



Associations Between National Archers' Skills and Abilities of Their Efficient Archery Posture Training Analysis of Archery Performances for Excellency Achievements

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Abstract

Purpose of the study: The aim of this study was to assess on associations between national archers' skills and abilities performances of their Actual and Preferred Forms to their efficient archery posture training analysis for the excellence achievements by the guideline of the expert professional trainers and watching the postures of a world-class archer videos were observed and analyzed.

Methodology: Creative the effective archery skills and abilities of the 31-national archers who were volunteers that controlled the timing taken shooting an arrow 10 times. Actual Form (before their participation) and Preferred Form (after they have been trained and practiced) were compared. Archer Performance Ability (APA) Form and the Archery Skill Analysis Assessment Form (ASAAF) instruments for assessing were associated.

Main Findings: The national archery age as 23 years old, height 171 cm, weight 64 kg. The shooting outcomes of scoring as 79 and 86 for the Actual and Preferred Forms in 10 times were tested. The R2 values comprise 51% and 69% of the variances in archers' abilities to their archery skills were attributable to their actual and preferred performance achievements.

Applications of this study: Analysis of archery skills, it comprises 10 skills, namely: Stance, Hooking, Drawing,

Anchoring, Loading/Transfer to Holding, Physical Strength and Stability, Developing Intense Focus and Concentration, Aiming, Releasing, and Following through skills that they were trained and practiced by the archery expert professional. We got the data from the development of archery sports for further excellence in the achievements of efficient archery postures.

Novelty/Originality of this study: Archers of Thailand have taken part in four SEA Games, one World Archery Sport, and the Annual Asian Grand Archery Competition, never qualified as an athlete to compete in the Olympic Games. Thailand National Sports Universities are the public Higher Education for Sports Formerly. We solved the main important for this study to investigate the problems for archery sport in Thailand.

Keywords: Archers' volunteer; efficient archery posture; Training and practicing; Analysis of archery performances; Comparisons and excellence achievements

Introduction

Normally, Archery is the art, sport, practice, or skill of using a bow to shoot arrows. The word comes from the Latin arcus for bow (Paterson, 1985) [1]. Archery has been used for hunting and combat. In modern times, it is mainly a competitive sport and recreational activity. A person who participates in archery is typically called an archer or a Bowman, and a person who is fond of or an expert at archery is sometimes called a marksman (Lombard, 2020) [2]. Interestingly, archery was highly developed in Asia. The Sanskrit term for archery, dhanurveda, came to refer to martial arts in general (Backwell et al., 2008) [3]. In East Asia, Goguryeo, one of the Three Kingdoms of Korea was well known for its regiments of exceptionally skilled archers (Duvernay & Duvernay, 2007) [4]. Classical civilizations, notably the Assyrians, Greeks, Armenians, Persians, Parthians, Romans, Indians, Koreans, Chinese, and Japanese fielded large numbers of archers in their armies (Zuterman, 2003) [5].

The development of firearms rendered bows obsolete in warfare (Gunn, 2010) [6]. Armies equipped with guns could thus provide superior firepower, and highly trained archers (Spacewar.com, 2012) [7]. Moreover, the bow and arrow is still an effective weapon, and archers have seen action in the 21st century (Okeowo, 2012) [8]. Modern game archery owes much of its success to Fred Bear, an American bow hunter and bow manufacturer (Bertalan, 2007) [9]. Archery is now considered an internationally standard sport as it is included at the Olympic Games level, Asian Games, and SEA Games by organizing competitions in categories Recurve bows and Compound bows are classified into male and female types (World Archery, 1994) [10].

Bows may be broadly split into two categories: those drawn by pulling the string directly and those that use a mechanism to pull the string. A Recurve Bow and some types of longbow have tips that curve away from the archer when the bow is unstrung (Figure 1(a)).

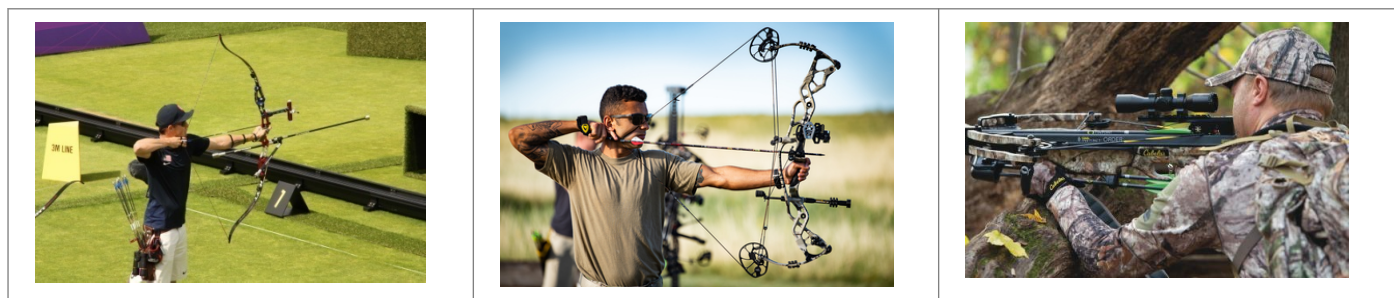


Figure 1: Types of Bows

a) A Recurve Bows b) Compound Bows c) A Crossbow

The classic longbow is a tall bow with narrow limbs that are D-shaped in cross section, and the flat bow has flat wide limbs that are approximately rectangular in cross-section. The Compound Bows are designed to reduce the force required to hold the string at full draw, hence allowing the archer more time to aim with less muscular stress (Figure Caption 1(b)). The Crossbows typically have shorter draw lengths compared to compound bows (Figure Caption 1(c)). However, they have similar technology or work in the same way as other bows. Therefore, crossbows are part and parcel of archery and should be wholly accepted in the sport. The best type of bow for a beginner is a recurve bow. This will enable archers to learn the basics of archery with the most versatile and cost effective type of bow before archers consider getting a more expensive compound. Focused on the archery sport, an archer shoots either 3 arrows per end (indoors) or 6 arrows per end (outdoors). After each end, the competitors walk to the target to score and retrieve their arrows. Fletching on an arrow shaft stabilizes the shaft during flight by causing it to spin as it leaves the bow, just as a quarterback puts a spiral spin on the football as he passes. Spinning keeps the arrow on its flight path and preserves speed, accuracy, and, ultimately, impact power. There are three main types of bow string forms that have been used to fit bows. The three types are described as simple, reverse-twisted, or looped. Simple bow strings can be made of any type of fiber material. Reverse-twisted strings are made by twisting two bundles of strings in opposing directions then twisting the entire group of strings in the same direction. These strings are an upgrade from simple strings as they are much stronger for their weight and can be drawn to a higher tension. Looped strings are the type of string that all modern compound bows use. Those are made of one or more loop of material. Target archery is the most popular form of archery, in which members shoot at stationary circular targets at varying distances. All types of bow, longbow, bare bow, recurve and compound that can be used. Modern competitive target archery is governed by the World Archery Federation (abbreviated WA). WA is the International Olympic Committee's (IOC) recognized governing body for all of archery and Olympic rules are derived from the WA rules. Standard WA targets are marked with 10 evenly spaced concentric rings, which generally have score values from 1 through 10 assigned to them, except in outdoor Imperial rounds under AGB rules, where they have score values 1, 3, 5, 7 and 9. In addition, there is an inner 10 ring, sometimes called the X ring. The failure of archery in Thailand, a key factor in the failure of archery, is the much better development of other countries' sports. Essential elements of Thai athletes didn't reach their target, namely the abilities of the Thai athletes, combined with the abilities of the competing nations. This situation is the main important for this research study to investigate and solve the problems for the archery

sport in Thailand. However, nowadays, the world is taking sport seriously as it has become a part of people's lifestyles. It also plays a role in economic and social development. As long as the world trend has changed and entered various competitions. Seriously, sports are therefore an option or an activity that the entire nation can't overlook. Researchers' team is interested in developing this sport with the research study it was seeking.

LITERATURE REVIEW

The sports sector contributes to the economy in many ways: by supporting employment and adding to the economic output due to commercial activities, by contributing towards increasing expected life span of the population, by facilitating better lifestyles that can also lead to increased income levels, by helping to avoid healthcare costs, as well as a number of other social benefits. The economic value of the sports sector is therefore comprised of a number of monetary and nonmonetary elements, which require different approaches for their estimation. This report provides an assessment of the value of sport sector activities in the West of England in 2012. It also projects the expected future value of the sports sector in the next ten years. Sports Econ Austria, Sport Industry Research Centre (SIRC) at Sheffield Hallam University, Ministry of Sport and Tourism of the Republic of Poland, etc. reported of their studied on the Contribution of Sport to Economic Growth and Employment in the European Union was carried out in 2011-2012, based on data collection in all 27 EU Member States focusing on sport as an economic activity. Using these accounts to make a Multiregional Input-Output Table: Sport (MRIOT: S). Hence one of the results of the study, sports are proxy tables and should therefore be used with caution, Sport, of direct relevance for this study, have already been developed in several EU Member States based on the statistical definition of sport agreed by the EU Working Group on Sport and Economics in 2007.

Having that in mind, the main factors of a prosperous country seem to be: Economy based on innovation; efficient tax collection; Efficient government. In addition to these automatic stabilizers, short-term stability can be maintained by altering monetary conditions, such as raising or lowering interest rates, or by expanding or contracting the money supply. Most national economies and monetary unions review monetary policy on an ongoing monthly basis to the economic output due to commercial activities, by contributing towards increasing expected life span of the population, by facilitating better lifestyles that can also lead to increased income levels. Archery is the art, sport, practice, or skill of using a bow to shoot arrows. The word comes from the Latin "arcus" for bow. Historically, archery has been used for hunting and combat. In modern times, it is mainly a competitive sport and recreational activity mplying your goal – whether it's drilling a bull's eye or executing a great shot – helps you build self-esteem and enjoy a sense of accomplishment. Archery is also great for improving

focus, patience and even math skills. Archery sport is involving shooting arrows with a bow, either at an inanimate target or in hunting. From prehistoric times, the bow was a principal weapon of war and of the hunt throughout the world, except in Australia. Recreational archery also was practiced, along with military, among the ancient Egyptians and Greeks, one instance of the latter being the competition in which Odysseus won the hand of Penelope. The Huns, Seljuq Turks, Mongols, and other nomadic horse archers dominated large parts of Asia for about 15 centuries from the 1st century CE. While on continental Europe the crossbow became widely used, especially in Switzerland, parts of Germany, France, and the Low Countries. In Europe the bow and arrow were displaced by firearms as a military weapon in the 16th century.

The bow was retained as a hunting weapon, and archery continued to be practiced as a sport in England by both royalty and the general public. The earliest English archery societies dated from the 16th and 17th centuries. The prince of Wales, afterward George IV, became the patron of the Toxophilite Society in 1787 and set the prince's lengths of 100 yards, 80 yards, and 60 yards; these distances are still used in the British men's championship York round (six dozen, four dozen, and two dozen arrows shot at each of the three distances). These recreational activities with the bow evolved into the modern sport of archery. International rules were standardized in 1931 with the founding of the Federation of International Target Archery (FITA) in Paris. The World Archery Federation is the governing body of the sport of archery. It is composed of 156 national federations and other archery associations, and is recognized by the International Olympic Committee. Archery first appeared in the Olympic Games in 1900, was contested again in 1904, 1908 and 1920. After an absence of 52 years, archery returned to the Olympic program in Munich 1972 and events for three-person teams were added in Seoul 1988. Recurve events are the only style contested at the Olympic Games. Archers shoot their arrows from a distance of 70m, aiming at targets 122cm in diameter, marked with 10 concentric rings. Points are scored by hitting a target consisting of five colored rings. The Archery World Cup is an annual event that was inaugurated in 2006. It is designed to present archery in 'spectacular' locations. Modern Olympic archery has four events, with men and women competing in both individual and team events. The team event was introduced at the 1988 Seoul Games for the first time. At the Olympic Games, archers shoot at targets 70 meters away. The target is 1.22 meters in diameter and marked with 10 concentric rings. Individual archers compete in head-to-head matches in single elimination after being ranked from 1 to 64 during qualifications. In each contest both archers shoot 12 arrows and only the winner moves on. Teams are made up of three archers, and team events follow the same competition format as individual events. The closer the arrow lands to the centre of the target, the higher the score achieved. The centre ring measures 12.2 centimeters in diameter, and counts 10 points. Archers, or teams, compete in head-to-head matches in single-elimination after being ranked from one to 64, following a 72-arrow qualification round. Matches are 18 arrows at and from the quarter-finals on are 12 arrows. The semi-finals winners decide the gold and silver medals in the final, and the semi-finals losers shoot for the bronze (International Olympic Committee: World Archery, 2012). Target archery is the most popular form of archery, in which members shoot at stationary circular targets at varying distances. All types of bow – longbow, barebow, recurve and compound – can be used. In Great Britain, imperial rounds, measured in yards, are still used for many tournaments and these have slightly different rules to metric (WA) rounds, which are used internationally. Archers are divided into

seniors and juniors, with juniors being those under the age of 18. Modern competitive target archery is governed by the World Archery Federation (abbreviated WA), formerly FITA. WA is the International Olympic Committee's (IOC) recognized governing body for all of archery and Olympic rules are derived from the WA rules. Archers in both competition categories shoot at the traditional five-color target face with 10 concentric scoring rings. The target scores 10 points for the inner ring and one point for the outer ring. In World Archery, targets are colored as follows in Figure 2). The National Archery Association of Thailand (NAAT) is the national governing body for Archery. The World Archery Federation (WA) which is the governing body for the sport of Archery in the world accredits it, and the National Olympic Committee of Thailand (NOCT). It was founded on 10 November 1970. At the international level, we have sent archers to the Asian Games 2 times, the Asian Cubs archery/championship 1 time, the SEA Games 4 times, the world archery championship 1 time, and the archery competition. Thai Archer has never qualified for the Olympics even once.

Section 4: Thailand National Sports University is a legal entity and is a government agency under the law of budgetary methods it is under the Ministry of Tourism and Sports. Section 8: A university shall be an academic and professional educational establishment in sports with educational objectives to promote academic and professional teaching, research and development. Academic Services and Professional Society Preserve Art and Culture, which focuses on building knowledge of sports: Health Promotions, Sport Science, Sports Management, Entrepreneurship and Sports Industry, and related disciplines. As well as being a source for building and developing sports personnel of the country (The Royal Thailand Government Gazette, 2019) [37]. The research team was interested in analyzing this archery skill. This will integrate the posture of archery that can shoot 10 points. The time schedule that is spent at each stage of archery in order to utilize the data got from the study in the development of archery sport for further excellence achievements of efficient archery postures.

Methods

Sample Size

The sample size comprises 31 athletes who have taken part in national and international archery competitions. Using the reserve bow type at 70 meter distance with the purposive sampling was selected. Someone voluntarily selected the sample groups to take part in the test.

Protection of Rights and Ethics

The Ethics Committee on Research on Humans from the National has reviewed this research Sports University and conducted research into archery shooters. The researchers introduced clarity on protecting the sample groups and has signed consent to participate.

Elimination Criteria

Archery shooter for achieving excellence is an archer who has competed in competition in the National archery sport, and we included an archer who will cooperate in research projects criteria. Archers have reasons for not being able to take part in the test, and don't agree they excluded to test criteria.

Research Instruments

The Sports Game Analysis Kit (SGAK)

The Sports Game Analysis Kit (SGAK) comprises sports analysis software that was analyzed with the laptop computer. Skills Enhancement and Body Exercise: Playing bow and arrow can strengthen archer's physique, especially the strength of arms, waist and legs, chest and back muscles. Plus, it has a beneficial effect on body shaping and improves temperament and concentration.

Video Camera Mini DV Camcorder with Tripod

Using the Video Camera Mini DV Camcorder with Tripod, this Mini DV Camcorder V-Motal Digital Camera Record Full HD 1080P 20FPS 2.8 Inch 270 Degree Flip Screen Video Camera Camcorder 8X Digital Zoom YouTube Vlogging Camera for Archery Beginners recorded.

Archery Skill Analysis Assessment Form (ASAAF)

Creative the archery sport by the thinking of was modified into the 50-item Archery Skill Analysis Assessment Form (ASAAF) assessed the archers' skills comprised 10 skills; Develop Intense Focus and Concentration (DIFC), Gain Clarity of Mind (GCM), Flex Archer Patience Muscle (FAPM), Improve Coordination and Balance (ICB), Build Physical Strength and Stability (BPSS), Boost Archer's Distance Judging Abilities (BADJA), Aim Small and Miss Small (ASMS), Meet Like-Minded People (MLMP), Become a Hunter and Harvest Archer's Own Meat (BHHM), and Discipline and Stick-With-It-Ness (DSN). Each skills included 5 items and they were observed by the researcher teams that the archer's hobbies and behaviours of their posture skills in five options; Always (A=5), Often (O=4), Sometimes (So=3), Seldom (Se=2), and Never (N=1) responses.

General data	Mean ()	Standard deviation (σ)	Variance (σ ²)
Age (year)	23.47	7.50	56.25
Weight (Kg.)	64.47	10.60	112.36
Height (cm.)	171.50	4.27	18.23
NTPIC (Times)	6.20	3.76	14.14

Table 1: General Data of Age, Weight, Height, and Number of Times Participating in International Competitions (NTPIC) for the Archers

Discussion

The Sport Authority of Thailand (SAT) likes to brag that Thailand is "the best sport destination" in Asia. To be fair, they're quite right. Thailand has hosted the Asian Games four times (more than any other Asian country participating in this event) and the Southeast Asian Games six times (again, more than any other SEA country). Bangkok was also the location where the first Asian Indoor Games (2005) and the first Asian Martial Arts Games (2009) took place. With such a good track record, the SAT's claim is not farfetched at all and Thailand is indeed a place where you can practice a score of both well-known and quite obscure sports.

Thailand is one of the IOC members. Effective management of the NOCT will lead not only to the increasing number of junior athletes

The Archers Performance Ability (APA)

Archer Performance Ability (APA) is the relationship between the shooting accuracy of archers and their body movements, it is reported. The results show that the accuracy of an archer's performance is related to the distance that the archer's centre of pressure on the ground moves in the time interval 10 times prior to arrow release. This suggests that the ability to achieve body stability is more important in indiscriminating between arches of intermediate to high-level ability than in discriminating between Actual Form (The form of archers who weren't trained and practiced by the trainers and expert professionals) and the Preferred Form (Most of the archers must be trained and practices). As the achievement of a high level of stability is a prerequisite to becoming an elite archer, this ability is an important discriminating factor. Other factors play a more important role in influencing performance at this scoring level. The Actual Form that showed and reported of the recording paper of the scoring score's shooting of 31 archers that shooting in 10 times. The maximum score for each time is 10 and the totalized score is 100. The scoring with their experiences and the recorders were marked and recorded the scores in to the recording paper table for each archer.

Similarity: the 31 expert professionals who used to compete in the Olympic, Asian, and Sea Games must train and practice with most archers. We checked on their shootings and showed that of the efficient archery posture training analysis of archery shooters for the excellence achievements as a 3-step, namely; Starting, Aiming, and Releasing steps, responsibility.

Results

The general status of the sample group consisted of 4 components, namely; Age, Weight, Height, and Number of Times Participating in International Competitions (NTPIC) that reports in Table 1.

and national athletes and the success of our national athletes in major international sports competitions, but also to gear Thailand to be a healthy society using sports as a means to this end. We found it on 10 November 1970. For the past 54 years, the National Archery Association of Thailand has sent archers to take part in international competitions. Thai national archers have never been qualified to compete in the Olympic Games such as Asian, South Korean, Japanese, Indonesian, Mongolian archers, etc. The Olympic Games is built on their very core values when the games bring together people around the world to witness one of the amazing sports events in the world. It is a congregation of the Olympic Games, three core values, i.e., excellence, friendship and respect (The International Olympic. A key factor in the failure of archery is the much better development of other countries' sports. This situation is the main important for this research study to investigate and solve of the problems for the archery

sport in Thailand. Nowadays, the world is taking sport very seriously as it has become a part of people's lifestyles.

In particular, international leaders believe that sport is one of the country's development strategies as well as a big business and a nationally important business. The trend of sports is on the rise and it is receiving a lot of attention. This is because sports are part of creating and giving happiness to members of society and their families. Especially, when athletes create their results that was bringing victory and reputation to the nation. People in Thai society are completely happy that governments and entrepreneurs are promoting, leading to a drive to further develop the economy and society according to government policies.

Thailand National Sports Universities are the public higher education institution under the Ministry of Tourism and Sports Formerly known as the Institute of Physical Education whereas served to produce teachers, especially, physical education and health education teachers after changes the organization to be a great university according to the National University of Sports Act. At this recent, there is an increasing role in the production of professional personnel, sports science, and increased health. The National Sports University consists of 17 campuses and 13 sports schools scattered throughout Thailand.

Conclusion

Creative quantitative research methods analyzed the skills and abilities of the archers with expert professionals who can train and practice with themselves and use the innovative instructional archers' excellence achievements by the Augmented Reality Technology (AR) classes in outdoor and indoor environments. Using the 31 athletes who have taken part in national and international archery competitions was a sample size. The recurve bow type in 70 metre distance with shooting. The Sports Game Analysis Kit (SGAK) comprises sports analysis software that was analyzed. Video Camera Mini DV Camcorder with Tripod, this Mini DV Camcorder V-Motal Digital Camera Recorder Full HD 1080P 20FPS 2.8 Inch recorded. The 50-Item Archery Skill Analysis Assessment Form (ASAAF) assessed the

archers on 10 skills. The Archer Performance Ability (APA) was the relationship between the shooting accuracy of archers, and we reported their body movements with the actual and preferred ability forms (APA) in 10 times. The ASAFF and APA research instruments are valid and reliable, with Cronbach Alpha Reliability being tested. We checked with the assistant researchers the efficient archery posture training analysis of archery shooters for the excellence achievements as a 3-step; Starting, Aiming, and Releasing steps. Perform excellent skills and abilities in actual and preferred forms.

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