criterion referenced, learner-collected and validated by peers, facilitators and experts.

Bob Pike Group

Over the years, andragogy has been embraced across universities, community and technical colleges, as well as in human resource departments within big businesses (Rutgers, n.d., year). The use of andragogy in business has been a catalyst for companies such as the Bob Pike Group who developed the “Five Laws of Adult Learning.” These laws are used to teach individuals how to be more effective and efficient trainers within their workplace (see Table 2).

Table 2

Pike’s Five Laws of Adult Learning

1. Adults are Babies with Big Bodies	As babies, we learned through doing to create an experience. Adults bring their past experiences with them to training and therefore learn through applying past experiences to doing.
2. People Don’t Argue with Their Own Data	If through experience, a person makes their own information they will believe in it more. It is the job of the facilitator/coach/instructor to ensure the learner is guided towards the correct information.
3. Learning is Directly Proportional to the Amount of Fun You Have.	Adults bring both good and bad past experiences to training, usually learning more from the good. Using humor or fun in activities and involving the learner may positively affect the learners’ readiness to learn. A relaxed atmosphere and entertaining activities can reduce anxiety and stress.
4. Learning Has Not Taken Place Until Behavior Has Changed.	What the learner does with the information learned is more important than the information learned. Adult learners learn through experience, therefore the more successful experiences (i.e. practice) the learner has using the information and techniques learned, the more likely they will use what is learned on-the-job.

Continued

Table 2. Continued

5. It Doesn't Matter What I can Teach You, It's What I can Teach You to Teach Others	This is the retention and transfer phase. Adult learners learn through experiences and these experiences usually happen with and around other adults. It is when a learner can transfer what they have learned through an experience to another person is a confirmation of the learners' competencies and when a trainer know they have done their job.
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The use of adult learning principles can be adapted to fit any situation where adult learning is taking place. These applications include the gym, field, or court-in sports. Flett (2013) with the Coaching Association of Canada agrees with several of these principles. However, she does not specifically use the term andragogy. In her piece, "Coaching Masters Athletes" (2013), she states "Consider giving adults more choice in their training, providing meaningful rationales for their training, and asking them for their opinions when planning workouts, setting goals, and organizing the practice environment" (p.9). Arguably, this statement reflects the eight-step process from Knowles.

Andragogy in Coaching Adults

Presently, there is not an official framework by which to coach adults; therefore, it can be argued that andragogical principles can become a strong framework through which coaches can train their adult learners.. Although andragogy is not specifically mentioned in most of the sport coaching books, journals, and websites, many of the andragogical principles are prominently highlighted. Furthermore, the majority of successful sport coaching recounts, for both team and individual sport types, discussed in one form or another the role of preparation, climate development, programming and planning, diagnosis of athlete's ability and needs, and assessment (all of which are part of Knowles' eight processes of adult learning design). In his book, *Psychology in Sports Coaching: Theory and Practice*, Nicholls (2017) applies Knowles' eight principle processes for coaches to apply in their coaching practices (see Table 3).

Table 3

Knowles' 8-Step Process – Effective Facilitation of Coaching Adults

1. Preparing the Learners	At the beginning of each training session, the coach should identify the tasks to be engaged in and why the tasks are relevant.
2. Setting the Climate	Coaches should strive for a relaxed atmosphere. One that is supportive, collaborative and respectful. Realizing many adults have ideas and have their own ways of learning based on past sporting and non-sporting experiences.
3. Involving Learners in Diagnosing Learners Needs	Athletes should be involved in the activities they will be engaged in during training.
4. Involving Learner in Defining Objectives	The coach and athlete should collaborate to diagnose the athletes' abilities and areas needing improvement.
5. Involving Learner in Developing Objectives	The coach and athlete should collaborate in developing the athlete's objectives. The objectives should be realistic
6. Involving Learner in Developing Instruction Outline	Athletes like to know why they are doing certain activities or tasks during a training session.
7. Helping Learners carry out Learning Activities	The coach should relate any new activities the athlete engages in to the athlete's previous experiences.
8. Involving Learners in Evaluating Learning	The coach should evaluate the athlete periodically. The coach should ask the athlete how they think/feel they are doing. Asking the opinion of the athlete on their progress and sharing ideas will help shape further training sessions.

Callary et. al. (2017) also acknowledges the use of Knowles' Andragogical principles in coaching, stating "Such a model, which characterizes adult learners and provides teachers with principles for good practice, fits our interests of better understanding coaching/teaching approaches and taking into account the particularities of adult athletes" (p. 2). In their study of coaching masters (adult) athletes, Callary et. al. (2017) found the coaches who applied the andragogical principles connected to their athlete's interests and preferences. In *What the !#\$% is Andragogy* by Maddalena, (2015) the author correlates andragogy and the adult learning practice to coaching in the business industry. She states, "coaching is about learning and self-development" (p.8) and that coaches empower those who they coach to learn new concepts by

examining what they already know and give them options through the sharing of experiences. This statement is true for coaches in the sport and fitness industry as well.

Coaching adults in the sport and fitness industry who are learning a new sport, a new movement, or new ways to stay fit is very much the same. Encouraging the adult athlete to reflect on personal expectations, past experiences and present habits to identify areas that may help or hinder their success as an athlete is part of the adult learning process. Allowing the adult athlete to do much of this learning this on their own intensifies the learning experience and allows them to generate their own data on how they are learning and whether they are right or wrong.

Bob Pike's "5 Laws of Adult Learning" are not widely taught in academia, but they are used among big businesses for training and could easily be transferred into sport coaching as they are student-centered like Knowles' principles. More specifically, Pike's laws can be applied to coaching athletes (see Table 4).

Table 4

Pike's Five Laws of Adult Coaching

1. Adults are Babies with Big Bodies	As babies we learned through doing to create an experience. Adults bring their past experiences with them to training and therefore learn through applying past experiences to a new skill or sport.
2. People Don't Argue with Their Own Data	If through experience, a person makes their own information they will believe in it more. It is the job of the coach to ensure the athlete is guided towards the correct form or technique for a new skill or movement.
3. Learning is Directly Proportional to the Amount of Fun You Have.	Adults bring both good and bad past experiences to training, usually learning more from the good. Using humor or fun in activities and involving the athlete may positively affect the athletes' readiness to learn a new skill or improve on a technique. A relaxed atmosphere and entertaining activities can reduce anxiety and stress. Additionally, applying healthy competition to the training sessions with other athletes may increase the willingness of the athlete.

Continued

Table 4. Continued

4. Learning Has Not Taken Place Until Behavior Has Changed.	What the athlete does with the information learned is more important than the information learned. Adult athletes learn through experience, therefore the more successful experiences (i.e. practice) the athlete has using the information and techniques learned; the more likely they will improve their performance or skill.
5. It Doesn't Matter What I can Teach You, It's What I can Teach You to Teach Others	This is the retention and transfer phase. Adult athletes learn through experiences and these experiences usually happen with and around other adults. It is when an athlete can teach another athlete the proper form or technique for a skill or movement that the coach knows they have done their job.

While there are some coaches who understand or have been taught andragogical principles, there are others who never really view their athletes as learners. Researchers, Cassidy, Potrac, and McKenzie (2006) conducted a study where they discussed thinking of athletes as learners. This was a new way of thinking for them, and many coaches said that learning about different learning styles increased their effectiveness as a coach. In further discussions, Cassidy et. al (2006) discovered some of the coaches were unconsciously using several andragogical principles and accommodating different learning styles among athletes, but they did not realize it until it was pointed out to them.

Coaches use their core beliefs values, past experiences, education, background, and circumstances to model their coaching style. Additionally, depending on the sport, country, gender, age group, and level of competitiveness within the sport, the model of coaching and philosophy changes with each coach. With the little research available for coaching adults, it is easy to see how large businesses in the sport coaching industry may overlook this area of learning for coaches. They simply do not recognize their need for reform and stratified learning principles.

Summary

In reviewing the related literature, the use of andragogical principles is a somewhat new concept in sport coaching. When reading through books, journals, websites and blogs, the

andragogical principles are unconsciously used by some coaches and those coaches who use them appear to be more successful with their athletes. These successful coaches that use adult learning principles may not call them by the given names but they are using them. Although there was no research found on the use of Pike's "5 Laws of Adult Learning," the laws are intertwined within Knowles' principles and process and (as outlined in Table 4 above) can be applied to coaching adult athletes.

Adults will use their past experiences in their learning, whether it is in subjects like math, and science or in sport learning a new skill (e.g. an Olympic lift or a how to do a proper pull-up). Using the andragogical principles and laws of learning have been successful for the adult educator; therefore, these principles should prove to be as successful for the adult coach as they may be adapted to fit many different situations.

CHAPTER 3

RESEARCH METHODOLOGY

Background

This qualitative study examines the use and value of Andragogy in sport coaching, specifically CrossFit, which has not yet been addressed in literature. The foundation for developing the research questions to guide this study were derived from a combination of Knowles Adult Learning Theory and Nicholls *Psychology in Sports Coaching: Theory and Practice* (2017). The researcher assumes that the coaches are unconsciously using andragogical principles when coaching adult athletes and argues that if they would become more aware of the principles, their coaching strategies would become more valuable to their adult athletes.

Qualitative research methods are used in this research design to assist the researcher acquired through understanding of the value of andragogical principle education for coaches. Interviews, observations, and entries in the field as a complete insider are the primary instruments of data collection for examining andragogical principal training implementation.

Research Design

The nature of this research is to determine whether the use of andragogy and andragogical principles by a coach in a sport setting, specifically CrossFit, were valuable and useful to the coach. This was a qualitative case study utilizing observations, semi-structured interviews and field notes to gather data to answer the aforementioned research questions. Data was gathered and coded using a codebook, margin notes, and memoing.

Participants

Participants were recruited for this study from various CrossFit gyms in the Charleston, South Carolina area. Leveraging coaches from various gyms present the researcher with various

styles of coaching and atmospheres that were fostered in the different gyms. Although some coaches have experience through other sport disciplines and have been coaching for several years, there were some who had only been coaching for several months. The participants in this study include five CrossFit certified coaches. Participants range between the ages of 20 and 46.

An email was sent out to the owners of several of the CrossFit gyms in the area. The email asked for volunteer participation among the coaches. All CrossFit coach participants coach classes that are attended by adult athletes, with the ages of the athletes ranging from 18 to 65. The athletes range from wanting to learn new skills and keeping fit, to competitive athletes who wish to compete for the CrossFit Games and other large-scale competitions.

For the purpose of privacy and protection and anonymity and confidentiality, numbers are used throughout the data collection process whenever possible, with all transcripts ascribed to the number. Demographic information for the participants is summarized below (see Table 5).

Table 5

CrossFit Coach Demographic Information

<i>Coach Number</i>	<i>Gender</i>	<i>Age</i>	<i>Certification level</i>	<i>Time Coaching</i>
0001	M	31	1	3 yrs.
0002	F	31	1	3 yrs.
0003	F	28	1	1 yr.
0004	M	28	1	2 yrs. 3 mo.
0005	M	29	1	1 mo.

Data Collection

To explore the application of this research, observation, semi-structured interviews, and field notes were compiled as a complete insider is selected to gather through detailed and in-depth data. According to Kirk and Miller (1986), qualitative research is traditionally used to observe people in their own area and interact with them in their language and on their terms

(p.7). The qualitative research methodology uses direct and participant observation and qualitative interviews especially suited for this study to explore and understand the relationship between the coach and adult athlete. Brink (1993) states that triangulation is a strategy that uses two or more data sources to produce findings that are valid and reliable in qualitative research. Thus, three types of data are collected and analyzed: (1) direct observations, (2) qualitative interviews, and (3) field notes. Because the assumption is that the participants currently do not know or understand adult learning principles, the participants are given a handout outlining the original Knowles' adult learning principles, Knowles' "8-Step Process for Effective Facilitation of Adult Instruction," Bob Pike's "Five Laws of Adult Learning," and how these can be adapted for coaching adult in a sport environment after signing the consent form.

Direct observation, field notes, and interviews are the primary research instruments to gather information. Observation and interview protocols were developed utilizing the research questions as the motivation. Since the purpose of the direct observation and qualitative interview was to identify the coaches' strategies for coaching adult athletes, the protocol addressed the knowledge, application, and effectiveness of andragogy and adult learning principles in the fitness industry. Participants are observed by the researcher to answer two primary questions regarding the use and effectiveness of andragogy and adult learning principles in a coached sport setting, then interviewed through a semi-structured interview with a list of nine questions focused on their understanding and use of andragogy and adult learning principles. Participants are directly observed and interviewed two specific times, while the field notes participant observation was completed over the period of one month.

Research Procedure

Approval from the Human Subjects Committee at Southern Illinois University

Carbondale (SIUC) was granted for this study due to human participation (Appendix A). Requests for participation were emailed to the local CrossFit gyms in the area (Appendix B), although five agreed to participate only one committed to participate in all aspects of the research. The coaches of the gym were given a brief explanation of the research and five of the fifteen coaches agreed to participate. The five participants who agreed to the study scheduled two specific times for direct observation and interviews with the researcher, which correlated with their coaching schedule. Each participant read and signed the consent form prior to the observation and interview (Appendix C).

The research setting was CrossFit classes coached by certified CrossFit Level 1 and Level 2 coaches. To be a certified Level 1 coach in CrossFit, an individual attends a two course which provides an introductory instruction on the fundamental principles and movements of CrossFit, as well as nutrition, and coaching strategies. To be a certified Level 2 coach in CrossFit, an individual attends the level 2 training and an additional course designed to gain a deeper understanding of the methodology and practical application as a trainer and program implementation. Each gym owner is allowed to run the gym and use their coaches as they see fit as long as they stay within the ethical guides of the CrossFit Affiliation rules and rules governing sports facilities as set up federally and by each state. The observation and interviews took place during a time the participants were scheduled to coach a group class. As observation may elicit unusual or atypical behavior, the observer watched in an inconspicuous location in the gym so as to not disturb the class and to be out of sight of the coach. During the observation, two primary questions were used to observe the participants: (1) Does the coach use any form of andragogy and adult learning principles, and (2) Do the athletes respond to the coach's use of andragogy and adult learning principles? These questions for observation were derived from the first two

research questions. Observation notes were written utilizing memoing during the observation to record the thoughts and ideas of the researchers throughout the observation.

Immediately following the class, the coach was interviewed in an informal but semi-structured qualitative interview, for approximately thirty minutes to answer five main questions, divided into three sections: knowledge, coaching strategies, and effectiveness, with demographic questions included at the end of the first interview. The first section, knowledge, consisted of, “Do you know what andragogy and the 8-step process for teaching adults are?” and “Do you know what the laws of adult learners are, or have you ever heard of them?”. The second section, coaching strategies, asked, “On a scale of 0 -3, 0 being *None* or *Unsure* and 3 being *Very Knowledgeable*, rate your knowledge on the difference between coaching adults and coaching children?” and the third section, effectiveness, asked, “Do you think you would use the principles, process, or laws as part of your coaching strategy if you knew and understood them?” and “Do you think understanding how adults learn would be beneficial to coaches who coach adult athletes?”. The demographic type questions focused on age, gender, and how long they have been coaching. If the researcher saw anything extraordinary or had a question regarding the actions of a coach, the coach was asked follow-up questions during the interview regarding what the researcher saw or heard that was relevant to the research. Interviews were handwritten during the interview and shown to the participant immediately following the session for accountability and validity.

After the interview, each participant was given a handout, prepared by the primary investigator, *Andragogy in Sports Coaching* (Appendix D), and asked to read it prior to the next scheduled observation and interview. Each coach was receptive to the handout and interested in the content. For each participant, the second scheduled class was approximately one week after

the initial class. During the second observation and interview, the questions remained the same, with the exception of the demographic questions. The primary researcher watched from an inconspicuous location in the gym so as to not disturb the class in any way.

Once all observations and interviews were completed, the primary researcher began the field notes portion. The researcher attended classes coached by the participants of the study as well as classes coached by non-participants on a weekly basis for a period of one month, attending classes four-to-five days a week. Each class was one hour in duration; however the researcher arrived to the gym prior to the class start, along with other athletes, to observe the coach prepare for the class. During the field notes, the researcher conducted informal conversational interviews with other athletes in the class. Immediately following each class, the researcher completed field notes addressing the use of andragogical principles, and laws while coaching.

Data Analysis

After all observations, interviews, and field notes were completed, the data was transcribed using Microsoft Word, read through several times for accuracy, and then coded. First cycle descriptive coding and second cycle pattern coding were used to analyze and categorize the data. The researcher coded the observation and interview data separately for each coach. Each observation and each interview were reviewed twice for each cycle of coding. Coding was done using the comments feature in track changes of Microsoft Word and a code book was used to keep track of the codes, categories, and patterns. No other software was used during this research.

Validity is of great importance with a single researcher in a qualitative study. Maxwell (2013) states that, “although methods and procedures do not guarantee validity, they are essential

to the process of ruling out validity threats and increasing the credibility of your conclusions” (p.125). Therefore, a conscious effort was made not to allow the researcher’s personal bias to impact data collection, analysis or interpretation of results.

Summary

This chapter outlines the complete methodology employed for this research on the use of andragogy in coaching adult CrossFit athletes. Each of the methods are described and further discussed in their strengths and limitations. Using a qualitative approach to gather information by means of observation, interviews, and field notes. This chapter also outlines the procedure of research and analysis utilized in this study.

CHAPTER 4

RESULTS

Introduction

The case study addressed in this research was to explore the value of andragogy in coaching adult CrossFit athletes. There were three main research questions and this chapter used the research finding from Chapter Three to answer the study's research questions.

Answers to Research Questions

Question One. What is the value of andragogy in coaching adult CrossFit athletes?

Based on the second observations and interviews and the participant field research, four of the five coaches studied found utilizing andragogical principles within their coaching strategies to be highly effective when coaching adult athletes. The evidence suggests that coaches connected more with their athletes, participating athletes' motivation to train increased, and participating athletes' ability to learn increased when andragogical principles were applied to the coaching methodology. Although not all principles and laws were utilized, the coaches who attended to the individual needs of the athletes and applied what they could, found their athletes to be more perceptive and willing to learn, and most importantly, they retained what they learned in the coaching session.

Question Two. How do CrossFit coaches apply andragogical principles to their coaching strategies, if at all?

Based on initial observations and interviews, it is evident that many CrossFit coaches do not know or understand andragogical principles to apply them to their coaching strategies. The coaches studied, unintentionally used several steps of the 8-step process for adult learning and one of the laws of learning (need-to-know, preparation, setting the climate, diagnosing athletes'

needs, and fun), and when asked about using these principles, they indicated these actions were either mandated to do by the owner or recommended to do during the CrossFit Level 1 certification. During the second observations and interviews, the researcher identified four of the five coaches intentionally utilizing andragogical principles during their classes. They incorporated the principles into the warmup, the demonstrations, and during certain portions of the workout.

Question Three. What andragogical principles do CrossFit coaches find to be effective in their coaching strategies?

During the first observation and interviews, the researcher identified the coaches unintentionally used the need-to-know principle from the adult learning principles; preparation, setting the climate and diagnosing athletes' needs from the 8-step process for adult learning; and fun from the laws of learning. The use of the principles and 8-step process was either mandated to do by the owner or recommended to do during the CrossFit Level 1 certification, and coaches found them to be highly effective as coaching strategies, even though they did not understand why. The coaches who used fun or humor found these strategies to be an effective ice breaker and made the athletes feel, overall, more comfortable. During the second round of observation and interviews—after the coaches read the handout, *Andragogy in Sports Coaching*, created by the researcher—four of the five coaches were found to have increased their use of andragogical principles.

The coaches expanded their use of fun and included motivation to learn by incorporating games and small competitions into the warmup. They included orientation to learn and readiness to learn by giving examples of how the movements in the workout related to movements the athletes performed in their everyday life. Additionally, the coaches utilized athletes' self-

concept, experience and assisting them carry out the learning activities during the workout by allowing the athletes to make decisions on weights used and movements completed based on the athletes' abilities. They gave the athletes a chance to utilize their past experiences to make decisions for the workout, which gave the athletes responsibility and a sense of greater independence.

Summary

This chapter summarized the findings of the research questions in this study. The findings revealed four of the five coaches found knowing and understanding the adult learning principles, 8-step process and laws of learning to be beneficial and adapted them to their coaching strategies. The initial observations and interviews revealed the coaches were unintentionally, either by mandate or recommendation, using several adult learning principles, steps in the 8-step process and laws of adult learning while coaching. Per the data collected, the coaches were seen to mainly utilize the following andragogical principles and laws together: 1) motivation to learn and having fun, 2) orientation to learning and readiness to learn, and 3) athletes' self-concept, experience and assisting them carry out the learning activities. Findings suggested that coaches who utilized the andragogical principles and laws were more effective coaches and had a greater connection to their athletes than those who did not. These findings provide evidence of the importance of knowing, understanding, and utilizing andragogical principles and laws when coaching adult athletes and that implementing a class on how to apply andragogy to the art of coaching adult athletes.

CHAPTER 5

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Summary

The purpose of this research study was to determine whether there is value in using andragogy and andragogical principles while coaching adult athletes in CrossFit. With the limited research available for coaching adults, it is easy to see how large businesses in the sport coaching industry may overlook this area of learning for coaches.

A review of literature indicated that when coaches used coaching strategies that aligned with andragogy and used andragogical principles, they were more effective, and they connected with their athletes more than the coaches who did not utilize the principles. Although not all coaches viewed their athletes as learners at first, many of them in previous research, changed their view of the athletes as they learned andragogy and how to apply it to coaching athletes. Additionally, the literature suggests andragogy may be useful to provide an understanding of coaching strategies used in the context of coaching adult athletes.

Data for this study was gathered from observations, semi-structures interviews, and field notes from a CrossFit gym. Participants were coaches in the CrossFit gym, both male and female and ranged in age from 20 to 46. The coaches were all, at a minimum, CrossFit Level I certified coaches and had been coaching anywhere from one month to four years.

Findings

As outlined in Chapter Three, this study employed three main data gathering methods; observations, interviews and field notes. The results of data analysis provided a different perspective and qualitative picture of utilizing andragogy in a sport setting when coaching adult athletes in CrossFit. Although CrossFit classes are facilitated by a coach that guides the athletes

through the workout, it still allows for self-direction and independence to assist the athlete in reaching their full potential and build on that foundation, as is with andragogy in education. This chapter is organized to relay the findings of each method in the order that it was utilized and analyzed. The findings are organized into the three methods of research for better understanding. This chapter answers the three main research questions, utilizing the findings outlined in Chapter Four, based on the three data collection sources, and highlights the research conclusion.

Major Findings from Observations

During the initial observation, it was abundantly clear that the coaches all had their own style of coaching, and whether they realized it or not, they all used some unifying form of andragogical principle(s) during their classes. In each observation, the researcher deliberately watched for evidence of andragogical principles in the coaching strategies. Table 6 outlines the major themes and sub-themes that stemmed from the initial observations and how they relate to andragogical principles, the 8-step process, or the laws of learning.

Table 6

Major Themes and Sub-Themes from Initial Observations

Major Themes	Sub-Themes	Principle, Process, or Law
1. Unintentional use of andragogical principles.	Requirement set forth by owner Recommendations set forth at CrossFit certifications.	Need-to-know, Preparation, Setting the climate, and Diagnosed the athlete's needs
2. Coaching strategies are influenced by their role as an athlete.	Learn from past coaches, both good and bad. Do what they would want as an athlete.	
3. Athletes appreciated coach who was attentive.	Coach comes across as caring. Coach cares about safety.	Motivation

Continued

Table 6 Continued

4. Coaches do what they've asked the athlete to.	Requested by owner Athletes listen to coach more when they know the coach has also done the workout. Athletes pay more attention to coach who is also an athlete.	Motivation
5. Very different coaching styles.	Personality driven. Based on athletic experience.	
6. Coach considers form and technique are important	Learned at CrossFit level 1 certification. Requested by owner to ensure safety of athletes.	
7. Not all athletes are equally fit	Coaches had to create modifications to movements for newer or not as fit athletes. One athlete has a neurological disease, he modifies a lot on his own but asks for help.	Diagnosing the athlete's needs.
8. Use of humor at the beginning of class	Made athletes smile and laugh Athletes appeared more relaxed after the use of humor	Learning is directly proportional to the amount of fun you have.
9. Encouragement	Not all coaches High-fives / Fist bumps Athletes appreciate it	

All coaches addressed the athletes need-to-know, preparation, setting the climate, and diagnosed the athletes' needs, as these items are a part of the Level 1 CrossFit certification and required by the owner. As each coach had their own way to address these items, the athletes responded differently to each coach. The coaches who made the need-to-know, preparation, setting the climate, and addressing the athletes need a priority had a better response from the athletes than the other coaches who just treated the themes like a check off list. All the coaches walked around during their class to ensure athletes form and technique during movement was correct.

Regardless of the coach, all classes followed an almost standardized schedule within the one hour time frame: welcome and greet the athletes, explain the workout and warm up, demonstrate the movements, complete the warm up, prepare for the workout (each athlete gets the equipment needed for the workout), and complete the workout. The workout is set by the owner each day. The coach has the liberty to change up the warmup and each athlete makes the decision on the movement or weight used.

During the second round of observations, the researcher deliberately watched for evidence of additional or intentional andragogical principles in the coaching strategies of the coaches. During the coding process of the second observations, several additional themes were identified along with the same themes of the initial observation. Table 7 outlines the major themes and sub-themes that stemmed from the second observations and how they relate to andragogical principles, the 8-step process, or the laws of learning.

Table 7

Major Themes and Sub-Themes from Second Observations

Major Themes	Sub-Themes	Principle, Process, or Law
1. Used same principles at the start of class as initial.	Requirement set forth by owner Recommendations set forth at CrossFit certifications.	Need-to-know, Preparation, Setting the climate, and Diagnosed the athlete's needs.
2. Addition of games in warm up (4 of 5 coaches added a game)	Athletes had fun, laughed, smiled Coach appeared to have fun as well. Compliments on games for warmup Comments "We should do these more often" "That was really fun" "I like games, thanks coach"	Learning is directly proportional to the amount of fun you have.
3. Related exercise movements to real-life.	Describes how movements done in the workouts can be translated to movements done in everyday life.	Readiness to Learn, and Orientation to Learning.

Continued

Table 7. Continued

4. Coaching strategies are influenced by their role as an athlete.	Learn from past coaches, both good and bad. Do what they would want as an athlete.	
5. Athletes appreciated coach who was attentive.	Coach comes across as caring. Coach cares about safety.	Motivation
6. Coaches do what they've asked the athlete to.	Requested by owner Athletes listen to coach more when they know the coach has also done the workout. Athletes pay more attention to coach who is also an athlete.	
7. Very different coaching styles.	Personality driven. Based on athletic experience.	
8. Coach considers form and technique are important	Learned at CrossFit level 1 certification. Requested by owner to ensure safety of athletes.	
9. Not all athletes are equally fit	Coaches had to create modifications to movements for newer or not as fit athletes. One athlete has a neurological disease, he modifies a lot on his own but asks for help.	Diagnosing athlete's needs.
10. Coach allowed for independence	Coach gave athletes a time frame to complete a lift, didn't tell them when to go. Coach allowed athlete to choose and monitor their weight used.	Self-Concept, Experience, Helping Athlete carry out learning activities.
11. Use of humor at the beginning of class	Made athletes smile and laugh Athletes appeared more relaxed after the use of humor.	Learning is directly proportional to the amount of fun you have.
12. Athletes as learners/students	Coaches didn't look at athletes as learners or students before.	

Although some of the themes were the same in both the initial and second round of observations, the second round of interviews with the coaches revealed that the intentional use in the second observations as opposed to the unintentional use of the initial observations.

Major Findings from Interviews

The initial interviews identified that none of the coaches had any knowledge or experience with andragogy, the adult learning principles, or the laws of learning, thus they were unsure if using andragogy, adult learning principles, or the laws of learning would be useful or effective in their coaching strategies. During the interview, several coaches made reference to past coaches, ones they liked and ones they didn't, to learning what they wanted as an athlete and used those experiences to coach. When asked Question Three (rating their knowledge on the difference between coaching adults and children on a scale of 0 to 3, where 0 represents *None* or *Unsure* and 3 represents *Very Knowledgeable*), all coaches gave themselves a score of 2, *Some Knowledge*. The coaches made statements like "As an adult athlete myself, I don't want to be talked to or treated like a little kid, so I treat the adult athletes the way I would want to be treated" or "I know there is a difference, just not quite sure what it is and I don't want to be coached like a child, so I don't want to coach other athletes as if they are children."

When asked about the preparation for class, setting up the music, welcoming the athletes, going over the warmup and workout, demonstrating movements and addressing any injuries or needing to modify any of the movements, all coaches stated that these were required by the owner in addition to simply being a good business practice for all CrossFit gyms. These techniques were concepts that they were taught in their CrossFit Level 1 certification and something they have seen demonstrated in all other CrossFit gyms they have visited. Although, some coaches reported not all CrossFit gyms completed a group warmup like they do in each class, all coaches prefer to have a group warmup as it helps the coach to see movement issues, if any, and to ensure that the athletes are ready for the workout. Additionally, Coach 0002 stated that "a group warmup lightens the atmosphere and allows new athletes to meet everyone." The

warmup portion of the class could align with the setting the climate and diagnosing the athlete's need steps in the 8-step Process for Adult Learners/Athletes. When given the prepared handout, *Andragogy in Sports Coaching* (Appendix E), four of the five coaches said that they were excited to read it and to see if they learned anything to assist them with their coaching strategies into the future.

The second interviews identified the possibility that the use of andragogy, by coaches who coach adult athletes, would be beneficial. Four of the five coaches found the handout, *Andragogy in Sports Coaching*, to helpful and informative. Coach 0001 stated,

After I read the packet, I think it's in the 8-step thing, but there was a bit in there about giving the athlete independence and freedom during a workout. I thought about when I lift, and when the coach says go, even though your 'supposed to go' I always wait a few seconds, prepare myself for the lift and then lift. I figured, if I like doing that, maybe they do to.

Coach 0002 made the following statements about utilizing andragogy as a coach with adult athletes:

So when I read in the laws part about learning being proportional to having fun, I understood and it I wanted to make sure my athletes were having fun." and "I've been using them and I have already noticed a difference in my classes. The biggest difference for me is that they respond better to me. I mean they liked me before but after implementing some of the stuff, several have come up to me and said there's something different about my classes that they really like, but they can't put their finger on it.

Coach 0004 said the following about using andragogy while coaching adults: "Knowing how an adult learns makes it easier for me as a coach to help athletes understand and learn new

movements.” When asked if he would use the principles, process, or laws as part of your coaching strategy if you knew and understood them, Coach 0005 replied

Yes absolutely. I think they are very useful. Maybe more so for personal trainers with the involvement of their athletes. I think as coaches we are limited but I believe they are very helpful. I think though that as a personal trainer, it might be easier to implement all the principles and stuff but as a coach here, there’s definitely the ability to use some of them.

Coach 0003 was unsure of the application of andragogy in a coaching environment. When asked if she would use the principles, process, or laws as part of her coaching strategy and if she knew and understood them, the coach stated, “I don’t know. I’d like to see someone else use it. I don’t see how they relate. How does knowing how adults learn, make a difference in coaching adults? I don’t see the athletes here as students.” Like coach 0003, there are other coaches who did not look at athletes as learners or students. Cassidy, Potrac and McKenzie (2006) found that the majority of the coaches they studied rarely thought of their athletes as learners. Thinking of athletes as learners may be a new way of thinking for coaches in all sport disciplines.

As a follow up question to all coaches, the researcher asked if they thought having a class, whether online or seated, on andragogy and how to apply the principles, the 8-step process and the laws of learning would be beneficial, all five coaches responded with “Yes.” Coach 0003, who had a hard time understanding how andragogy and coaching related to each other, specifically asked if there was a class locally that she could attend. Coach 0002 that said would find a class extremely beneficial to learn from other coaches and adult educators and to share coaching strategies.

Major Findings from Field Notes

During the field notes part of the research, the researcher was fully immersed as an athlete, for the purpose of being a part of the culture to do informal interviews of the athletes and to see if the athletes experiences were different between the coaches who used andragogy and the coaches who did not. It is important to keep in mind that this portion of the study was conducted after the initial and second direct observations and interviews. The reason behind conducting this part following the initial and second direct observations and interviews was to see if the coaches intentionally utilized the andragogical principles and laws in their coaching strategies. The researcher attended classes as an athlete for a period of one month, attending five classes a week, and ensuring that each class was coached by one of the participating coaches. Additionally, the researcher did not inform any of the coaches which classes were going to be attended because the researcher did not want their presence to cause disruptions to coaching strategies or participant reactions. Data was gathered using descriptive notes taken at the end of each class from participation in the workouts and conversational informal interviews with athletes and coaches. Table 8 outlines the number of classes attended and the different class times with each participating coach.

Table 8

Field Notes Classes Attended

<i>Coach Number</i>	<i>Class Times</i>	<i># of classes attended</i>
0001	5 or 6pm	4
0002	4 or 5 pm	4
0003	5 and 9 am	4
0004	12pm	4
0005	5 and 9am	4

The participating CrossFit gym offers many different class times and a specific time for open gym; however, the researcher only attended classes of the participating coaches held at 5am, and 12:00, 4:00, 5:00, or 6:00PM during the week and 9:00 AM on Saturdays. The researcher arrived 10-to-15 minutes early to converse with other athletes and observe the participant coaches prepare for class. Coaches arrived at the gym between 10 and 15 minutes prior to class to get ready for their class. Each class started on time each day and ran for an hour as there was an additional class immediately following. Warmups took anywhere from 10-to-15 minutes and the workouts varied in time and movements every day. The owner posts the workout of the day on the gym website the night before to give athletes and coaches a chance to see what is coming up for the next day. The owner stated the following about posting the workouts on the website:

All the workouts are on the website to allow the athletes to mentally and physically prepare for the workout. Many athletes wear or bring specific gear based on the workout they will be doing. I also have athletes that travel for work or are in the military and deploy, so if they can get to another gym or find a local CrossFit gym, they can do the same workout as their friends and family here.

The gym is neat and clean and the equipment is well taken care of and organized. There is an area with couches and cubby lockers for athletes waiting for their class, a fridge with recovery drinks to purchase, a water machine with water available at different temperatures, and a freezer full of food for purchase as well. This gym is a pick up location for a healthy food service that sells premade meals. In a brief conversation with the owner about coaches' responsibility to prepare for class, he stated the following:

It is the coach's responsibility to ensure the gym is ready for each class. Preparation

includes ensuring the they gym and restrooms are clean, the warmup, workout, and the names of the athletes attending class are written on the white board, the music is at a reasonable volume, and the equipment is available and clean for the class. The reason we write the names of the athletes attending class is so that we can record their times, scores, or weight down on the board for records. We will do the same workouts over time and the athletes like to see if they get better. I take a picture of the board each night and post on Facebook so we can keep track.

When the researcher arrived to the afternoon classes, the music was up, and people were walking around in gym clothes. When the researcher arrived to the 5:00AM classes, the coach was setting up the gym for the day, writing the warm up and the workout on the board, and turning on the music. It appeared as if the gym members attended the same class or close to the same class every day; when they arrived, they often hugged each other, said warm hellos, asked “how the family is doing”, and complimented each other on their workout clothes—they appear to be almost like a family. One athlete said the following about the atmosphere,

I love this place. I come to the same class time every day, because I like to work out with my friends and we consider ourselves gym family, it’s like having a huge extended family. We have family outings on holiday and birthdays and sometimes we go bowling together. The guys will all get together and a guy night or something, and we have ladies night. We don’t always have the same coach every day and each coach is different. We have some great coaches and some not so great.

As one class finished, the next class’ participants started to gather around the white board where the warm up and workout had been written. Each class did a warm up together and then the workout, and although the workout was the same for every class, each coach had a different

way of explaining and running it. An athlete stated the following about the difference in coaches,

We have some awesome coaches here. Some more knowledgeable than others but they are all good in their own way. Some talk to us like we are kids, and other really know how to coach. We've had a few coaches start adding games to the warmup and we really enjoy that. Others just follow what's on the board. For the ones that talk to us like kids or aren't very sure, we all just do what's written and help the new folks."

This statement leads the researcher to believe the athletes noticed differences in the coaches who participated in the study and used the andragogical principles and laws.

The participation field notes were conducted after the observations and interviews to identify whether the coaches adopted andragogical principles and laws into their coaching strategies. Four of the five coaches continued to use the andragogical principles, the 8-step process to adult athletes and adult laws of learning.

Motivation to Learn and Fun

The findings in this section show how the coaches used motivation to learn and Bob Pike's third law "Learning is Directly Proportional to the Amount of Fun you Have," to enhance their classes and connection to their athletes. Coaches 0001, 0002, 0004, and 0005 introduced different games and used them for the majority of classes attended during the warmup. The athletes really liked the games. Multiple comments were made by the athletes about games in the warmup (e.g. "Coach that was fun, you should show all the coaches your games." "Why don't more coaches play games in the warmup?", "Coach, we need an hour of games.", and "Can you teach other coaches your games.") When Coach 0002 was asked, "Why did you start doing games? I like it, but what caused this?" she answered, "Because I know you'll learn more when

having fun.”

Coach 0005 held a plank competition for a drink of the winning athlete’s choice, and all the athletes in the gym, not just the ones in class, wanted to participate. During the challenge, jokes were thrown around and athletes moved in the plank position to try to push each other over to win. When the competition was over, the athletes were laughing and asked to do more of the same in the future. The athletes in the class quickly returned to the whiteboard for the coach to go over the rest of the warmup and workout and seemed more attentive and ready to train than before the plank contest. When asked by an athlete why the coach did that, Coach 0005 said, “As a whole, the class didn’t seem to ready to train, so I wanted to get your attention and change your attitude towards the workout, and give you a bit of motivation.” The athlete who asked the question responded with “Well, it worked. I think we are all ready.”.

Coach 0003 used several jokes to get the athletes to laugh, but the atmosphere was very different in her their classes as opposed to the other coaches’ classes. Athletes made comments to each other like, “I wish she would do games too,” “I bet she wouldn’t do a contest,” and “I wish I knew when she was coaching, so I wouldn’t come. Her classes are boring.”. Utilizing games, fun and healthy competitive challenges or competitions may increase the athletes’ motivation to learn.

Orientation to Learning and Readiness to Learn

Three of the five coaches explained the workouts in a way to relate to real-life scenarios in which the athletes might use several of the movements. Coach 0004 stated, “Think of picking up a little kid and throwing them in the air, or grabbing a big bag of dog food or garden soil and having to put it up on the counter or on a shelf.” The athletes seemed to really appreciate that, saying, “Oh wow, that makes so much sense,” “So I have been picking stuff up wrong, no

wonder my back hurts,” and “Thank you for explaining that; I have often wondered how what we learn in the gym can be used in life.” Coach 0002 used the analogy of being a parent and holding their child in one hand while carrying groceries in the other. Several athletes laughed and nodded their heads in understanding. After the coaches made it clear that the movements imitated real-life, the athletes appeared to be more into the workout. One athlete said to Coach 0001, “Thank you for explaining that. I have never been able to get a straight answer as to how this movement related to anything we do in real-life.” As a person matures, immediate use of knowledge and application of that knowledge becomes more important. Many of the athletes in the class mentioned that, before the coaches started telling them how to use movements learned in the gym functionally in life, they were not really concerned with form or technique. However, when the coaches started defining how to apply the movements to their everyday lives, they became more aware and cognizant of their form and how to make sure that they were doing the movements correctly.

Athletes’ Self-Concept, Experience and Assisting Them Carry Out the Learning Activities

During six of the ten classes, there was an opportunity for the coaches to give the athletes the choice as to what weight to use and identify modification to very difficult movements. Four of the five coaches afforded this opportunity to the athletes. Although the workouts had specified weights and movements, the coaches realized many of the athletes would not be able to lift the weight listed or complete the movement as described, so the coaches gave the athletes the opportunity to choose what weight and movement would be best for them. The majority of the athletes were appreciative of this independence but still consulted the coach on weights and movements as they said they respected the coach’s opinion. Additionally, this independence sparked a motivation in several of the athletes to train harder as they were disappointed that they

could not do the movement described in the workout. However, when they were given the opportunity to choose a movement they could do that was similar to the posted movement, it noticeably changed their attitude and morale.

The coaches who did not afford the opportunity of choice to the athletes had several athletes who dropped out of the class and said they would wait for the next class. When asked why they could not choose a different weight, the coach responded with, “That’s not what is written on the board.” In one of the classes, the gym owner came out to the gym floor at the beginning of class to speak to Coach 0003 about letting the athletes choose their weights and movements. The coach said it should have been written on the board to give them the freedom to choose.

Several athletes just chose different weights and movements anyway, without consulting the coaches. There was a very different social atmosphere to the classes where the coaches did not allow for participant independence. When the coach afforded for independent training and recognized the athletes’ self-concept and experience, it showed the athlete that the coach understands the inner nature of an adult learner and are more connected to the athletes’ interests and preferences.

Conclusion

As an exploratory study, this was the first to specifically address the coaching strategies of CrossFit coaches with adult athletes. On a theoretical level, the findings matched Knowles’ 6 Assumptions of the Adult Learner/Athlete, Knowles’ 8-Step Process for Adult Learners/Athletes, and Bob Pike’s Laws of Adult Learning, meaning that coaches who know and understand andragogy use similar approaches as academic teachers when facilitating learning in a sport. The findings of this research provided limited, yet informative, data derived from observations,

interviews, and field notes to help create continuing education for coaches of adult athletes. While many coaches appear to competently coach adult athletes without the use of andragogy, requiring continuing education geared specifically towards teaching coaches andragogy and how to apply it in coaching strategies may lead to more effective and proficient CrossFit coaches with adult athletes. Although this study was geared specifically toward CrossFit coaches, the findings lead to be true across all sport disciplines.

Recommendations

This research looked at one specific sport, at one CrossFit gym to determine the value of utilizing andragogical principles and laws when coaching adult athletes. Based on the findings of this study, the first recommendation is to conduct more research. Although the research findings conducted on this subject suggests that coaches who utilize andragogical principles within their coaching strategies are more effective and are more connected to their athletes, the amount of research conducted is very limited. Larger scale research into the applicability and effectiveness of andragogical principles and laws in coaching adult athletes in all kinds of sports at all levels of competition is needed

The second recommendation is to provide continuing education for coaches on the use of andragogy in sports with adult athletes. The continuing education could be provided by different associations and certifying bodies within the fitness industry such as CrossFit, National Strength and Conditioning Association (NSCA), and National Academy of Sports Medicine (NASM), or offered in technical colleges where fitness industry classes are taught.

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APPENDICES

APPENDIX A – EMAIL TO REQUEST PARTICIPATION

Email to request participation

To: (CrossFit boxes in Charleston, SC area)

From: Tiffany Peltier

I am Tiffany Peltier, a Graduate student in the Workforce Education and Development Program at Southern Illinois University at the Joint Base Charleston, SC. I am recruiting CrossFit coaches to participate in a research titled “The Exploration in the use of Andragogy in coaching adult CrossFit Athletes”.

The purpose of this study is to research the value of applying andragogical principles (adult learning principles) to coaching adults in a sport setting, specifically in the sport of CrossFit. The participation of your coaches would help reveal if learning how adults learn will have positive effects on coaching adults in CrossFit.

Your coaches will be asked to participate in two observations and interviews and requested to read an informational handout on andragogy and how it relates to coaching adult athletes. The observations and interviews will take place during a normal coaching time for the participant. Additionally, I would like to take classes for a period of one month to do field research after the coaches have read the handout to see if they utilize andragogy in their coaching strategies. The field research will comprise of informal conversational interviews and observations and a participant.

All reports written by the researcher concerning this study will be written to ensure the anonymity of the participants. No one will be identified by name in any reports and the researcher will take all reasonable measures to protect each participant’s identity. Coaches are

free to withdraw from this study at any time with no penalty. Participants must be 18 years or older to participate in this research study.

If you have any further questions about the research, please feel free to contact me or my advisor.

Tiffany Peltier

tiffany.peltier@siu.edu

(619) 756 - 0367

Dr. Lin Zhong

lin.zhong@siu.edu

(618) 453 – 1935

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Sponsored Projects Administration, Southern Illinois University, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu

Thank you for your consideration on participating in this study.

Tiffany M. Peltier

APPENDIX B – INVITATION AND CONSENT TO PARTICIPATE

LETTER OF INVITATION AND CONSENT TO PARTICIPATE IN A RESEARCH PROJECT ON ADULT LEARNING PRINCIPLES AND EFFECTIVENESS OF COACHING

Project Title: The Exploration in the Use of Andragogy in Coaching Adult CrossFit Athletes.

My name is Tiffany Peltier and I am a graduate student in the Workforce Education and Development department at Southern Illinois University.

I am conducting research on the value of adult learning principles, and laws of learning in coaching adult CrossFit athletes for the partial fulfillment of the Master of Science degree and I would like to extend an invitation to you to participate in this research.

Participants will be asked to participate in two observations and interviews and requested to read an informational handout on andragogy and how it relates to coaching adult athletes. The observations and interviews will take place during a normal coaching time for the participant.

All your responses will be kept confidential within reasonable limits and only those involved in the research will have access to the data. Participants will be assigned a coach number to alleviate the use of names. All materials used in this study will be destroyed after the study.

Participation in the research is completely voluntary and you may choose to withdraw from the research at any time or not answer questions that you do not feel comfortable answering. Participants must be 18 years and older to participate in this research study.

If you have any further questions about the research, please feel free to contact me or my advisor.

Tiffany Peltier

tiffany.peltier@siu.edu

(619) 756 - 0367

Dr. Lin Zhong

lin.zhong@siu.edu

(618) 453 – 1935

I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I consent to my participation in the research described above.

Participant Signature

Date

Participant's Printed Name

Observers Signature

Date

Observer's Printed Name

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the

Committee Chairperson, Office of Sponsored Projects Administration, SIUC, Carbondale, IL
62901-4709. Phone (618) 453-4533.

E-mail: siuhsc@siu.edu

Thank you,

Tiffany M. Peltier

Principle Observer

Graduate Student

Southern Illinois University

Email: tiffany.peltier@siu.edu

Mobile: (619) 756 - 0367

APPENDIX C – ANDRAGOGY IN SPORTS COACHING

Andragogy for Coaching Adults

Participant Handout

Andragogy: Adult Learning Principles

Definition: Andragogy: The art and science of helping adults learn, involving the study of adult education theory, processes, and technology toward that goal. Malcolm Knowles

Although the movements of CrossFit are based on functional movements, movements we do every day, athletes still need to learn how to do the movements properly. This is where the teaching by the coach and the learning by the athlete happen. Understanding adult learning principles may enhance the effectiveness of coaching adult athletes as you will be addressing the inner nature of how adults learn.

This text will present the principles from Malcolm Knowles and Bob Pike in such a way that the student may apply them in coaching adult athletes.

Principles

6 Assumptions/Principles of the Adult Learner/Athlete:

- a) Need to know: In order for an adult to be a successful learner in any program, he/she must know the importance of learning what is being taught and why they need to know it.
- b) Self-Concepts: As a person matures their self-concept moves from a personality of being dependent to a self-directed person responsible for their own actions.
- c) Experience: As a person matures, they accumulate many experiences they use for learning and educational decision-making.
- d) Readiness to learn: As a person matures, their readiness to learn becomes based more on the development of tasks in social roles and showing their readiness to learn.

- e) Orientation to Learning: As a person matures, their perspectives change from postponed application of knowledge to an immediate use of knowledge, and his orientation to learning changes from subject-centered life-centered and problem solving.
- f) Motivation to Learn: As a person matures their motivation to learn is an internal drive but affected by external pressures.

8-Step Process for Adult Learners/Athletes

- a) Preparing the Learners/Athletes:

Learner: Creating a syllabus for the learner prepares them for the class

Athlete: Creating a platform for the training program to be published will prepare the athlete for the training session.

- b) Setting the Climate:

Learner: Preparing the environmental climate and creating a climate of mutual respect and supportiveness enhances learning.

Athlete: Coaches should prepare the environment and set a climate that is relaxed, supportive, collaborative and respectful which enhances the learning.

- c) Involving Learners/Athletes in Diagnosing Learners/Athlete's Needs:

Learner: Involving the learner in identifying areas for improvement may enhance their motivation.

Athlete: Involving the athlete in identifying area for improvement within technique, movement or nutrition may enhance their motivation.

- d) Involving Learner/Athlete in Defining Objectives:

Learner: Involving the learner in defining the objectives to meet the performance outcomes may enhance the learner's ownership of material and motivation to learn.

Athlete: Collaboration between the coach and the athlete in the athlete's desired outcome (goals) may enhance the athlete's ownership of training program and motivation to meet the desired goals.

e) Involving Learner/Athlete in Developing Objectives:

Learner: Involving the learner in the creation of activities, projects and sequencing may enhance the readiness to learn.

Athlete: Involving the athlete in the movements or exercises to be implemented in the training program may increase the athlete's readiness

f) Involving Learner/ Athlete in Developing Instruction Outline:

Learner: Involving the learner in creating projects, learning contracts and sequencing may increase the readiness of the learner.

Athlete: Involving the athlete in the why and how of the training program may increase the readiness of the athlete.

g) Helping Learners/ Athletes carry out Learning Activities:

Learner: Allowing the learner to study independently or in group workshops may increase the motivation to learn.

Athlete: Allowing the athlete to train independently and choose new movements to learn may increase the motivation to learn.

h) Involving Learners/ Athletes in Evaluating Learning:

Learner: Learner collected criterion referenced evaluations with peer, facilitator and expert review.

Athlete: Coaches that evaluate their athletes periodically asking the athlete how they feel/think training is going and allowing other athletes to give feedback to each other will foster a respectful environment and may increase a readiness to learn.

Laws of Adult Learning / Application to Athletes:

a) Adults are Babies with Big Bodies:

Learner: As babies we learn through experience. As adults we learn by applying our past experiences to new ones.

Athlete: Adult athletes apply their past experiences when learning a new sport or skill and/or starting a new training program.

b) People Don't Argue with Their Own Data:

Learner: Adults will believe information formulated or gather through their own experience more than they will information taught.

Athlete: Athletes will believe what they experience more than what they are told. When an athlete feels the proper form or technique, they will remember what they did to create that feeling more than they will what the coach tells them.

c) Learning is Directly Proportional to the Amount of Fun You Have:

Learner: Adults have both bad and good experiences they apply to learning and training. Using humor or fun activities and involving the learner in training may increase the learner's motivation to learn.

Athlete: Adult athletes also apply the good and bad experiences from their past to their fitness training, using games, healthy competitive challenges or competitions may increase the athletes' motivation to learn and train.

d) Learning Has Not Taken Place Until Behavior Has Changed:

Learner: What the learner does with the information and how they apply it is more important than the information taught. The more vivid the experience of training, the more likely the learner will change behavior.

Athlete: How the athlete applies the information taught to perform a movement or skill is more important than the information taught. The more vivid experience (practice) the athlete has the more likely the behavior will change.

- e) Fu Yu, WuYu, Wzu Tu Yu (It Doesn't Matter What I can Teach You, It's What I can Teach You to Teach Others):

Learner: After the information has been taught and the experiences have taken place, can the learner now become the teacher and pass on the information.

Athlete: After the skill or movement is learned with the proper form and technique, can the athlete now become a coach or give pointers to other athletes to correct form or technique.

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SUMMA CUM LAUDE

Research Paper Title:

The Exploration In The Use Of Andragogy In Coaching Adult CrossFit Athletes

Major Professor: Lin Zhong, PhD.