IMPROVING THE PERFORMANCE OF SHORT DISTANCE RUNNING IN SOME SELECTED FIRST DIVISION OF ADDIS ABEBA ATHLETICS CLUB

By

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Abstract

The purpose of this study is to improving the performance of short distance running focusing on 100, 200 and 400meter in some selected first division of Addis Ababa athletics club. Descriptive survey was the research method employed to conduct the investigation. The data were collected by means of questionnaires prepared in Amharic distributed to 30 athletes, 9 coaches, 9 administrative personnel and 2 Addis Ababa athletic federation experts by using simple random sampling techniques, document analysis and finally observation was used and then analyzed by using percentage and descriptive statement . The data were analyzed using both quantitatively and qualitatively. Accordingly the research revealed the following results; lack of scientific method of training and ignorant to the methodology of coaching. In addition to the quality and quantity of training track, lack of qualified coaches, lack of communication between coach and athlete, lack of scientific training methods and the training are not more related from short distance. There is no modern machine to support the gymnasium, lack of nutrition and sufficient rest. There are no individualized training methods compatible with the age of the club athletes. The club does not provide the necessary material. In Ethiopia there is no attention for short distance event. There is lack of coordination between the administrative personnel and coaches. The coaches are not motivated by their monthly payment and the administrative personnel do not evaluate the training process. If success solutions with successful answers are to be arrived at, providing modern training, if the administration is committed, the federation gives attention, the federation facilitates the external competition, within the club if there is short distance coach, the concerned bodies fulfill all equipments and give support, in order to create good administration in sport, the concerned body should discuses with the athletes so as to get improvement.

Acronyms

ADP - Adenosine di- phosphate

ATP - Adenosine Tri phosphate

CP - Cretin Phosphate

EMG - electro myographic

HWT - heavy-weight training

IAAF - International Amateur Athletics Federation

IOC - International Olympic Committee

ITA - International Track Association

LA - Lactic acid

O2 - Aerobic running

PPO- peak power output

RE - running economy

SAID - specific adaptation to imposed demands

SSC - stretch shortening cycle

U.S - Union of Soviet

USSR - Union of Soviet Socialist Republics

CHAPTER ONE

INTRUDCTION

1.1 Background

Track and field sport comprises various competitive athletic contests based around the activities of running, jumping and throwing. Track and field is one of the sports which along road running cross country and running race walking make up the umbrella sport of athletics. Athletics events are generally individual sport with athletes challenging each other decide a single victory. The racing events are won by the athlete or height in the contest. The running events are categorized as sprints middle distance events, relay and hurdling. Moreover athletics sport comprises competitive athletic contests based on the activities of running, jumping and throwing. Jumping events are including long jump, triple jump, high jump and pole vault, while the most common throwing events are shot put, javelin, discuss and hummer. There are also combined events such as heptathlon and decathlon. (htt;//en Wikipedia.org/wiki/track and field)

In Ethiopia, athletics especially long distance running is one of the most beloved, oldest and historical event starting from the shining victory of the surprise of all the barefooted, legendary Abebe Bikila won title in the most grueling Marathon race For the first time, in history that brought Olympic medal to the land of Africa. Indeed, this was an achievement title expected in the past comparing with the other events, short distance running (100, 200and400meters) is the one in which many athletes are include , but the result is not enough .By doing so on the practice and challenges of events ,I am going to forward possible solutions. I was interested conduct this research for the following reasons. This includes the result is not enough comparing with long distance and middle distance running in Addis Ababa athletics club and Ethiopian national team has no result for several years, in competing on Africa and worldwide level and to identify problems of Addis Ababa athletics club on short distance runners. Therefore the research topic focuses on improving the performance of short distance race focusing on 100, 200 and 400meters race in some selected first division of Addis Ababa athletics club.

1.2 Statement of the problem

This research is entitled as improving the performance of short distance race focusing on 100,200 and 400 meters race in some selected first divisions of Addis Ababa athletics club would enable us to find out strategies used to enhance sprinters performance, understanding the current status, the problem of sprinters and improvement are the most important point under discussion of the whole matter.

It is known that the performance and result of the national team and clubs short distance athletic team were not efficient and successful unlike those middle and long distance events. In line with, there are many causes that affect the performance of sprinters, such as absence of individualized training program, there are no event specific coaching in clubs, environment, family, peer, facilities, equipment, qualified coach, injuries, diet, motivation, transportation, interest, well designed training program and selection criteria. Therefore, the researcher found it timely and important to deal with the current status, improving the performance of short distance race focusing on 100,200 and 400meters in some selected first division of Addis Ababa athletics club.

Leading questions

1. What are the selection criteria of athletes?

2. To what extent short distance runners were trained and improve their performance?

3. To what extent sprinters are satisfied with service provided by the training center?

4. What are the current challenges of the clubs short distance runners?

5. What could be the mechanism to overcome the problem?

1.3 Objectives

General objective

The general objective of the study was to improvement the performance of short distance runners in some selected first division of Addis Ababa athletics club.

Specific objective

1. Identify factors affecting improving the performance of short distance race focusing on 100m 200m and 400m in some first division Addis Ababa athletic club.

2. Evaluate current status of in some selected first division of Addis Ababa athletics club.

3. To find out solutions for problems in the selected clubs.

4. To give possible recommendation.

5. To help others researchers to deal with this area.

1.4 Significance of the study

- To investigate the growth on the result of short distance events in some selected first division of Addis Ababa athletics club.

- Give feedback about the problem of the events, for clubs, athletes and Addis Ababa Athletics federation.
- Provide useful information for club personnel's in the training especially in the area of improving the performance of 100, 200 and 400meters.
- Address some of the questions and fill the gap of our knowledge of short distance.

1.5 Delimitation of the study

This study was delimited to in some selected first division of Addis Ababa athletics clubs like athletes, coaches, administrative personnel and Addis Ababa athletics federation experts.

1.6 Limitation of the Study

During conducting this study the researcher faced the following limitations, scarcity of reading materials in the area as a result, a few source materials have been repeatedly used. Lack of cooperation with coaches and administrative persons to get reliable information, financial problems and Shortage of time are the major limitations when conducting the study.

1.7 Operational Definition of Terms

- **Athlete**: is a person who competes in sport.
- **Block**; is a material the athlete starts during short distance running.
- **Coach**: Are people who help/train athletes meeting their need to have fun and develop performance by strutting their sport experience.
- **Performance**; an observable behavior of the athlete in the play ground.
- **Speed**; is to move more quickly.
- **Sprint**; is operate only a very short period of time.
- **Start**; is a complicated skill that produce the force necessary to overcome inertia and begin acceleration.
- **Status**: the situation at which sprit is current found
- **Training principals**: - are the guide lines govern human beings to develop physical, mental and performance response to implement training.
- **Training;** is a systematic process with the objective of improving an athlete's fitness in a selected activity.

1.8 Organization of the Study

The research document is organized into five chapters. The first chapter deals with introduction, background of the study, statement of the problem, significance, scope, limitation of the study and operational definition of terms. The second chapter deal with review of related literature pertinent to the research; the third chapter covers research methodology, which includes research design, sample size, sampling technique, and data collection instruments and data analysis method. While the fourth chapter deals with research results and discussions and the fifth chapter deals with summarize the research and highlight the way forward and lastly references and appendix, which include questionnaire, checklists, glossary and other related materials, are part of the document.

CHAPTER TWO

REVIEW LITRATUR

2.1 Athletics

From 776 BC, the games were held in Olympia every four years for almost 12 centuries. Additional athletic events were gradually added until, by the 5th century BC, the religious festival consisted of a five-day program. The athletic events included: three foot races (stadion, diaulos, and dolichos) as well as the pentathlon (five contests: discus, javelin, long jump, wrestling, and foot race), pugme (boxing), pale (wrestling), pankration, and the hoplitodromos. Additional events, both equestrian and for humans, were added throughout the course of the history of the Olympic Games. Equestrian events, held in the hippodromos, were an important part of the athletic program of the ancient Olympic Games and by the 5th century BC included the tethrippon and the keles. . (http;//en Wikipedia.org/wiki/Olympic game)

Track and field

Track and field athletics in the United States dates from the 1860s. The intercollegiate association of amateur athletes of America, the nation's first national athletic group, held the first collegiate races in 1873, and in 1888 the amateur athletic union (which governed the sport for nearly a century) held its first championships. As track and field developed as a modern sport, a major issue for all athletes was their status as amateurs. For many years track and field was considered a purely amateur sport and athletes could not accept training money or cash prizes. If charged with professionalism, athletes could be banned from competition for life. In 1913 American Jim Thorpe was stripped of his 1912 Olympic victories in the decathlon and pentathlon and banned from further competition after it was learned he had played semiprofessional baseball. In 1982 the international Olympic committee (IOC) posthumously restored both Thorpe's amateur status and his two Olympic medals. Beginning in the 1920s track and field's scope widened. The first national championships were held for men in 1921, and women's track and field became part of the Olympic Games in 1928. In 1952 the Union of Soviet Socialist Republics (USSR) sent its first Olympic team ever to the summer games in Helsinki, Finland, where the squad captured several track and field medals. Over the next 30 years the U.S. and Soviet teams battled in one of the sport's longest and most competitive rivalries. Women's track struggled for widespread acceptance until the 1970s, when track and field as a whole enjoyed a boom in popularity. During that time the U.S. based international track association (ITA) organized a professional track circuit. The venture, although popular among fans, went bankrupt after several years. Few athletes wanted to participate in ITA competitions because athletes were actually receiving larger illegal payments for appearing at amateur meets than legitimate professionals were making on the new circuit. Many athletes also turned away from ITA competition because it disqualified them from participating in future Olympic Games. The athletics congress now regulates the sport in the United States; the international amateur athletic federation (IAAF) sanctions international competition. Track and field has been the centerpiece of the summer Olympic Games since their revival in 1896. International professional running, initiated in the 1970s, has had limited success. Track and field sport comprises various competitive athletic contests based around the activities of running, jumping and throwing. Track and field is one of the sports which along road running cross country and running race walking make up the umbrella sport of athletics. Athletics events are generally individual sport with athletes challenging each other decide a single victory. The racing events are won by the athlete or height in the contest. The running events are categorized as sprints, middle distance events, relay and hurdling. Moreover athletics is a sport comprising competitive athletic contests based on the activities of running, jumping and throwing. Jumping events are including long jump, triple jump, high jump and pole vault, while the most common throwing events are shot put, javelin, discuss and hummer. There are also combined events such as heptathlon and decathlon. (http;//en Wikipedia.org/wiki/Olympic game)

Track event

Athletics events are generally individual sport with athletes challenging each other decide a single victory. The racing events are won by the athlete or height in the contest. The running events are categorized as sprints middle distance events, relay and hurdling. The sprints are includes 100,200,400 meter running and 110,100meter hurdle and 4x100m,4x400m relay. (Grade 9-12 physical education text books 2001 -2003)

2.2 The history development of sprints

In 1986, Hirotaka Takeuchi and Ikujiro Nonaka described a new approach to commercial product development that would increase speed and flexibility, based on case studies from manufacturing firms in the automotive, photocopier and printer industries. They called this the holistic or rugby approach, as the whole process is performed by one cross-functional team across multiple overlapping phases, where the team "tries to go the distance as a unit, passing the ball back and forth"

In rugby, a scrum refers to the manner of restarting the game after a minor infraction. In the early 1990s, Ken Schwaber used what would become Scrum at his company, advanced development methods, and Jeff Sutherland (2004), with John Scumniotales and Jeff McKenna, developed a similar approach at Easel Corporation, and was the first to refer to it using the single word Scrum.

In 1995, Sutherland and Schwaber jointly presented a paper describing the Scrum methodology at the business object design and implementation workshop held as in Austin, Texas, its first public presentation Schwaber and Sutherland collaborated during the following years to merge the above writings, their experiences, and industry best practices into what is now known as Scrum. In 2002, Schwaber worked with Mike Beedle to describe the method in the book agile Software development with Scrum.

Although the word is not an acronym, some companies implementing the process have been known to spell it with capital letters as scrum. This may be due to one of Ken Schwaber’s early papers, which capitalized scrum in the title.

Sprint

A sprint is the basic unit of development in Scrum. Sprints last between one week and one month and are a "time boxed" (i.e. restricted to a specific duration) effort of a constant length.

Each sprint is preceded by a planning meeting, where the tasks for the sprint are identified and an estimated commitment for the sprint goal is made, and followed by a review or retrospective meeting, where the progress is reviewed and lessons for the next sprint are identified. http://www.sprintplanning.com/SprintPlanningRules.aspx**.** Retrieved 2012-03-25.

During each sprint, the team creates finished portions of a product. The set of features that go into a sprint come from the product backlog, which is a prioritized list of requirements. Which backlog items go into the sprint is determined during the sprint planning meeting. During this meeting, the product owner informs the team of the items in the product backlog that he or she wants completed (the ones with the highest priority). The team then determines how much of this they can commit to complete during the next sprint, and records this in the sprint backlog. During a sprint, no one is allowed to change the sprint backlog, which means that the requirements are frozen for that sprint. Development is time boxed such that the sprint must end on time; if requirements are not completed for any reason they are left out and returned to the product backlog. After a sprint is completed, the team demonstrates how to use the software.

Scrum enables the creation of self organizing teams by encouraging co-location of all team members, and verbal communication between all team members and disciplines in the project.

A key principle of Scrum is its recognition that during a project the customers can change their minds about what they want and need (often called requirements churn), and that unpredicted challenges cannot be easily addressed in a traditional predictive or planned manner. As such, scrum adopts an empirical approach accepting that the problem cannot be fully understood or defined, focusing instead on maximizing team's ability to deliver quickly and respond to emerging requirements. Like other agile development methodologies, scrum can be implemented through a wide range of tools. Many companies use universal tools, such as spreadsheets to build and maintain artifacts such as the sprint backlog. There are also open source and proprietary packages dedicated to management of products under the Scrum process. Other organizations implement scrum without the use of any tools, and maintain their artifacts in hard copy forms such as paper, whiteboards, and sticky notes. http://www.sprintplanning.com/SprintPlanningRules.aspx. Retrieved 2012-03-25.

100 meters

The 100 meters sprint takes place on one length of the home straight of a standard outdoor 400 m track. Often, the world record holder in this race is considered "the world's fastest man/woman." The current world record of 9.58 seconds is held by Usain Bolt of Jamaica and was set on 16 august 2009, at the 2009 world athletics championships. The women's world record is 10.49 seconds and was set by Florence Griffith-Joyner.

World class male sprinters (sub 10.10s) need 41 to 50 strides to cover the whole 100 metres distances, and not necessarily 45 strides. (http;/ / www.iaaf .org/ statistics/top list/100detaihtmal)

200 meters

Athletes turning the first bend of the 200 meters the 200 meters begins on the curve of a standard track (where the runners are staggered in their starting position, to ensure that they all run the same distance), and ends on the home straight. The ability to "run a good bend" is key at the distance, as a well conditioned runner will be able to run 200 meters in an average speed higher than their 100 meters speed. Indoors, the race is run as one lap of the track, with only slightly slower times than outdoors. A slightly shorter race (but run on a straight track), the stadion, was the first recorded event at the Ancient Olympics and the oldest known formal sports event in history.

The world record in this event is 19.19 seconds, held by Usain Bolt and was set on 20 August 2009, at the 2009 World Athletics Championships. (http;/ /www.iaaf.org/ statistics/top list/200detaihtmal)

400 meters

The 400 meter is one lap around the track on the inside lane. Runners are staggered in their starting positions to ensure that everyone runs the same distance. While this event is a sprint (according to some), there is more scope to use tactics in the race; the fact that 400 meters times are considerably more than four times a typical 100 meters time demonstrates this.

The world record is currently held by Michael Johnson with a time of 43.18 seconds.

(http;/ / www.iaaf .org/ statistics/top list/400detaihtmal)

Table 1

Result of 100meter top female athletes in world championship

Rank	Fastest time (s)	Wind (m/s)	Athlete	Nation	Date	Location
1	10.49	0.0	Florence Griffith-Joyner	United States	16 July 1988	Indianapolis
2	10.64	+1.2	Carmelita Jeter	United States	20 September 2009	Shanghai
3	10.65 [A]	+1.1	Marion Jones	United States	12 September 1998	Johannesburg
4	10.73	+0.1	Shelly-Ann Fraser	Jamaica	17 August 2009	Berlin
		+2.0	Christine Arron	France	19 August 1998	Budapest
6	10.74	+1.3	Merlene Ottey	Jamaica	7 September 1996	Milan
7	10.75	+0.4	Kerron Stewart	Jamaica	10 July 2009	Rome
8	10.76	+1.7	Evelyn Ashford	United States	22 August 1984	Zürich
		+1.1	Veronica Campbell-Brown	Jamaica	31 May 2011	Ostrava

Notes

Florence Griffith-Joyner's world record has been the subject of a controversy due to strong suspicion of a defective anemometer measuring a tailwind lower than actually present; since 1997 the international athletics annual of the association of track and field statisticians has listed this performance as "probably strongly wind assisted, but recognized as a world record". (http;/ / www.iaaf .org/ statistics/top list/100detaihtmal)

Table 2

Female result of 100,200 and 400 meter in Addis Ababa 1st division athletics club.

Year	Event	№	Name	Sex	Club	Time
	100M	1	Laynet Alemu	F	Ethio Bank	12.29
		2	Betelhim	F	Defence	12.50
		3	Shewotateke	F	Defence	12.65
2001			Mantegbash Melese			
	200M	1	Laynet Alemu	F	Ethio Bank	25.42
		2	Mantegbosh melese	F	Defence	25.49
		3	Betelhim	F	Defence	25.50
			Shewotateke			
	400M	1	Woynie wolko	F	Defence	55.94
		2	Wosen Belay	F	Marmia	56.35
		3	Mulu Deriba	F	Marmia	56.62
	100M	1	Trhase Belay	F	Defence	12.30
		2	Mertnesh Tesfaye	F	Marmia	12.50
		3	Demekech Desaigne	F	Marmia	12.68
2002	200M	1	Fantu Migaiso	F	Marmia	25.26
		2	Mantegbosh Melese	F	Defence	25.50
		3	Yeniynesh Mergia	F	Marmia	26.63
	400M	1	Mantegbosh Melese	F	Defence	55.79
		2	Tenaye Lemiye	F	Ethio Bank	56.19
		3	Wosniye Belay	F	Marmia	56.78
	100M	1	Laynet Alemu	F	Ethio Bank	12.26
		2	Trhase Belay	F	Defence	12.52
		3	Yeniynesh Mergia	F	Fedrial Marmin	12.73
2003	200M	1	Fantu Melsuo	F	Fedral Marmia	23.87
		2	Fetya Kider	F	Ethio bank	24.38
		3	Mantegbosh Melesc	F	Defence	24.61
	400M	1	Fantu Meigiso	F	Fedral Marmia	52.03
		2	Mantogbosh Melese	F	Defence	54.41
		3	Alem G/Gezirabhier	F	Defence	54.61

(Addis Ababa athletics federation result manual 2003)

Table 3

Result of male Addis Ababa 1st division athletics club on 100,200 and 400 meter

Year	Event	№	Name	Sex	Club	Time
2001	100M	1	Mahammed Judbas	M	Marmia	10.52
		2	Tewedrose emru	M	Defence	10.75
		3	Abewoit Leancho	M	Ethio Bank	10.89
	200M	1	Mohammed Judbas	M	Marmia	21.51
		2	Abewoit Leancho	M	Defence	21.71
		3	Hagose Taddess	M	Defence	21.71
	400M	1	Zemnu kale	M	Defence	46.83
		2	Hagose taddess	M	Defence	47324
		3	Habtamu Tesfye	M	Defence	47.69
2002	100M	1	Wotere Glacha	M	Ethio Bank	10.38
		2	Tezra chamye	M	Defence	10.39
		3	Abewoit Leancho	M	Ethio Bank	10.46
	200M	1	Abewoit Leancho	M	Ethio Bank	21.20
		2	Wotere Galch	M	Ethio Bank	21.40
		3	Tezra Chamye	M	Defence	21.92
	400M	1	Borket Desta	M	Defence	46.25
		2	Zemnu kassa	M	Defence	47.85
		3	Gulema Dadi	M	Marmia	48.20
2003	100M	1	Wotere Galcha	M	Ethio Bank	10.40
		2	Mohammed Jude	M	Marmin	10.66
		3	Jezra Clamye	M	Defence	10.87
	200M	1	Abewoit Leancho	M	Ethio Bank	21.33
		2	Wotere Galcha	M	Defence	21.52
		3	Atekilte H/seiasie	M	Defence	21.95
	400M	1	Berket Desta	M	Defence	46.19
		2	Hagose Taddess	M	Defence	47.39
		3	Tamrat Tekiu	M	Marmia	47.67

(Addis Ababa athletics federation result manual 2003)

Table 4

Result of 100meter top male athletes in world championship

Rank	Fastest time (s)	Wind (m/s)	Athlete	Country	Date	Location
1	9.58	+0.9	Usain Bolt	Jamaica	16 August 2009	Berlin
2	9.69	+2.0	Tyson Gay	United States	20 September 2009	Shanghai
3	9.72	+0.2	Asafa Powell	Jamaica	2 September 2008	Lausanne
4	9.78	+0.9	Nesta Carter	Jamaica	29 August 2010	Rieti
5	9.79	+0.1	Maurice Greene	United States	16 June 1999	Athens
6	9.80	+1.3	Steve Mullings	Jamaica	4 June 2011	Eugene
7	9.82	+0.0	Yohan Blake	Jamaica	8 September 2011	Zurich
8	9.84	+0.7	Donovan Bailey	Canada	27 July 1996	Atlanta
		+0.2	Bruny Surin	Canada	22 August 1999	Seville

(http;/ / www.iaaf .org/ statistics/top list/100detaihtmal)

Notes

- Tyson Gay also has a time of 9.68 s set on 29 June 2008 during the 2008 U.S. Olympic track and field trials at Hayward field in Eugene, Oregon; the tail wind speed was 4.1 m/s, more than double the IAAF legal limit.

- Obadele Thompson ran a wind aided 9.69 in El Paso, Texas in April 1996 which stood as the fastest ever 100m time for 12 years until Tyson Gay's June 2008 performance; the tail wind speed was 5.7 m/s.
- Justin Gatlin ran 9.77 in Doha on 12 may 2006, which was at the time ratified as a world record. However, the performance was rescinded in 2007 after he failed a doping test in April 2006.
- Carl Lewis ran a time of 9.78 seconds at the 1988 US Olympic trials in Indianapolis, but it was wind aided (the tail wind speed was 5.2 m/s).
- Tim Montgomery's time of 9.78 at Paris on 14 September 2002 was rescinded following his indictment in the BALCO scandal on drug use and drug trafficking charges. The time had stood as the world record until Asafa Powell first ran 9.77.
- Ben Johnson ran 9.79 at Seoul on 24 September 1988, but he was disqualified after he tested positive for stanozolol after the race. He subsequently admitted to drug use between 1981 and 1988, and his time of 9.83 at Rome on 30 August 1987 was rescinded.

2.3 A philosophy for coaching the sprint events

Basketball coaches have been known to say, "You can't coach height, so you better recruit!" Similarly, coaches and athletes in all sports have surrendered to the belief that speed, like height, is a trait predetermined by genetics and something that cannot be significantly improved by training. The truth is, speed can be significantly improved through training and an awareness of the essential techniques common to the fastest sprinters. The development of running speed is not simply a gift of genetics. Speed is a skill, and it can be learned and developed by athletes at every level of competition. Our genetic endowments influence everything we do; however, we are not limited to the level of abilities demonstrated by our ancestors. The depth of performance potential waiting to be discovered in us all is limited only by our attitudes. The dramatic improvement of athletic skills and the acquisition of new ones are within the grasp of any performer. Success is found where coaches demonstrate these expectations for the athletes they coach. Regardless of the race distance, the single most important performance component is speed. When distance runners cross the finish, they are not commended for their great aerobic capacity. The hurdler doesn't earn style points for technical merit or grace of execution. What matters most in races of all distances is the speed demonstrated from the start to the finish line; therefore, every track athlete should have a speed development program regardless of his or her event. In the absence of a team based speed development program, excellent sprint prospects can often be overlooked. Coaches should not expect to see the skill of speed demonstrated by all of their best candidates for the sprint events before learning has even begun. If athletes do not show obvious sprinting ability at an early age or on the first day of training, coaches should not necessarily direct them toward some other event specialty. Over time, the ability to run faster and to sprint capably can be developed. Labeling athletes before their training has begun and limiting them to middle distance and distance events can be a tragic error. (w.w.w.LA84 foundation.org Thomas et al 2008)

2.4. Energy used in the body

The type of energy that is used to produce contractions in the muscles is an energy source called adenosine tri phosphate (ATP). ATP is a molecule, (a so called high octane fuel), that releases the energy needs for muscle contraction. (w.w.w.LA84 foundation.org Thomas, et al 2008))

Energy Pathways

Energy production is both time and intensity related. Running at a very high intensity, as in sprinting, means that an athlete can operate effectively for only a very short period of time where as running at a low intensity, as in gentle jogging, means that an athlete can sustain activity for a long period of time. There is a relationship between exercise intensity and the energy source. Matthews (1971) divides the running requirements of various sports into the following "energy pathways": ATP-CP and LA, LA-02, and 02. ATP (Adenosine Tri phosphate): a complex chemical compound formed with the energy released from food and stored in all cells, particularly muscles. Only from the energy released by the breakdown of this compound can the cells perform work. The breakdown of ATP produces energy and ADP. CP - Cretin Phosphate: a chemical compound stored in muscle, which when broken down aids in the manufacture of ATP. The combination of ADP and CP produces ATP. LA - Lactic acid: a fatiguing metabolite of the lactic acid system resulting from the incomplete breakdown of glucose. However Noakes in South Africa has discovered that although excessive lactate production is part of the extreme fatigue process, it is the protons produced at the same time that restricts further performance O2 means aerobic running in which ATP is manufactured from food, mainly sugar and fat. This system produces ATP copiously and is the prime energy source during endurance activities when working at 95% effort these energy pathways are time limited and the general consensus on these times are as follows:

Duration	Classification	Energy Supplied By
1 to 4 seconds	Anaerobic	ATP (in muscles)
4 to 10 seconds	Anaerobic	ATP + CP
10 to 45 seconds	Anaerobic	ATP + CP + Muscle glycogen
45 to 120 seconds	Anaerobic, Lactic	Muscle glycogen
120 to 240 seconds	Aerobic + Anaerobic	Muscle glycogen + lactic acid
240 to 600 seconds	Aerobic	Muscle glycogen + fatty acids

The result of muscle contraction produces ADP which when coupled with CP regenerates ATP. Actively contracting muscles obtain ATP from glucose stored in the blood stream and the breakdown of glycogen stored in the muscles. Exercise for longer periods requires the complete oxidation of carbohydrates or free fatty acids in the mitochondria. The carbohydrate store will last approximately 90 minutes and the free fatty store will last several days. All three energy systems contribute at the start of exercise but the contribution depends upon the individual, the effort applied or on the rate at which energy is used. The following graph shows how the energy systems contribute to the manufacture of ATP over time when exercising at 100% effort. The thresholds indicate the point at which the energy system is exhausted - training will improve the thresholds times.

The Anaerobic (ATP-CP) Energy System

Adenosine Tri phosphate (ATP) stores in the muscle last for approximately 2 seconds and the re-synthesis of ATP from Cretin Phosphate (CP) will continue until CP stores in the muscles are depleted, approximately 4 to 6 seconds. This gives us around 5 to 8 seconds of ATP production. To develop this energy system, sessions of 4 to 8 seconds of high intensity work at near peak velocity are required e.g.

- 3 × 10 × 30 meters with recovery of 30 seconds/repetition and 3 minutes/set.
- 15 × 60 meters with 60 seconds recovery
- 20 × 20 meters shuttle runs with 45 seconds recover. (Mackenzie, B. (1998)

Influence of the recovery time

The length of recovery between repetitions is important in the recovery of power output through the re synthesis of CP. As Mackenzie cited study by Holmyard et al. (1994) with a group of subjects who performed 6 second sprints with recovery intervals from 15 to 180 seconds found that there is a 81% recovery in peak power output (PPO) with a 1 minute recovery and a 92% recovery of PPO in 3 minutes.

The Anaerobic (Lactate) System

Once the CP stores are depleted the body resorts to stored glucose for ATP. The breakdown of glucose or glycogen in anaerobic conditions results in the production of lactate and hydrogen ions. The accumulation of hydrogen ions is the limiting factor causing fatigue in runs of 300 meters to 800 meters. Sessions to develop this energy system:

5 to 8 × 300 meters fast 45 seconds recovery until pace significantly slows

- 150 meter intervals at 400 meter pace 20 seconds recovery - until pace significantly slows
- 8 × 300 meters 3 minutes recovery (lactate recovery training)

There are three units within this energy system: Speed Endurance, Special Endurance 1 and Special Endurance 2. Each of these units can be developed as follows:

	Speed Endurance	Special Endurance 1	Special Endurance 2
Intensity	95 to 100%	90 to 100%	90 to 100%
Distance	80 to 150 meters	150 to 300 meters	300 to 600 meters
No of Repetitions/Set	2 to 5	1 to 5	1 to 4
No of Sets	2 to 3	1	1
Total distance/session	300 to 1200 meters	300 to 1200 meters	300 to 1200 meters

Example	3 × (60, 80, 100)	2 × 150 meters + 2 × 200 meters	3 × 500 meters

(Mackenzie, B. (1998)

Anaerobic Capacity and Anaerobic Power

Anaerobic Capacity refers to the body's ability to regenerate ATP using the glycolytic system and Anaerobic Power refers to the body's ability to regenerate ATP using the phosphagen system. These energy systems can be developed with appropriate interval training sessions. (Mackenzie, B. (1998)

Glycolytic and Phosphagen energy systems

Glycolytic is the breakdown of glucose by enzymes into pyruvic and lactic acids with the release of energy (ATP). Phosphagen the use of creatine phosphate stored in the muscles to generate energy (ATP). Recovery time as Mackezie cited as Denadal & Higino(2004) concluded from their research that 8 minutes is all you should take during track speed workouts over anything up to 800 meters even those going deep into lactate buildup.(Mackenzie, B. (1998)

2.5 Energy production in muscle

Similar to an engine that needs high octane "fuel" to move the components of and engine, muscles need "energy" to function. The capacity of the human body to move mainly depends on the capacity of the muscles to contract (to become shorter). Generally the muscles need oxygen in the muscles to be able to contract. It is however possible for the muscles to contract for short periods of time without the presence of oxygen in the muscles. At times, the contraction of muscles needs to be quick, explosive contractions such as in the sprints, jumps and throwing events. In these events the muscle contractions are so fast, that oxygen cannot reach the muscles in time to manufacture "fuel" to be used by the muscles. During these events the muscles will use "fuel" that was stored in the muscles before the start of the event In the case of running a long distance event, the contractions of the muscles need to be slower to ensure muscle contractions over longer periods of time. If the contractions are slow enough, the muscles will be able to manufacture enough "fuel" for sustained muscle contractions. (w.w.w.LA84 foundation.org Thomas et al (2008)

2.6 Components of the sprint race

The Warm-up

The competition warm up is often overlooked when evaluating the entire scope of a sprint race; however, it is essential for optimal performance, readiness and injury prevention. While the purpose of the competition warm up is to optimize readiness for racing, the purpose of a training session warm up is quite different. The training session warm up can be a most effective means of training not merely a preparation for training. Later, several different training session methods including the active dynamic, the continuous, and the segment variety will be identified.

The Start

The start is a series of complicated motor skills that, when executed properly, produce the force necessary to overcome inertia and begin acceleration. Often occurring in less than one second, the start includes reaction time, force application and the first two running steps. (w.w.w.LA84 foundation.org Thomas et al (2008)

Acceleration

This performance phase is the first of two links between the initial movements of the start and maximum velocity sprinting. The initial eight to ten steps represent this phase. The sprint mechanics of acceleration are very different from maximum velocity sprinting. The body position desired here is similar to the posture found when pushing a car or pulling a sled.

Transition

This racing phase completes the link to maximum velocity sprinting. It must be differentiated from pure acceleration because of gradual and subtle mechanical changes in the running stride. Transition skills are among the last lessons learned by the developing sprinter.

Maximum Velocity

Usually achieved after four-to-five seconds of utmost effort, the maximum velocity has of the sprint race is characterized by the highest stride frequency and the most optimal stride length. The duration of maximum velocity is often as short as two to three seconds. Maximum Velocity should be the first training focus.

Speed Maintenance

What some refer to as the deceleration phase, should be referred to as speed maintenance. This is a lesson in neuro-linguistics. Coaches should never suggest to their sprinters, even subtly, they should expect to slow down at any time in a sprint race! Rather, the performance objective should be to maintain as much top speed as possible. Of course, it is likely that a gradual decline in velocity will occur due to various elements of fatigue.

Finishing Form

Many races have been lost or qualifying standards barely missed because of the lack of finishing technique. Perfecting this skill can reduce a sprinter's time by that critical one or two one hundredths of a second needed for victory. (w.w.w.LA84 foundation.org Thomas et al (2008))

Coast and Stop

The truth is the majority of sprinting injuries do not occur at the start or during the race. All too often, athletes turn off their concentration while passing the finish line and allow the ground to apply abrupt breaking forces to their legs. Proper coasting and stopping techniques are essential in preventing post-race trauma and injury.

Restoration and Recovery

Sprinters are routinely required to run several events during the course of a single track meet. After the race is run, the sprinter's work is not finished. It is necessary to bring the body's physiological systems back to the basal level quickly and then effectively prepare for either the next race or tomorrow's training session.

2.7 The whole /part / whole teaching method for sprinters

When the novice sprinter stands over starting blocks for the first time, the finish line can seem to be a very long distance away. During the race, the athlete will experience many different sensations and demands. For a sprinter to excel, the race must be broken down into easily learnable parts. Sprinting is usually thought of in terms of maximum velocity sprinting; however, a sprinter's top speed will last for a very short duration. Over the course of the entire sprint race, many other significant components can be identified. After all components are mastered individually in training, they can be reassembled to produce a successful race. w.w.w.LA84 foundation.org Thomas et al (2008)

2.8. Training Sprinters

Track and field is mostly a sprint sport. All things being equal, speed usually wins the race. The pure sprint events include the 100 meters, 200 meters, 400 meters, and the 4x100 and 4x400 relays. Sprint speed is also a crucial component of the hurdles, horizontal jumps, pole vault, and middle distances. To have winning teams, coaches must be able to teach and train their anaerobic training. (w.w.w.LA84 foundation.org Thomas et al (2008)

Sprinting At Maximum or Near Maximum

Effort over various distances is important for many sports. Therefore, strength and conditioning professionals have given considerable attention to the use of interval training and resistance training exercises in order to enhance sprint performance. Track coaches have believed and research has supported the concept that the performance in short sprints (e.g., 10 m) and longer sprints allowing the attainment of maximum or near maximum speed (e.g., 50 m) are separate and specific qualities. This means that an athlete may excel in short sprints but not in maximum speed sprints, or vice versa. Therefore, it is important to know the relative importance of various Sprint qualities in sports to determine the training emphasis that should be given to each. The purpose of this article is to present an analysis of the sprint qualities that are important in sports, highlight the differences between short sprints (e.g., 10 m) and maximum speed sprinting, and to indicate the implications for the selection of resistance training exercises to develop sprinting performance. Alexander,M.JL(1989)

Biomechanical Differences between Short and Maximum Speed Sprints

Maximum speed can be improved by increasing either stride length or the number of strides performed in a second (stride frequency), and both of these factors increase as running speed increases. Although top speed running mechanics have been well researched, relatively little analysis has been conducted on short sprints. Nevertheless some general biomechanical characteristics of the two sprint phases. These differences have implications for the muscle groups and strength qualities that are important for performance in each phase. Baker,D ands. Nance (1999)

Muscle Groups

One way to identify the important muscle groups for sprinting is to examine research that used electro myographic (EMG) recordings of muscle activity during sprinting. The knee extensor activity was very high in the first 5 m but diminished as the spritn progressed to 30 m. The hip extensors (gluteals and hamstrings) were also active at the start and their contribution in creased slightly as running speed increased. These findings suggest that the quadricepses are relatively more important for short sprints and the hip extensors are relatively more important for faster sprints. This may partly be because of the relatively greater range of motion at the knee in short sprints and greater hyperextension at the hip in maximum speed sprinting. Vonste in suggested that of the hip extensors, the hamstrings are more important than the gluteal muscle group for horizontal propulsion at maximum speed. The plantar flexors of the ankle (calf muscles) are very active in both types of sprints. Another lower body muscle group important for sprinting is the hip flexors. This muscle group assists in pulling the leg forward in preparation for the next stride. A faster flexion at the hip and leg recovery is an advantage for maximum speed running because it allows for a shorter stride time and, in turn, a higher stride frequency. Therefore, it is possible that powerful hip flexors are especially important for maximum speed sprints. Another way to determine the relative importance of various muscle groups is by examining correlations (relationships) between muscle strength/power as determined by single joint strength tests with sprint performance. Although some studies have reported significant correlations between lower body muscle strength measures with sprint performance, others have not. This conflict of results might be because sprinting involves multiple joint motions with a precise coordination between various muscle groups, which is not assessed by single joint tests that isolate muscles. Therefore, the relative importance of various lower body muscle groups to sprinting performance is not totally clear, especially when short and maximum speed sprints are considered separately. Frick,U.D et al(1995)

Strength Qualities

Strength qualities are any qualities that contain a significant strength component and include maximum strength, speed strength, and strength endurance (30). Maximum strength refers to the capacity to exert force with no consideration for the rate of force production or the ability to sustain it. Speed strength has been defined many ways but does generally any quality possess significant force and speed components. This explosive force production may be produced in concentric muscle actions (where the muscle shortens), or under eccentric concentric actions known as a stretch shortening cycle (SSC). The ability to quickly switch from an eccentric to a concentric muscle action in an SSC has been described as reactive strength and is believed to be a relatively specific quality.

In a short sprint when forward lean is significant, the support leg drives backward in a “pushing” action. The leg extensors (gluteals, quadriceps, hamstrings, and calves) produce concentric actions as the body is propelled forward and upward. Although these actions are preceded by muscle stretching (eccentric actions), the eccentric loading is relatively low. When sprinting at top speed, stride length is greater, and therefore an increased load may be expected on ground contact. In fact, it has been shown that eccentric forces increase with increasing running speeds. Further, maximum speed correlates significantly with performance in a drop jump test, which is considered to be a measure of reactive strength and the correlation increases with longer sprints. Therefore, reactive strength would seem to be relatively more important for maximum speed sprinting than for short sprints. Generally explosive force qualities are important for all type of sprints, but it has been found that various tests of power correlate higher with longer sprints or maximum speed than with short sprints perhaps this is because contact times are shorter (and therefore contraction speeds are faster) in maximum speed sprints. The same reasoning may suggest that maximum strength is relatively more important in short sprints, although this has not been found.

Absolute maximum strength has been found to correlate more with maximum speed than short sprinting speed whereas maximum strength relative to body weight correlated more highly with sprint time to 2.5m than absolute maximum strength .This seems logical since the first few strides in a sprint from a stationary position requires the need to overcome the inertia of the body, which demands higher levels of relative strength (strength divided by body weight). Once the need to accelerate diminishes, absolute strength may be more important. Despite some exception research generally supports a significant relationship between some measure of maximum leg strength and sprinting speed. Although the relationships between strength qualities and performance are not totally clear, is an attempt to indicate the relative importance of maximum leg strength and speed strength for short and maximum speed sprints. Hakkinen,k and Komie (1985)

Implications for Selection of Resistance training Exercises

The above needs analysis indicates that short sprints and maximum speed sprints have somewhat different requirements, which should be reflected in exercise selection. An exercise that is highly specific to short sprints may not be as specific for maximum speed sprinting. For example, exercises that target the quadriceps more than the hip extensors (e.g., back squat to a 90° knee angle) would be more specific to short sprints than maximum speed sprints. Conversely, exercises that strongly activate the gluteal and hamstring muscle groups (e.g., Romanian dead lift) would be more specific to maximum speed sprinting.

In relation to the development of strength qualities, polymeric are particularly effective for the development of reactive strength. Since reactive strength appears to be more important in maximum speed sprints, polymeric training can be expected to be more beneficial for this type of sprinting. The only research to investigate this did not demonstrate significant gains in maximum speed from polymeric training. It is difficult to explain this, but it could be related to many program variables, such as volume and intensity, rather than the ineffectiveness of the polymeric mode of training. One poly metric exercise that was not used in this research but that may be potentially useful for sprinting is speed bounding. This exercise requires the athlete to bound for both distance and speeds and is relatively specific to the mechanics of maximum speed sprinting .As Bompa cited as Mero and Komi conducted a biomechanical analysis on sprinting, speed bounding, bounding for distance, and hop-ping for distance. It was found that in speed bounding, the nature of the foot contact, ground contact times, horizontal velocity, stride length, and rate and power production were more similar to maximum sprinting than the other training exercises. Therefore, speed bounding is recommended as a specific exercise for maximum speed sprinting. Another exercise that would appear to be potentially effective for the development of reactive strength specific to maximum speed running is sprinting with a weighted vest or belt. By adding a small amount of weight to the body, an increased eccentric loading can be expected immediately after ground contact, thereby overloading the muscles that are required to quickly reverse the downward motion of the body.

A potential training effect is a reduced ground contact time, which would decrease stride time and increase stride frequency. Other popular training methods using a sled, parachute, or ropes to resist sprinting all oppose the horizontal component of the leg drive, rather than resisting the vertical movement. Therefore, these may be excellent for training general leg power, but a weighted vest/belt is recommended to specifically target reactive strength development for maximum speed sprinting. Coaches should experiment with the amount of resistance used with all of these methods, but it should not be excessive because muscle activation patterns have been found to differ more from sprinting as the load increases. Bompa et al (1994)

2.9 How do we develop Speed?

The technique of sprinting must be rehearsed at slow speeds and then transferred to runs at maximum speed. The stimulation, excitation and correct firing order of the motor units, composed of a motor nerve (Neuron) and the group of muscles that it supplies, makes it possible for high frequency movements to occur. The whole process is not very clear but the complex coordination and timing of the motor units and muscles most certainly must be rehearsed at high speeds to implant the correct patterns. Flexibility and a correct warm up will affect stride length and frequency (strike rate). Stride length can be improved by developing muscular strength, power, strength endurance and running technique. The development of speed is highly specific and to achieve it we should ensure that:

- Flexibility is developed and maintained all year round
- Strength and speed are developed in parallel
- Skill development (technique) is pre-learned, rehearsed and perfected before it is done at high speed levels
- Speed training is performed by using high velocity for brief intervals. This will ultimately bring into play the correct neuromuscular pathways and energy sources used. (Mackenzie, B.(1997)

When should speed work be conducted?

It is important to remember that the improvement of running speed is a complex process that1 is controlled by the brain and nervous system. In order for a runner to move more quickly, the leg muscles of course have to contract more quickly, but the brain and nervous systems have to learn to control these faster movements efficiently. If you maintain some form of speed training throughout the year, your muscles and nervous system do not lose the feel of moving fast and the brain will not have to re-learn the proper control patterns at a later date. In the training week, speed work should be carried out after a period of rest or light training. In a training session, speed work should be conducted after the warm up and any other training should be of a low intensity. (Mackenzie, B. (1997)

Reaction Speed Drill

The athletes start in a variety of different positions lying face down, lying on their backs, in a push up or sit up position, kneeling or seated. The coach standing some 30 meters from the group then gives a signal for everyone to jump up and run towards him/her at slightly faster than race pace. Repeat using various starting positions and with the coach standing in different places so that the athletes have to change directions quickly once they begin to run. Speed reaction drills can also be conducted whilst controlling an item with an implement. (Mackenzie, B. (1997)

Acceleration Training

Murray (2005) looked at weighted sledge training and their effect on sprint acceleration and they concluded that training with a weighted sledge will help improve the athlete's acceleration phase. The session used in the research was 4 x 20m and 4 x 50m maximal effort runs. Lockie et al. (2003) investigated the effects of various loadings and concluded that when using a sledge a light weight of approx. 10-15% of body weight should be used so that the dynamics of the acceleration technique are not negatively affected. Starts over 10-20 meters performed on a slight incline of around five degrees have an important conditioning effect on the calf, thigh and hip muscles (they have to work harder because of the incline to produce movement) that will improve sprint acceleration.

Sprinting Speed

Downhill sprinting is a method of developing sprinting speed following the acceleration phase. A hill with a maximum of a 15° decline is most suitable. Use 40 meters to 60 meters to build up to full speed and then maintain the speed for a further 30 meters. A session could comprise of 2 to 3 sets of 3 to 6 repetitions. The difficulty with this method is to find a suitable hill with a safe surface. Over speed work could be carried out when there are prevailing strong winds run with the wind behind you.

Energy system for speed

Energy for absolute speed is supplied by the anaerobic alactic pathway. The anaerobic (without oxygen) alactic (without lactate) energy system is best challenged as an athlete approaches top speed between 30 and 60 meters while running at 95% to 100% of maximum. This speed component of anaerobic metabolism lasts for approximately eight seconds and should be trained when no muscle fatigue is present (usually after 24 to 36 hours of rest)

Principles of speed improvement

The general principles for improved speed are as follows:

- Choose a reasonable goal for your event, and then work on running at velocities which are actually faster than your goal over short work intervals
- Train at goal pace in order to enhance your neuromuscular coordination, confidence and stamina at your desired speed
- At first, utilize long recoveries, but as you get fitter and faster shorten the recovery periods between work intervals to make your training more specific and realistic to racing. Also move on to longer work intervals, as you are able
- Work on your aerobic capacity and lactate threshold, conduct some easy pace runs to burn calories and permit recovery from the speed sessions
- Work on your mobility to develop a range of movement (range of motion at your hips will effect speed) and assist in the prevention of injury. (Mackenzie, B.(1997)

Seven Step Model

The following is seven step models for developing playing speed.

1. Basic training to develop all qualities of movement to a level that will provide a solid base on which to build each successive step. This includes programs to increase body control, strength, muscle endurance, and sustained effort (muscular and cardiovascular, anaerobic and aerobic)
2. Functional strength and explosive movements against medium to heavy resistance. Maximum power is trained by working in an intensity range of 55 to 85% of your maximum intensity.

3. Ballistics to develop high speed sending and receiving movements
4. Plyometrics to develop explosive hopping, jumping, bounding, hitting, and kicking
5. Sprinting form and speed endurance to develop sprinting technique and improving the length of time you are able to maintain your speed
6. Sport loading to develop specific speed. The intensity is 85 to 100% of maximum speed
7. Over speed training. This involves systematic application of sporting speed that exceeds maximum speed by 5 to 10% through the use of various over speed training techniques. (Mackenzie, B.(1997)

Assisted Sprint Runs

Sprint assisted training is an effective method of developing speed which lets the athlete run faster than possible under his or her own power. Several products exist for this type of training. Usually, the athlete is attached by harness or belt to a large elastic cord. Thick rubber tubing is also often used. With the tubing stretched, the runner sprints a given distance. Tension in the mechanism pulls the athlete faster than he or she would sprint unassisted, training the body to move at greater speed. As with downhill running, the overload principle is satisfied by reducing the time period in which the sprinting motion must be completed. (Mackenzie, B. (1997)

2.10 The speed dynamic approach to sprint training

Speed dynamics is a moniker given to a new philosophy for developing sprinters the traditional approach to training sprinters has emphasized only one of the body's physiological systems: the muscular system. The assumption has been, "If you make athletes stronger, they will become faster." While the importance of strength and power development should not be understated, strength gains will not produce proportional improvements in speed. In other words, doubling the weight you lift will not cut your race time in half. w.w.w.LA84 foundation.org Thomas et al (2008)

Multi-track training

Since many physiological components contribute to faster running, many training targets demand attention, including:

• Strength and power
• Dynamic mobility
• Neuromuscular coordination
• Event specific skill
• Energy system fitness

Though the primary training emphasis will change from day to day, some attention should be given to each of these components in every training session. One of these training targets will require a special daily emphasis. The nervous system is the single most important contributor to speed. Working as the body's control network, the nervous system is responsible for every subtle and obvious movement the athlete makes. It is the nervous system, which carries the intricate commands to each muscle, that determines when and in what order muscles contract.

A powerful engine is useless if the ignition wires don't send the right signal to the cylinders at the proper time and in the proper order. In the same way, muscular strength is of no benefit if the nervous system does not coordinate its work. Consequently, training the neuron-muscular system is the foundation to build to high level performance. The neuron muscular system can be programmed much like a computer. With training, a coach can create an auto-pilot in the athlete that will guide him or her to faster finishing times. The body is an amazingly adaptable mechanism. It will do whatever is asked of it, provided it is done so in a language it understands. The only programming language the nervous system understands is repeated rehearsal. As an athlete moves through any activity, the body works to make most efficient the muscle sequencing and firing rate for the chosen activity. As an athlete repeats an action or movement, the body locks-in the intricate muscle commands responsible for the task. w.w.w.LA84 foundation.org Thomas et al (2008)

Practice makes permanent

We are all familiar with the cliché "Practice makes perfect." In the science of speed development, however, it is more precise to say "Practice makes permanent." This is especially true where the neuro-muscular system is concerned. Since the nervous system cannot distinguish between the results an athlete desires and what an athlete actually rehearses, it will simply master the movements done most often. So whatever is done in training becomes permanently etched into the neuro-muscular system. Athletes must, therefore, avoid doing lazy drills, lackluster exercise routines, or general training that strays too far from the movement's specific to their event specialty.

2.11 Running economy and improved running performance

Running economy studies from Australia have shown that running economy (RE) is the most important variable for long distance runners and sets elite athletes apart in terms of performance. Although other physiological factors are important, such as high maximal oxygen uptake or VO2 max, we quite often see world class athletes win major competitions with only a very average (relative to fellow competitors) VO2 max score. So why is this the case, who do we see some endurance athletes perform at disproportionately high levels when they are in a competitive race? The reason is that these athletes display very high levels of running economy despite their unexceptional aerobic abilities. Branford (1977)

What is running economy?

Running economy is the energy demand for the given speed of the runner. Runners who have good running economy use less energy and therefore less oxygen than runners with poor RE at the same speed. As such, there is a strong association between RE and distance performance, with RE being a better predictor of performance than maximal oxygen uptake (VO2 max) in elite runners. (http// w. w. w. kg eliet – performance)

What can you do to influence your running economy?

Studies by Daniels (1985) and Bransford et al (1977) have shown that if you combine your endurance training with various other training methods, running economy will improve with largest improvements seen in untrained or less trained runners. Three areas that have the greatest potential to improve running economy are:

- Strength training
- Altitude exposure
- Training in a warm to hot environment

The latter two of these variables are difficult to achieve for most runners in Ireland so we will concentrate on the strength training variable. Endurance athletes must be able to sustain a high average running velocity for the duration of a race. Strength training can improve characteristics such as the ability to produce short contact times and fast forces (Houmard et al, 1991). This means that your foot will spend less time on the ground resulting in greater speed.

Recent work has shown that a combination of heavy weight training (HWT) and endurance training improved running performance and enhanced RE in well trained tri-athletes (VO2max 69 mL/kg/min) (Millet et al, 2002). This type of strength training should only be performed under the supervision of a fully accredited strength and conditioning coach who can select the correct exercises and weight once a full assessment has been completed.

A specific type of strength training known as explosive strength training or plyometrics is possibly the best type of strength training for long distance runners. Not only does it reduce the risk of increased muscle mass which is often the case from poorly prescribed strength program, but it improves the runner's ability to generate power. Simple hopping, jumping and bounding exercises improve running economy by generating more force from the muscles involved without any associated increase in energy expenditure. Let's take an example; if we have two runners running at the same speed, one runner has incorporated plyometric exercises into their training and the other runner performs only endurance running without any additional training. If they are both running at the same speed, the plyometric trained runner will be able to maintain this speed for longer as he/she is using less energy to maintain that running speed. So over a long distance race, the runner who does not perform any additional training will have to reduce their speed as they will not have enough energy reserves to keep up. Paavolainen et al. (1999) indicated that 9 weeks of explosive-strength training (plyometric training) improved running economy (8%) and 5km performance (3%) with no changes in VO2max in moderately trained runners. With such large improvements over a relatively short distance, imagine the percentage improvements over the marathon distance.

In summary, runners whose focus is to improve times and performance should focus some of their training time on improving their running economy. Running itself will enhance their aerobic capabilities but we have seen in this article that this is only one part of the jig saw. Improved running economy can bring about large improvements in performance but interventions used to enhance running economy should only be prescribed and delivered by a qualified strength and conditioning coach. (http// w. w. w. kg eliet – performance)

The low of action and reaction (Newton's third low)

“To every action there is an equal and opposite reaction; or the mutual actions of two bodies in contact are always equal and opposite in direction.” In other words, “for every force there is always an equal and opposite force acting in an opposite direction.” When an athlete applies force to the ground, it reacts with an equal amount of force or resistance. If the force applied is greater than the athlete’s weight, it will cause the athlete to accelerate away from the ground. This acceleration may occur vertically, horizontally, or in combination. w.w.w.LA84 foundation.org Thomas et al (2008))

Air resistance

Air resistance plays a significant role in track and field. Resistance in the form of a tailwind or headwind substantially affects times in the running events. Though a tail wind enhances speed, a headwind has an even greater effect in reducing speed. In the jumping events, wind affects both speed and accuracy. In the discus, wind and air resistance greatly affect the aerodynamic behavior of the implement. When an athlete leaves the ground, there is almost always some rotation around.

Applying biomechanics to the running events

The running stride has three phases:

- Drive
- Recovery
- Braking

The drive pushes the body forward off the supporting foot. The recovery phase occurs when both feet are in the air. The braking phase begins as the lead foot touches the ground, causing a momentary braking or slowing. As the body’s center of mass passes in front of the foot, the next stride and drive phase begins. Running speed is a function of two things: stride length and stride frequency. However increasing stride length by over striding reduces speed because it increases the time of the braking phase. Conversely, overly short strides, or under striding, may increase frequency but still reduce speed because of the decrease in stride length. Stride length is determined by leg length, leg strength and running mechanics. Stride frequency (the time required to complete a running stride) is a function of leg length, genetic factors and training. The most effective way to increase running speed is to increase stride length while maintaining frequency and efficient running mechanics. Other variables being equal, a one inch increase in stride length would result in a gain of four feet in a 100 meter race. Forward lean while running is a product of shifting the center of mass through acceleration. A runner is generally able to accelerate at full effort for about six seconds. At that point, acquired speed and the decreased efficiency of muscular contractions stop the runner from accelerating further. From that point on, gradual deceleration occurs. w.w.w.LA84 foundation.org Thomas et al (2008)

2.12 Universal principles of training

In addition to having a basic understanding of track and field biomechanics, a coach must also understand and apply the fundamental principles that govern any type of physical training. These principles derive from the human body's response to training, stress and skill acquisition. Not comprehending these basic tenants' produces the general adaptation process causes the body to react in a predictable manner to stress. This predictability allows coaches to plan positive adaptation to overload by their athletes. Conversely, this process also explains the negative results that athletes experience when overload or stress is managed improperly.

Overload

The most important principle of training for athletics is that of overload. It should be the aim of coaches to improve their athletes' levels of performance and the capacity for work. In order to achieve this goal, a coach must cause his or her athletes to adapt to a higher level of physical and mental performance. Overloading is the essential mechanism, or tool, for creating this adaptation. Any new type of training subjects the body to greater or different stress than that to which is has become accustomed. When the load is greater than the normal level of exertion, that load becomes a stressor and stimulates a general adaptation process within the organism (the athlete). This process is explained in the general adaptation syndrome, which states that all organisms respond uniformly to stress. When confronted with a stressor, an organism will initially respond with alarm. As the stress continues, the organism will then resist in various ways. If the resistance is positive, the organism is said to have adapted. If, however, the resistance to the stress is negative or the stress is unchecked, the organism will degrade into a state of exhaustion. The general adaptation process causes the body to react in a predictable manner to stress. This predictability allows coaches to plan positive adaptation to overload by their athletes. Conversely, this process also explains the negative results that athletes experience when overload or stress is managed improperly. Paual Beashel et al (2001)

Progression and variability

The logical consequence of adaptation to overload is progression. As an athlete adapts to a given training load, a progressive increase in load then becomes necessary to continue the process of adaptation to the next level of performance. In other words, as the system is capable of doing more, it requires progressive increases in training load for it to be stressed into a higher level of adaptation. For progress to be achieved, however, an accurate assessment of an athlete's capacity for training must be made. Athletes should be pre-tested and then periodically reassessed in terms of the physical requirements and skills demanded by their respective event. Some common measures of such testing are vo2 max, muscular strength, muscular endurance, vertical jumping ability and flexibility. Such information becomes the foundation upon which a coach manages the progressive overload that improves his or her athletes. Without such knowledge, training becomes haphazard and often results in the frustration or injury of the athlete.

There are four important measures of progressive overload: mode, frequency, intensity and duration. Mode is the type of training undertaken (e.g., running, jumping, or weightlifting). Frequency is the number of training units in a given time frame (i.e., weight training three times per week). Intensity is a measure of the degree of exertion in training (e.g. 6x100m @ 80%). In running, training intensity is commonly measured by time per distance run. Duration is the length of time or number or repetitions of a particular training mode (e.g. 45 minute steady state run or performing 10 short approach jumps). Manipulating these four parameters of training is the essence of the coach's role in directing the training of his or her athletes. A corollary to the principle of progression is variability. Varying the type of training done by the athlete spurs the adaptation. Any single type of training yields good improvement for a period of roughly four weeks. Beyond that amount of time, results diminish. Remember that one of the measures of overload is training mode; varying the type of training done works to fulfill this basic principle. Paual Beashel et al (2001)

Specificity

Our bodies adapt to exercise or physical stress in direct response to the nature of the demands imposed. This phenomenon is known as the specific adaptation to imposed demands (SAID); therefore, training needs to address the specific requirements of an event. An athlete must train the skill or system that will be employed in competition. Distance runners must train to raise aerobic thresholds; jumpers must train for rhythm and explosiveness; 400meters runners must train for lactate tolerance. Moreover, athletes need to train physically and mentally for competition the case near the end of season when they should be doing just the opposite. Rest should be greatest during the championship phase of any season. Paual Beashel et al (2001).

Individuality

Every athlete has a different response to and capacity for training. Recognizing individual differences and adjusting expectations when designing and applying training programs for our athletes is exceedingly important. Size, age, strength, training age and even emotional maturity factor into the type and amount of training under which any athlete will thrive. Coaches often will find that many of their most talented athletes have a limited capacity to train hard, while less talented athletes can endure much more. While the overall design of a training program will most likely apply to all, volume and intensity must be specific to the individual. Paual Beashel et al (2001)

2.13 Planned Performance Training

The primary purpose of training is to improve and plan the performance of the athlete. The systematic application of skill instruction, biomechanics, and the principles of training to the development of track and field athletes is planned performance training. Planned performance training seeks to achieve maximum improvement in performance and is structured so that peak performance occurs at predetermined moments within the competitive season. That, after all, is the point of competition. Without such planning, the training of the athletes becomes haphazard and good results become a matter of happenstance rather than planning and prediction.

The first requirement of successful planned training is assessment. A coach must evaluate the athletes and their abilities, the level of competition and the time available for training and competition. From this evaluation, the objectives and goals for individuals and the team are defined. A set of expectations for the athletes establishes direction and purpose for their efforts. Expectations frame the goals the coach and the athletes will have for the season. At the same time, though, goals must be realistic and open ended. Goals that are too grandiose only serve to discourage performance. Goals that do not evolve inhibit the unseen abilities of the athlete. Goals are most often achieved when accompanied by the true expectation of success.

The second element of planned performance training is planning. The coach needs to create an overall plan for training the team and individuals. This plan should apply the fundamental principles of training to the expectations and goals that have been defined. If anything, this basic plan constitutes the foundation upon which the coach creates the structure of competitive success. Coaching without a plan for the season or phase of training is like navigating unfamiliar territory without a map. Too often athletes are kept ignorant of the course of their training. How can they possibly prepare mentally to train with commitment if their coaches do not demonstrate such preparation? Of course, training must be adapted to circumstance, but without a strategy athletes are unlikely to experience success. Once a plan is made, the construction and execution of the daily, weekly, and cyclic training components become the third element of planned performance simple metaphor; per iodization is the recipe of training. This recipe controls the amount of overload, its progression and variation, the specific ingredients involved, individual tastes or differences, and the rest or settling required to produce the well cooked athlete rather than one who is under-prepared, overcooked or too often burned. w.w.w.LA84 foundation.org Thomas et al (2008))

2.14 Systematic training

Training for planned performance requires a coach to integrate several types of training. These types of training can be divided into three categories:

• General training;

• Specific training;

• Specialized training;

General training develops the overall physical capacity and fitness of the athlete. This encompasses basic running, weight training, plyometric exercise and rhythm development.

Specific training has a direct correlation to the skills necessary for a given event. Often it is a refinement of general training. Running and jumping technique drills specific plyometric drills, hurdling and block starts are examples of specific training. Specialized training duplicates the exact movements and conditions of an event. This normally involves exercises that replicate a specific feature or phase of the event. Full jumps, time trials, strict throws and full hurdle flights are examples of specialized training. For several reasons, the vast majority of training for high school athletes should be general in nature. Young athletes will benefit more from general training throughout most of the season. Coaches should focus on developing athletes first, then event specialists. Also, with a large number of athletes to guide, few coaches can spend the time necessary for intensive specialized training. Finally, many athletes compete in multiple events. General training fulfills other event demands as well as those of the athlete's specialty. Specific training, on the other hand, teaches an athlete a particular event. The proportion of specific training should increase over the course of the season. Specialized training is the refinement of learned technique. At the high school level, it should account for a modest proportion of the total training regimen. A system of training uses several methods and types of training within a seasonal training cycle. The chart on this page outlines a recommended training plan.

Paual Beashel et al (2001)

2.15 Warm-up and cool- down

The purpose of a warm up is to prepare an athlete physically and mentally for a training session or competition. Stretching is of little use if it is not done correctly stretching should always be preceded by a 5-15 minute period of jogging or aerobic exercise to allow muscles to gradually loosen and their core temperature to rise above 102 degrees. A tight muscle is a ready target for a muscle pull or strain. Athletes should be perspiring freely after their warm up before they begin to stretch. Wearing a warm-up suit will help accelerate the process of warming-up and prevent athletes from cooling off again while they stretch. A running warm up should begin with easy jogging for several minutes, then gradually increase in tempo and include some bursts of slightly faster running called surges. Athletes will quickly become bored doing the same warm-up routine each day, so coaches should consider using a somewhat different running warm-up prior to each training session. Paual Beashel et al (2001)

Cool- down

It is imperative that an athlete conclude each training session with a warm down period. The consequences of not warming down after intense exercise include severely stiff and painfully sore muscles the next day this is a result of the body's cooling rapidly after training allowing lactic acid to pool in the muscles overnight. The purpose of a warm down is to allow the body to gradually reduce its temperature and respiration rate to normal. Slow jogging and walking for five to 10 minutes allows the heart rate to decrease gradually and the muscles to disperse most of the lactic acid that has accumulated during the workout. If the training session has been especially intense, stretching after a warm down jog is the best way to prevent the muscle soreness that may result the next day. The same series of stretches used for the warm up can be used during the warm down. (Paul Beashel, et al (2001)

2.16 Testing and Evaluation for sprinters

It is common for coaches to create a single master training plan for all their sprinters. Certainly, some commonalties do exist when the training programs of sprinters are compared; however, only by respecting and addressing the unique qualities and objectives of each athlete can coaches lead an individual towards achieving his or her highest levels of performance. Just as a physician examines each patient to properly attend to individual needs so must the coach explore the personal capacities of each athlete under his or her charge. Before a training program can be developed, coaches should "test for success" and look past obvious, surface-level data to explore the depths of undiscovered potential. There are several tests that examine both psychological and physiological performance factors.

Psychological evaluation

Even if a coach creates a perfect training program to develop the physiological potential of a particular athlete, little will be accomplished if that athlete's goals and perceptions do not line up with those of the coach. If a coach wants to win a national championship, but the athlete is only looking for a better fit of his or her bathing suit, the conflicting objectives will make for a difficult and unsuccessful relationship. The evaluation process should begin with the completion of an athlete's. The evaluation process should begin with the completion of an *athlete's questionnaire.* This questionnaire provides a coach with valuable insights that serve to identify characteristics unique to the athlete. The questionnaire should include sections that explore relevant statistical, personal, medical and volitional data. By understanding the unique circumstances surrounding the person, not just the performer, coaches can match appropriate training methods to individual needs. (w.w.w.LA84 foundation.org Thomas et al (2008))

FIELD TESTS

The test course will consist of an acceleration zone and a 30 meter timing zone. Novice athletes should use a 15 meter acceleration zone; while more accomplished athletes can use a fly zone of 20 to 25 meters.

Evaluating Maximum Velocity

The 30 meters fly test evaluates the maximum velocity capacity of the athlete. The athlete is instructed to sprint through the acceleration zone and the 30 meter action zone with maximum effort. He or she is timed, however, only from the start of the 30 meter test zone to its finish. When the distance run (30 meters) is divided by the time recorded, the answer reveals the maximum velocity of the athlete in terms of meters per second (the number of meters traveled in one second, while sprinting at full speed). If the split time were 3.0 seconds in the fly 30 test, the maximum velocity of the performer would be 10.0 meters per second. To date, the world's fastest men and women have posted top marks of 12 and 10 meters per second respectively. Developing athletes will register values close to 10 meters per second for boys and 8 meters per second for girls. (w.w.w.LA84 foundation.org Thomas et al (2008)

Evaluating Acceleration

Acceleration skills can be evaluated by conducting a standing 30-meter dash. Athletes should be instructed to sprint from the start of the 30-meter timing zone through the finish beginning from an upright, standing start. The watch should be started from the instant the rear foot leaves the ground, and stopped when the torso crosses the end of the timing zone. Only experienced athletes of at least college- level should use a crouched start for this test. The acceleration skills of an athlete can be judged by reviewing the differences in performance between the 30-meter fly test and the standing 30 meter test. Subtracting the fly 30 meter time from the standing 30 meter time reveals the acceleration differential. Accomplished sprinters will register a 1.0 second differential, while a developing athlete's mark will fall into the 1.4 to 1.6 range. Lowering this differential is the best evidence of improvement in the acceleration. (w.w.w.LA84 foundation.org Thomas et al (2008))

2.17 Coaching roles

The roles that you will find you undertake as a coach will be many and varied and you will find at some stage in your coaching career that you will be, but not limited to:

- Advisor - Advising athletes on the training to be conducted and suitable kit and equipment.
- Assessor - Assessing athletes performance in training and in competition
- Counselor - Resolving emotional problems on the basis that sharing anxieties can be both relieving and reassuring.
- Demonstrator - Demonstrate to the athletes the skill you require them to perform.
- Friend - Over the years of working with an athlete a personal relationship is built up where as well as providing coaching advice you also become someone, a friend, who they can discuss their problems or share their success with. It is important to keep personal information confidential because if you do not then all respect the athlete had for you as a friend and coach will be lost.
- Facilitator - Identify suitable competitions for them to compete in to help them achieve their overall objectives for the year.
- Fact finder - Gathering data of national and international results and to keep abreast of current training techniques.
- Fountain of knowledge - This may be part of the advisor role in that you will often be asked questions on any sporting event, events that were on the television, diet, sports injuries and topics unrelated to their sport.
- Instructor - Instructing athletes in the skills of their sport.

- Mentor - When athletes attend training sessions you are responsible, to their parents and family, for ensuring that they are safe and secure. You have to monitor their health and safety whilst training and support them should they have any problems or sustain any injuries.
- Motivator - Maintain the motivation of all the athletes the whole year round.
- Organizer and planner - Preparation of training plans for each athlete and organize attendance at meetings and coaching clinics.
- Role Model - A person who serves as a model in a particular behavioral or social role for another person to emulate. The way you conduct yourself whilst in the presence of your athletes provides an example of how they should behave - what sort of example should we be providing to someone else's children? Perhaps one of the most important roles of a coach.
- Supporter - Competition can be a very nerve racking experience for some athletes and often they like you to be around to help support them through the pressures. Role of a ‘friend’ and perhaps 'Counsel or' come in here to. (Mackenzie, B. (2005)

2.18 Coach athlete training roles

The roles of the coach and athlete in determining training requirements will change over the time an athlete is with a coach.

- When an athlete first starts in a sport/event (cognitive stage) the coach's role is to direct the athlete in all aspects of training (telling or showing coaching style).
- As the athlete develops and demonstrates a sound technical understanding (associative stage) of the sport/event then gradually the coach's role changes to one where the coach and athlete discuss and agree appropriate training requirements (involving coaching style).
- As the athlete matures and demonstrates a sound understanding of training principals (autonomous stage) then the athlete will determine the training requirements. The coach's role becomes one of a mentor providing advice and support as and when required.

Coaching skills

As a coach you will initially need to develop the skills of: organizing, safety, building rapport, providing instruction and explanation, demonstrating, observing, analyzing, questioning and providing feedback.

Organizing

In organizing the training session you need to plan in advance how you will manage the athletes, equipment and area - group athletes accordingly to numbers, ability and the activity - continually check the plan is safe during the session. . (Mackenzie, B.2005)

Safety

In providing a safe environment for the athletes you must assess the risk of: the area, equipment and athletes - continue to assess risk throughout the session - keep athletes on the set task and follow correct practice and progressions.

Building Rapport

In building rapport with the athletes learn and use their names, smile and make eye contact, coach the athlete rather than the sport, show interest in and respect for the athletes. (Mackenzie, B.2005)

Instruction and explanation

In providing Instruction and Explanation you should think about and plan what you are going to say, gain the athlete's attention, keep it simple and to the point and check they understand by asking open questions. . (Mackenzie, B.2005)

Demonstration

In providing demonstration make sure you are in a position where the athletes can clearly see you, focus on only 1 or 2 key points, repeat the demonstration 2 or 3 times (side, back and front view), ask if they have any questions and check they understand by asking open questions. There are times when it might be more appropriate to use someone else to provide the demonstration.

Observation and Analysis

In observing and analyzing break the action down into phases, focus on one phase at a time, observe the action several times from various angles, compare the action with your technical model and if appropriate determine what corrective action is required. Remember your ears can also be used to observe - e.g. listen to the rhythm of the feet of the hurdler.

Feedback

In providing feedback encourage the athlete to self analyze by asking appropriate open questions, provide specific and simple advice, limit the advice to 1 or 2 points, check they understand what they will do next and make the whole process a positive experience for the athlete. (Mackenzie, B.2005)

2.19 Coaching Styles

There are perhaps three coaching styles - autocratic (do as I say), democratic (involve the athletes in decision making) and laissez faire. The autocratic style could be broken into two types - telling and selling and the democratic style into sharing and allowing. There is little direction from a "Laissez fair" coaching style as this style allows the group to do what they want to. Coaches will use a variety of coaching styles depending on the coaching situation. http;//w.w.w. brianmac. co,uk/circuit.htm

Autocratic Style – Telling

When using the Telling style the coach:

- decides on what is to be done
- defines what to do and how to do it

On a circuit training session, the athletes are told the exercises in the circuit.

Autocratic Style - Selling

When using the Selling style the coach:

- decides on what is to be done
- explains what is required and the objectives
- ask the athlete questions to confirm understanding
- defines what to do and how to do it

On a circuit training session, the athletes are informed of the exercises in the circuit. The coach explains the object of circuit training and the purpose of each exercise. Athletes can ask questions to clarify any points. http;//w.w.w. brianmac. co,uk/circuit.htm

Democratic Style - Sharing

When using the Sharing style the coach:

- outlines the training requirements to the athletes
- invites ideas/suggestions from the athletes
- makes the decision based on the athletes' suggestions
- defines what to do and how to do it

The coach identifies a circuit training session. Athletes identify possible exercises for the circuit. The coach selects from the suggestions a set of exercises.

Democratic Style - Allowing

- The coach outlines the training requirements to the athletes
- The coach defines the training conditions
- The athletes brainstorm to explore possible solutions
- The athletes make the decision
- The athletes define what to do and how to do it

The coach identifies a circuit training session. The coach defines the conditions of the circuit to ensure it is safe and meets the overall objectives of the session. Athletes identify possible exercises for the circuit and then select a set of exercises that meet the coach's conditions. http;//w.w.w. brianmac. co,uk/circuit.htm

B. Woods (1998) identified 4 styles of coaching:

- Command style - direct instruction, coach dictates
- Reciprocal style - athlete takes some responsibility for their own development - monitored by the coach
- Problem solving style - athlete solves problems set by the coach
- Guided discovery - athlete has freedom to explore various options

UK athletics (UKA) identify the following coaching styles:

- Telling - primarily the coach use instruction and explaining
- Showing - primarily the coach use demonstration
- Involving - primarily the coach allows self discovery and questioning to raise the athlete's awareness. (Woods, B. (1998))

2.20 Event specific nutrition

Training issues

The goal of many power and sprint athletes is to enhance muscle mass and strength through specially designed resistance training programmes. In most cases, these athletes believe that their food focus should be on protein intake. In fact, there is no evidence that very high intakes of protein (> 2 g per kg BM per day) are necessary or even advantageous for optimizing the results of resistance training. It is likely that the best results are achieved through enhanced recovery strategies such as providing a source of protein and carbohydrate immediately after the workout. Many power and sprint athletes forget to bring a drink bottle to training. However, workouts are best undertaken when the athlete is well hydrated and well fuelled. Fuelling with a sports drink can help the athlete to keep lifting or training with a good technique, right to the end of a long session.

There are numerous supplements that are claimed to promote recovery, increase muscle mass, reduce body fat and enhance performance. These claims are attractive to all athletes, but seem particularly entwined with the world of body building and strength training. Many athletes are not aware that the claims made for most products are unsupported or exaggerated, and that the industry operates with little regulation. Competition issues most sprint events are conducted over a short time, with minimal impact on fluid and carbohydrate levels. However, competition can require the athlete to compete in a series of heats, semis and finals, or with long periods between rounds of a field event or multi-sport competition. This calls for special eating strategies to recover between events or to manage fluid and energy levels over a long day. Eating strategies for power and strength athletes a key ingredient in a plan designed to enhance muscle size and strength is adequate energy intake.

Energy should be supplied both by carbohydrate rich foods that provide fuel for training as well as protein- and nutrient rich foods that can provide building blocks for the results. Recent evidence suggests that enhanced effects on protein balance are achieved by following up a resistance workout with a meal or snack providing a good source of high quality protein soon after the session. A few supplements and sports foods provide valuable benefits to the athlete's training and competition programmers. It is important for the athlete to seek up-to-date and independent advice from a sports nutrition expert to identify these products and how to use them to suit the athlete's current program, budget and performance goals. Breakfast cereal and milk Sandwiches with meats, cheese or egg fillings Meat/fish/chicken stir fries served with rice or noodles Fruit smoothies or liquid meal supplements Canned tuna or salmon on crackers or rice cakes fruit and yoghurt dried fruit and nut mixes. On the day of competition, the athlete should consume a comfortable pre-event meal, and organize appropriate carbohydrate rich drinks and light snacks to stay fuelled and hydrated between events or bouts in a multi event programmer. Multi event athletes should plan their meals and snacks carefully to suit the suggested timetable of each competition. It is useful to debrief after each competition to see what was actually consumed and how well this worked, so that the lessons can be transferred to future events. Strategies for high-energy eating It is usually more efficient to increase the number of times that food is eaten each day for example, a series of 5-9 meals and snacks than trying simply to increase the size of meals. Drinks such as fruit smoothies, liquid meal supplements and fortified milkshakes and juices can provide a substantial source of energy and nutrients that are quick and compact to consume, and less likely to cause gastrointestinal discomfort than bulky foods. Sugary foods and specialized sports products (drinks, bars) can provide a compact form of carbohydrate and other nutrients, which is particularly useful when energy needs are high. A food record can identify the times in a busy day that aren't being well used for fuelling up. Athletes should use creative ideas and good planning to arrange a supply of portable snacks and drinks that can travel with them over their day. Adaptation to a resistance training program may be enhanced by consuming "recovery" snacks providing protein and carbohydrate before and after each workout. Pro Louse et al (2007).

2.21 The Factors Affecting Performance

Ability

Character traits, skills and knowledge which are used in the performance. It is always present and will not vary widely over short periods of time.

Motivation

Many people who are not motivated keep their performance to an acceptable level by expending only 20-30% of their ability Managers who know how to motivate their employees can achieve 80-90% ability levels and consequently higher levels of performance. There is other more detailed notes on motivation elsewhere in this site, but remember Maslow?

- Basic needs - food clothing
- Safety needs - security, avoidance of risk/harm
- Social needs - friendship, acceptance, group
- Esteem needs - responsibility, recognition

Self realization - independence, creativity. (Mackenzie. (1997)

Equity & Expectation

Again, detailed notes elsewhere. Basically, people expect to be treated equally, within the company and as others are in similar companies; they expect to get a certain reward for a certain effort; and they expect to get promoted if they undergo training. All these factors are inter-related and affect the amount of effort people are prepared to put in. (Mackenzie. (1997)

Body Types & Build

Success as an athlete comes from a combination of athletic ability and our body build. The three components of body build are type, size and composition. A system, developed by as Mackenzie cited as W.H. Sheldon (1940), uses the terms Ectomorph, endomorph, or Mesomorph to describe the body build of an individual. There are three extremes of body types.

Endomorph

- A pear shaped body
- A rounded head
- Wide hips and shoulders
- Wider front to back rather than side to side.
- A lot of fat on the body, upper arms and thighs

An endomorphic individual typically has short arms and legs and a large amount of mass on their frame. Their mass hampers their ability to compete in sports requiring high levels of agility or speed and perform sustained weight bearing aerobic activities such as running. Sports of pure strength, like power lifting, are perfect for an endomorph. They can gain weight easily and lose condition quickly if training stops.

Sports Benefits

Size benefits sports such as rugby where bulk is useful, provided it can be moved powerfully

Tend to have large lung capacity which can make them suited to sports such as rowing they can increase muscle mass much more easily than Ectomorph.

Mesomorph

- A wedge shaped
- A cubical head
- Wide broad shoulder
- Muscled arms and legs
- Narrow hips

A mesomorphic individual excels in strength, agility, and speed. Their medium structure and height, along with their tendency to gain muscle and strength easily makes them a strong candidate for a top athlete in any sport. They can sustain low body fat levels and find it easy to lose and gain weight.

Sports Benefits

- Respond well to cardiovascular and resistance training
- Can sustain low body fat levels
- All muscle groups can be used to derive positive training adoption
- Dependent on the sports' needs they can easily gain or lose weight

Ectomorph

- A high forehead
- Receding chin
- Narrow shoulders and hips
- A narrow chest and abdomen
- Little muscle and fat

A predominantly ectomorphic individual is long, slender and thin, and therefore power and strength sports are perhaps not suitable as their slight build leaves them susceptible to injuries. While they can easily get lean and hard, their lack of musculature severely limits their chances in sports requiring mass. Ectomorphs dominate endurance sports and gymnastics. They can archive low levels of body fat which can be detrimental to health and for females in endurance sports it can result in a cessation of periods and iron deficiency.

Sports Benefits

- Light frame makes them suited for aerobic activity like gymnastics
- Smaller body surface area also enhances their suitability for endurance activity
- Their body is better at thermo regulation, important in endurance based sports.)

Body Size

Body size refers to the athlete's height and weight. The ideal size for an athlete depends on the sport or event and sometimes the position they play in their sport (consider the various body sizes in a Rugby team). There are standard ideal weight charts based on an individual's height.

Body Composition

Body composition refers to the athlete's body fat. In most sports, the athlete will try to keep his/her levels of body fat to a minimum. In general the higher the percentage of body fat the poorer the performance. (Mackenzie, B. (2001)

Environmental factors

Those factors over which an individual has no control, example: the job may have been completed under severe time constraints, with a lack of adequate resources, or by using obsolete equipment; there may have been conflicting priorities or information overload, such that the individual was confused and under stress; other staff and departments may have been less than cooperative; the restrictive policies of the organization may have prevented the individual from using her initiative and imagination to the extent that she wished; the quality of the supervision exercised may have been defective - some people need encouragement and support, whereas others like to be left to get on with the job. Cannot be used as excuses for poor performance, but they do have a modifying effect. (Mackenzie. (1997)

Communication Skills

Communication is the art of successfully sharing meaningful information with people by means of an interchange of experience. Coaches wish to motivate the athletes they work with and to provide them with information that will allow them to train effectively and improve performance. Communication from the coach to athlete will initiate appropriate actions. This however, requires the athlete to receive the information from the coach but also to understand and accept it. Coaches need to ask themselves (Crookes 1991):

- Do I have the athlete's attention?
- Am I explaining myself in an easily understood manner?
- Has the athlete understood?
- Does the athlete believe what I am telling him/her?
- Does the athlete accept what I am saying?

Non-verbal messages at first, it may appear that face-to-face communication consists of taking it in turns to speak. While the coach is speaking, the athlete is expected to listen and wait patiently until the coach finishes. On closer examination, it can be seen that people resort to a variety of verbal and non-verbal behavior in order to maintain a smooth flow of communication. Such behavior includes head-nods, smiles, frowns, bodily contact, eye movements, laughter, body posture, language and many other actions. The facial expressions of athletes provide feedback to the coach. Glazed or down turned eyes indicate boredom or disinterest, as does fidgeting. Fully raised eyebrows signal disbelief and half raised indicate puzzlement. Posture of the group provides a means by which their attitude to the coach may be judged and act as pointer to their mood. Control of a group demands that a coach should be sensitive to the signals being transmitted by the athletes. Their faces usually give a good indication of how they feel, and a good working knowledge of the meaning of non-verbal signals will prove invaluable to the coach.

Communication blocks

Difficulties in communicating with an athlete may be due a number of issues including the following (Crookes 1991)

- The athlete's perception of something is different to yours

- The athlete may jump to a conclusion instead of working through the process of hearing, understanding and accepting
- The athlete may lack the knowledge needed to understand what you are trying to communicate
- The athlete may lack the motivation to listen to you or to convert the information given into action
- The coach may have difficulty in expressing what she/he wishes to say to the athlete
- Emotions may interfere in the communication process
- There may be a clash of personality between you and the athlete

These blocks to communication work both ways and coaches need to consider the process of communication carefully.

Effective Communication

Before communicating with an athlete, coaches should consider (Crookes 1991):

- WHY they want to communicate
- WHO they wish to communicate with
- WHERE and WHEN the message could best be delivered
- WHAT is it that they want to communicate
- HOW they are going to communicate the information

Effective communication contains six elements (Crookes 1991):

Clear	Ensure that the information is presented clearly
Concise	Be concise, do not lose the message by being long winded
Correct	Be accurate, avoid giving misleading information
Complete	Give all the information and not just part of it
Courteous	Be polite and non-threatening, avoid conflict
Constructive	Be positive, avoid being critical and negative

Be Positive

When coaches provide information to the athlete that will allow them to take actions to effect change, it is important that they provide the information in a positive manner. Look for something positive to say first and then provide the information that will allow the athlete to effect a change of behavior or action.

Conclusion; Coaches should (Crookes 1991):

- Develop their verbal and non-verbal communication skills
- Ensure that they provide positive feedback during coaching sessions
- Give all athletes in their training groups equal attention
- Communicate as appropriate to your athlete's thinking and learning styles
- Ensure that they not only talk to their athletes but they also listen to them as well

Improved communication skills will enable both the athlete and coach to gain much more from their coaching relationship

Leadership qualities in the sports situation

There is a great deal of debate among both practicing executives and academics as to what exactly constitutes good leadership. There is, however, some agreement that some technical expertise or ability in the area in which leadership is being practiced will help gain respect and get people to follow the example given. This does not mean that they need to know it all, but they must show some understanding of the work that has to be undertaken and some knowledge of what is required to work in sport. If, after all, the leader knew everything then perhaps he or she would do everything themselves. Certainly the importance of recognizing and empathizing with the commitment required for effective operation in sports administration is a crucial leadership skill. In addition, many different qualities are sought in a leader by different people. There is, however, some agreement that good leaders tend to be extrovert, enthusiastic and have an 'attractive' personality and character which is appealing to others. In sports management and administration, the leadership qualities required is a bit like beauty in the eye of the beholder. A leader in any situation must be aware of individual needs, task needs and group-maintenance needs if the dynamics of the individuals and groups are going to be combined successfully to get the necessary tasks completed. This is a step beyond the basic concept of the hierarchy of individual needs espoused by Maslow (1954), which included:

• Physiological; the need to eat, drink and rest

• Safety; to be safe from danger and feel secure

• Social; have a feeling of ease with other people in friendship and belonging

• Esteem; self-respect and recognition by others

• Self-actualization; a feeling of achievement and personal development.

These are all valid, but need to be set in the group and task setting to see real achievement. Leadership must not be seen as dictatorship; it is a necessity to draw everyone together to get them pulling in the same direction rather than having them working in a disjointed way or towards the wrong objective. The leader's job is to bring cohesion and involve everyone from the beginning in the big decisions to be made. To be leader does not mean making all the decisions group decision-making is preferable and promotes group responsibility and involvement. There may be some occasions when the leader has to take the final decision or make a decision on their own, but, particularly in the sporting sphere, the involvement of others will be vital to gain their support as it is most likely that strong personalities will be involved. It is vital to remember that while leaders are often thought to have some innate qualities, they will also need to develop and add to these qualities. Adair (1988) has identified a number of skills which are relevant to the Sports situation:

• defining the task

• having the ability to identify exactly what is required to be done

• planning; making the necessary plans for the task to be carried out

• Briefing; telling everyone what their involvement is (in a shared discussion)

• controlling; monitoring through the work to ensure that everything is proceeding according to plan

• evaluating; having a realistic assessment of what is happening in the process and how close the successful completion of the task is

• motivating; keeping everyone involved, enthusiastic and committed to fulfilling the task

• organizing; ensuring that everyone is working in a planned co-ordinate way towards the end goal

• setting an example; showing a commitment and enthusiasm which will encourage others to follow and so ease the functioning of the operation towards the end goal

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Research design

For the purpose of this investigation both the qualitative and quantitative methods of inquiry were employed. The methodology designed to conduct this research is descriptive survey. The rationality of selecting this type of research design includes the following reasons. Descriptive research describes the current information about the problem encountered from the athlete and the actual practices they perform regarding coaching, selection and so on secondly; descriptive research is also a process of collecting information in order to answer questions concerning the current status and the problem of the club short distance in the study.

Moreover, descriptive research is a fact finding study with adequate and accurate interpretation of the finding. The attributes of descriptive research make harmony with the purpose of the study. In addition to this the study will improve the performance of short distance race focusing on 100,200 and 400 meter running.

3.2 Sources of Data

The major sources of data for this study were primary sources which was collected from athletes, coaches, and athletics club experts. These are the source of data due to their relationship with the study area. Secondary Sources both published and unpublished sources were investigated thoroughly especially books, web sites, reports, journals, newsletters were used.

3.3 Sampling procedure

The sampling procedure is made in some selected Addis Ababa first division athletics clubs. Finally from those three selected clubs the total number of sprinters were 38. From these number the researcher were used 30 sprinters by simple random technique and all 9 coaches , 9 administrative personnel and 2 Addis Ababa athletics federation experts by purposive sampling technique are used under the study as a source of data.

3.4 Instruments of data collection

In order to collect the data which is necessary for analysis, the researcher used observation, document analysis, and questionnaire. Triangulation, a multi-method approach is implemented to maintain the validity of the study and to acquire information from different sources. The use of different tools helped to see the situation in depth. The detail of each data collection instruments is discussed as follows:

- Observation

  In order to obtain information about availability of facilities and equipments, principles of training and style of coaching applied by the coaches, training program observation has been used by the researcher.
- Questionnaire

  Questionnaires were also used to collect relevant information from athletes and coaches. Open and close-ended questions will be used. Two sets of questionnaires were prepared and administered to athletes; coach's, administrative personnel and Addis Ababa athletics federation experts were the target for the study. The two sets of questionnaires to be filled by athletes, coach's, administrative personnel and Addis Ababa athletics federation experts were prepared in Amharic, for the reason that to understand easily and to get relevant and reliable information from the respondent.
- Document analysis

Documents that were supposed to provide the necessary information about athletes result were consulted.

3.5 Procedures of Data Collection

- After designing the research instruments (observation checklist, questionnaire and document analysis) the research sites and sample size of participants were identified. Then, observation of the training session took the first step in data collection. This is because observation helps to get first hand information, concerning the usual principles, method and character of the team and the coach during the training session.

Secondly, the date and times of contact were determined and questionnaires were distributed to selected athletes, their coaches, administrative personnel and federation experts. After completing the data collection, processing the raw data or analysis conducted.

3.6 Methods of Data Analysis

The results of data collected through questionnaire, document analysis, and observation were interpreted using percentage, count and descriptive statements.

CHAPTER FOUR

Analyses and Interpretation of Data

This part of the study deals with presenting, analyzing and discussing the data collocated through questionnaires, document analyses and observation from sources. Furthermore, the main findings of the study are presented with the help of tables followed by descriptive statements for analysis.

4.1 Analysis of Findings Obtained From clubs

4.1.1 Background Information of club short distance athletes

Table 5: sex, Age, Grade Level, marital status, and training age of the Respondent athletes

No	Item	Respondents	
1	Sex	No	%
	M	15	50
	F	15	50
	Total	30	100
2	Age		
	16-18	13	43.3
	19-22	13	43.3
	Above 23	4	13.4
	Total	30	100
3	Grade level		
	Grade 8 complete	8	26.7
	Grade 10 complete	10	33.3
	Grade 12 complete	9	30
	Diploma	3	10
	Others	-	-
	Total	30	100
4	Marital status		
	Single	26	86.7
	Married	4	13.3
	Total	30	100

5	Training age		
	1-2	11	36.7
	3-6	16	53.3
	Above 7 years	3	10
	Total	30	100

According to Table 5, 50% of respondents were males and the 50% of the respondents were females. Regarding to age of respondents, 43.3% and 43.3% of the athletes were found in the age between 16 - 18and 19 -22 years old respectively, 13.3% the athletes were found in the age above 23 years old and. With regard to their grade level, out of the total 30 athletes, 33.3%, 30%, 26.7%and 10% were of grade10, 12, 8 and diploma complete respectively. Hence, most of them are found in grade10 and 12 complete. Regarding to marital status, 86.7% and13.3% were single and married respectively. Hence most of them are single .Regarding to training age of respondents, 53.3%, 36.7% and10% of the athletes were found in the year between 3-6 year,1-2 year and above 7 years respectively. Most of them are found in the year between 3-6 years.

4.2 Talent scouting and athletes selection criteria

Table 6 Responses Athlete's selection criteria for club team

No	Item	Respondents	
		Athletes	
		No	%
1	Do you have a piece of information about talent scouting process and selection criteria?		
	Yes	9	30
	No	21	70
	Total	30	100
2	From where you join this team?	-	-
	School	3	10
	While running on the street	1	3.3
	athletics projects	12	40
	Clubs	14	46.7
	others	-	-
	Total	30	100

As indicated in item 1 of table 6, 70% of the respondent's athlete replied that they have not information about talent scouting process and selection criteria. Whereas 30% of the respondents responded have information about talent scouting process and selection criteria of an athlete. This show as the athletes doesn't know how the athletes incorporate to the club team. Regarding item 2 of Table 3, the majority (46.7%) of the respondent athletes replied they were join the club team from different clubs,(40%) of the respondent athletes replied they were join the club team from different athletics projects,(10%) of the respondent athletes replied they were join the club team from different school and the rest (3.3%)of the respondents replied they were join the club team while running on the street. This shows the club and federation must be given prior to athletics clubs and projects to get the improving athlete.

Table 7 Responses of athletes and coaches in terms of interest

No	Item	Respondent			
		Athletes		coaches	
		No	%	No	%
3	Are you interested by the coaching style of your coach?				
	Very high	6	20		
	High	3	10		
	Medium	16	53.3		
	Low	3	10		
	Very low	2	6.7		
	Total	30	100		
4	How much the training secession considers athletes interest?				
	High			5	56
	Medium			4	44
	Low				
	Total			9	100
5	Do you believe that you came from this club to improve your performance?				
	Very disagree	-	-		
	Disagree	6	20		
	Not decide	-	-		
	Agree	24	80		
	Total	30	100		
6	Do you believe that athletes came from this club to improve their performance?				
	Agree			9	100
	Disagree			-	-
	Total			9	100

As indicated in item 3 of table 7, 53.3% of athletes responded that the interest of the athletes on the club coaches is medium, 20% respondent athlete replied that they are very high interested by the club coaches, 10% respondent athlete replied that they are high interested by the club coaches, 10% respondent athletes replied that they are low interested and 6.7% respondent athlete replied that they are very low interested by the club coaches. Regarding to item 4, 56% of coaches responded that the training is highly consider for athletes interest and 44% of coaches responded that the training have medium consideration for athletes interest. The athletes are the immediate centers of the training program. Therefore, the interest of athlete is a key factor for success in athletics. They should show their interest and be considered as the major actors and responsible bodies. Regarding to item 5, 80% respondent replied that agree and 20% respondent athletes replied that they are disagree. Regarding to item 6, 100% of coaches replied that they are agreeing to improve their performance Hence most athletes go to clubs to improve their performance.

4.3 Training

Track and field is mostly a sprint sport. All things being equal, speed usually wins the race. The pure sprint events include the 100 meters, 200 meters, 400 meters. To have winning teams, coaches must be able to teach and train their anaerobic training.

Table 8 Responses of Athletes and coaches in Terms of Training

No	Item	Respondents			
		Athletes		Coach	
		No	%	No	%
7	How many times you train per week in the club?				
	Three days	22	73.3	-	-
	Four days	-	-	-	-
	Five days	-	-	-	-
	Six days	8	26.7	-	-
	Total	30	100	-	-
8	How many times you give training per week in the club?				
	Three days	-	-	5	36
	Four days	-	-	3	33
	Five days	-	-	1	11
	Total	-	-	9	100
9	How long your training program per training session?	**-**	**-**		
	Below thirty mint	1	3.3		
	Thirty mint up to one hour	21	70	4	45
	One hour up to one half hours	6	21	2	22
	One half hours up to two hours	**1**	3.3	2	22

	Above two hours	1	3.3	1	11
	Total	30	100	9	100
10	Do you think that the daily training secession is improving your performance?				
	Yes	19	63.3		
	NO	11	36.7		
	total	30	100		

With this regard, the data from item 7 Table 8, indicated that 73.3% 0f the athlete response that tree times per week, 26.7% of the athletes response that six time. Regarding to item 8, 56% of coach response that tree times per week,33% of coaches response that four times per week and 11% of coaches response that five times per week they are train in the club team. Regarding to item 9, indicated 70% of the athletes and 45% of coaches replied that they are train thirty mint up to one hour, 21%, of the athlete and 22% of coaches responded that they are train one hour up to one half hour, (3.3%) of the athlete responded that they are train below thirty mint, (3.3%) of the athlete and 22% of coaches responded that they are train one half up to two hours and 3.3% of the athlete and 11% of coaches responded that they are train above two hours, per training session. Regarding to item 10, indicated that (63.3%) of the respondents said that yes, the daily training secession is improving our performance and (36.7%) of the respondents said that the daily training secession does not help them to improve their performance.

Table 9 Responses of coaches in Terms of Training

No	Item	Respondents	
		Coaches	
		No	%
11	How many mints you give recovery between two sets?	-	-
	One up to three mints	1	11
	Four up to five mints	5	56
	Six up to eight mints	2	22
	Above eight mints	1	11
	Total	9	100
12	Is your training program having the increscent of intensity, load and frequency?	-	-
	Yes	9	100
	No	-	-
	Total	9	100
13	How much your daily training program relate with monthly and annual plan?	-	-
	Very high		
	High	2	22
	Medium	3	33
	Low	4	45
	Very low	-	-
	Total	9	100

Regarding to item 8 tables 11, 56%and 33% of coaches give four up to five mints and six up to eight mints recovery between two sets respectively, the rest 11% of coaches give one up to three mints recovery between two sets. Regarding to item 12, 100%of coaches said that there is increment of intensity, load and frequency. Regarding to item 13, 45% and 33% of respondents responded that the daily training program had low and medium relative with monthly and annual plan respectively, the rest 22% of the respondents responded that the daily training program had high relative with monthly and annual plan. Hence most coaches said that the daily training program had low and medium relative with monthly and annual plan. This shows that the coaches do not follow modern training system.

> *Training for planned performance requires a coach to integrate several types of training. These types of training can be divided into three categories: General training, Specific training and specialized training. On the response most coaches given four up to five recovery time but as Mackezie cited Denadal & Higino(2004) concluded from their research that 8 minutes is all you should take during track speed workouts over anything up to 800 meters even those going deep into lactate buildup*

4.4 Methods of Training on clubs

The coaches should be creating a training system of athletics complement with the general knowledge in the theory and methodology of training, scientific findings, in the training program.

Table 10 Responses of Athletes and coaches on the a Methods of Training

No	Item	Respondents			
		Athletes		Coach	
		No	%	No	%
14	How much your coach give feedback on each training scission?	-	-	-	-
	Very high	2	6.7	-	-
	high	5	16.7	-	-
	Medium	11	36.6	-	-
	Low	7	23.3	-	-
	Very low	5	16.7	-	-
	Total	30	100	-	-
15	How much you give feedback on each training scission?				
	High	-	-	3	33
	Medium	-	-	6	67
	Total	-	-	9	100
16	How do you evaluate the training method of short distance training program?	-	-	-	-
	Excellent	2	6.7	-	-
	Very good	-	-	-	-

	Good	9	30	-	-
	Enough	5	16.7	-	-
	Poor	14	46.6	-	-
	Total	30	100	-	-

As indicated in table 10 item 14, 36.6% of the athlete responded that the training methods of giving feedback is medium, 23.3%of athlete responded the training methods of giving feedback is low, 16.7% athlete responded the training methods of giving feedback is high and very low and 6.7% athlete responded the training methods of giving feedback is very high. Hence most of the athlete responded that the coach does not give feedback in training secession. Regarding to item 15, 67%of coaches responded the training methods of giving feedback is medium and33% of coaches responded the training methods of giving feedback is high, Regarding to item 16, 46.6% of the athlete responded that the training method is poor, 30% of the athlete responded that the training method is good, 16.7%, 6.7% of the athlete responded that enough and excellent respectively. Hence most of the athletes and coaches responded that the training method and the training program are poor.

> *In providing feedback encourage the athlete to self analyze by asking appropriate open questions, provide specific and simple advice, limit the advice to 1 or 2 points, check they understand what they will do next and make the whole process a positive experience for the athlete. (MACKENZIE, B. (2005*)

Table 11 Responses of athletes on Motivational levels of in the club Team

No	Item	Respondents	
		Athletes	
		No	%
17	Does your coach motivate you to keep on training and improve your performances?	-	-
	Yes	13	43.3
	No	7	23.4
	Some times	10	33.3
	Total	30	100

As we understand from item 17 of table11, 43.3% of the athletes replied that coaches motivate the athletes on the training session to improve the performance of the athlete, 33.3% of the athlete replied that coaches motivate some times. Whereas 23.4%) of athletes responded that the coaches do not motivate the athletes to keep on training and improve their performances.

Many people who are not motivated keep their performance to an acceptable level by expending only 20-30% of their ability Managers who know how to motivate their employees can achieve 80-90% ability levels and consequently higher levels of performance. Mackanzie,B(1997)

4.5 Principles of Training

In addition to having a basic understanding of track and field biomechanics, a coach must also understand and apply the fundamental principles that govern any type of physical training. Principles of overload, progression and variability, specificity and individuality derive from the human body's response to training, stress and skill acquisition. Not comprehending these basic tenants' produces the general adaptation process causes the body to react in a predictable manner to stress. This predictability allows coaches to plan positive adaptation to overload by their athletes. Conversely, this process also explains the negative results that athletes experience when overload or stress is managed improperly

Table12: Responses athletes, coaches and Administrative personnel **on Principles of Training during Practice**

No	Item	Respondents					
		athletes		coaches		Administrative personnel	
		N O	%	No	%	No	%
18	How much do you train/give individual training during training program?						
	Very high	14	46.3	1	11		
	High	-	-				
	Medium	14	46.3	3	33		
	Low	2	6.7	5	56		
	Total	30	100	9	100		
19	How much is the training program related with the short distance running?						
	Very high	10	33.4	-	-	3	33.3
	High	-	-	-	-	2	22.3
	Medium	12	40	4	44	4	44.4
	Low	4	13.3	5	56	-	-
	Very low	4	13.3	-	-	-	-
	Total	30	100	9	100	9	100

Regarding to item 18 of table12, 46.6% of the athlete responded that the athletes train individually is very high and medium, 56% of the coach give individual training is low, 33% of the coach give individual training is medium, 11%of the coach give individual training is very high and 6.7% of the athlete responded that the athletes train individually is low. Regarding to item 19, 40% and 33.4% of the athlete responded that the training program is related with short distance running is medium and very high respectively, 56% and 44%of the coach responded that the training program is related low and medium with short distance running respectively,44.4%, 33.3%and 22.3% of administrative person responded that the training program is related medium, very high and high with short distance running respectively ,13.3% of the athlete responded that the training program is related low and very low with short distance running. This table shows there is lack of individual training and most respondents showed that the training program is related to medium way. So this is a factor that affects athlete's performance.

> *Every athlete has a different response to and capacity for training. Recognizing individual differences and adjusting expectations when designing and applying training programs for our athletes is exceedingly important. Coaches often will find that many of their most talented athletes have a limited capacity to train hard, while less talented athletes can endure much more. While the overall design of a training program will most likely apply to all, volume and intensity must be specific to the individual and short distance runners must train for lactate tolerance. Moreover, athletes need to train physically and mentally for competition. Paual Beashel et al (2001).*

Table 13: Responses of athletes and coaches in terms of nutrition, equipment and service

No	Item	Respondents			
		Athletes		Coaches	
		No	%	No	%
20	Do you use starting block during training?	-	-	-	-
	usually	-	-	2	22
	Sometimes	6	20	4	45
	Rarely	8	26.7	-	-
	never	16	53.3	3	33
	Total	30	100	6	100
21	Do you use nutrition before and after training to improve your performance?	-	-	-	-
	Usually	6	20	-	-
	Sometimes	11	36.6	-	-
	Rarely	8	26.7	-	-
	Never	5	16.7		
	Total	30	100	-	-
22	Do you think that you had got necessary service from this club?	-	-	-	-

	Yes	13	43.4	-	-
	No	10	33.3	-	-
	I don't know	7	23.3	-	-
	Total	30	100	-	-

Concerning item 20 of table 13, 53.3% of athletes responded that does not use the starting block during training, 26.7% and 20% of athletes are used starting block rarely and sometimes respectively. Hence most of the time athletes does not use starting block during training so the athlete does not improve their performance. 45% of coaches are used starting block sometimes during training, 33% and 22% of coaches does not use and use usually starting block during training respectively. Concerning item 21, 36.6%of athletes use nutrition sometimes, 26.7%, 20% and 16.7% of athletes use nutrition rarely, usually and never respectively use nutrition before and after training . Regarding to item 22, 43.4%of athletes had got the necessary service, 33.3% of athletes had not got the necessary service and 23.3%of the respondents show that I don't know. This shows that the athletes did not get the necessary service.

> *For example eating strategies for power and strength athletes a key ingredient in a plan designed to enhance muscle size and strength is adequate energy intake. Energy should be supplied both by carbohydrate rich foods that provide fuel for training as well as protein and nutrient rich foods that can provide building blocks for the results so without full service there is no performance improvement. Pro Louse et al (2007)*

4.6 The major problems short distance runner in clubs

Item 23 put this mark on the table below that there are the main problems not to improve your performance.

Table14 Major Problems of short Distance in some selected clubs

No	Item	Respondents					
		Athletes					
		1	2	3	4	5	Total
1	Lack of attention from the administrative person.	9	-	-	7	14	30
	%	30	-	-	23.3	46.7	100
2	Shortage of nutrition.	4	4	-	8	14	30
	%	13.3	13.3	-	26.7	46.7	100
3	Problems of modern training system and lack of coaches.	3	3	3	6	15	30
	%	10	10	10	20	50	100
4	Lack of planned and coordinated training	5	-	4	9	12	30
	%	16.7	-	13.3	30	40	100
5	Lack of initiation and motivation	4	-	7	2	17	30

	%	13.3	-	23.3	6.7	56.7	100

Regarding to item 23, number 1, of table14, 46.7%of the respondent showed that Lack of attention from the administrative person is very high, 30% of the respondent showed that Lack of attention from the administrative person is very low and 23%of the respondent showed that Lack of attention from the administrative person is high. This shows that administrative person does not give attention for athletes. Concerning to number 2, 46.7% and 26.7%of the respondent showed that shortage of nutrition is very high and high respectively, 13.3% of the respondent showed that shortage of nutrition is low and the same percent of the athletes responded that shortage of nutrition is very low. Hence most of the respondents showed that there is shortage of nutrition. Concerning to number 3, 50% and20%of the athletes responded that problems of modern training system and knowledgeable coaches is very high and high respectively, 10% of the athletes responded that problems of modern training system and knowledgeable coaches is medium, low and very low. This shows that there are problems of modern training system and knowledgeable coaches. Regrinding to number 4, 40%and 30%of the athletes responded that Lack of planned and coordinated training is very high and high respectively, 16.7% and 13.3% of the athletes responded that Lack of planned and coordinated training is very low and medium respectively. This shows that there is a problem of planned and coordinated training in clubs. Regrinding to number 5, 56.7% and 6.7% of the athletes responded that Lack of initiation and motivation is very high and high respectively, 23.3% and 13.3% of the athletes responded that Lack of initiation and motivation is medium and very low respectively. This shows there is a problem of modern training system and lack of coaches, planned and coordinated training, initiation and motivation from coaches and administrative personnel.

Table 15 Major Problems of short Distance in some selected clubs

No	Item	Respondents					
		Athletes					
		1	2	3	4	5	Total
6	Lack of evaluation and assessment.	2	-	6	9	13	30
	%	6.7	-	20	30	43.3	100
7	Shortage of individual training.	-	3	3	9	15	30
	%	-	10	10	30	50	100
8	Shortage of sport wearing and other equipments.	3	-	2	7	18	30
	%	10	-	6.7	23.3	60	100
9	Environmental influences.	2	5	6	6	11	30

	%	6.7	16.7	20	20	36.6	100
10	Lack of support from peer and family.	3	1	4	9	13	30
	%	10	3.3	13.3	30	43.3	100

Concerned to item23 number 6 of table 15, 43.3% of the respondents responded that Lack of evaluation and assessment is very high, 30%of the respondents responded that Lack of evaluation and assessment is high, 20%of the respondents responded that Lack of evaluation and assessment is medium and 6.7%of the respondents responded that Lack of evaluation and assessment is very low. Regarding to item 19, number 7, 50% of the respondents responded that Shortage of individual training is very high, 30% of the respondents responded that Shortage of individual training is high, 10% of the respondents responded that Shortage of individual training is medium and 10% of the respondents responded that Shortage of individual training is low. Regarding to item 19, number 8, 60%of the respondents responded that Shortage of sport wearing and other equipments is very high, 23.3% the respondents responded that Shortage of sport wearing and other equipments is high, 6.7% the respondents responded that Shortage of sport wearing and other equipments is medium and 10%of the respondents responded that Shortage of sport wearing and other equipments is very low. Regarding to item 19, number 9, 36.6% of the respondents responded that environmental influences is very high, 20% of the respondents responded that environmental influences is high, 20% of the respondents responded that environmental influences is medium,16.7% of the respondents responded that environmental influences is low and 6.7% of the respondents responded that environmental influences is very low. Regarding to item 19, number 10, 43.3% of the respondents responded that lack of support from peer and family is very high, 30% of the respondents responded that lack of support from peer and family is high, 13.3of the respondents responded that lack of support from peer and family is medium, 3.3%of the respondents responded that lack of support from peer and family is low and 10%of the respondents responded that lack of support from peer and family is very low. Hence most respondents responded that there is lack of evaluation and assessment, shortage of individual training, shortage of sport wearing and other equipments, environmental influences and lack of support from peer and family. This shows that the above result is a factor that affect improving the performance of short distance running.

Table 16; Response of administrative personnel in terms of equipment and nutrition

No	Item	Respondents	
		Administrative personnel	
		No	%
24	Do you provide starting block during training?	-	-
	Yes	2	22.2
	No	7	77.8
	Total	9	100
25	Do you provide nutrition before and after training?	-	-
	Yes	3	33.3
	No	6	66.7
	Total	9	100
26	Did you believe that administer given a necessary service for athletes and coaches?	-	-
	Yes	9	100
	No	-	-
	Total	9	100

Concerned to item24 of table 16, 77.8 % of the respondents responded that does not give supporting for athletes use starting block during training, 22 .2% of the respondents responded that give supporting for athletes use starting block during training. Regrinding to item 25of table 16, 66.7% of respondents do not prepare nutrition, 33.3% of the respondents do prepare nutrition before after training. Regrinding to item 26 of table 16, 100%of the respondents believe that had given a necessary service for athletes and coaches. This table shows that the administrative persons do not give enough supporting, prepare starting block, and nutrition. Without this there is no effectiveness.

Table 17 response of federation expert in a necessary service

No	Item	Respondents	
		Federation expert	
		No	%
27	How much club administrative personnel's had given a necessary service for clubs team?	-	-

	Very high	-	-
	High	-	-
	Medium	1	50
	Low	-	-
	Very low	1	50
	Total	2	100

Concerned to item 27 of table 17, 50%of the respondents responded that club administrative personnel's had given a medium necessary service for clubs team, 50% of the respondents responded that club administrative personnel's had given very low service for clubs team.

> *Good leaders tend to be extrovert, enthusiastic and have an 'attractive' personality and character which is appealing to others. In sports management and administration, the leadership qualities required is a bit like beauty in the eye of the beholder. A leader in any situation must be aware of individual needs, task needs and group-maintenance needs if the dynamics of the individuals and groups are going to be combined successfully to get the necessary tasks completed. Maslow (1954)*

Table18 Responses of administrative personnel and Addis Ababa athletics federation experts in terms of training and initiation

No	Item	Respondents			
		Administrative personnel		Federation expert	
		No	%	No	%
28	Do you believe that the coach had given modern and successful training to improve athlete's performance?	-	-	-	-
	Yes	2	22.2	2	100
	Medium	4	44.5	-	-
	No	3	33.3	-	-
	Total	9	100	2	100

Regarding to item28 of table 18, 100%of Federation expert believe that the coach had given modern and successful training to improve athlete's performance and 44.4%of Administrative personnel believe that medium the coach had given modern and successful training to improve athlete's performance, 33.3% of Administrative personnel believe that the coach had not give modern and successful training and 22.2% of Administrative personnel believe that the coach had given modern and successful training. This shows that the coach were not follow modern training system.

4.7 Measurement and Evaluation

Evaluation is not a final step, but an ongoing process that allows the coach's strategy to adapt to the changing demands of any training situation. Evaluation provides measurement and feedback that allows the coach and athlete to evolve over the course of the season.

Table19: Respondents on Measurement and Evaluation.

No	Item	Respondents			
		Administrative personnel		Federation experts	
		No	%	No	%
29	Do you continuously assess the training process lead with weekly, monthly and annual plan?	-	-	-	-
	Yes	2	22.2	-	-
	No	7	77.8	-	-
	Total	9	100	-	-
30	How do you evaluate your/clubs providing service?	-	-	-	-
	Very good	-	-	-	-
	Good	2	22.3	-	-
	Satisfactory	4	44.4	1	50
	Poor	3	33.3	1	50
	Total	9	100	2	100

Regarding to item 29 of table 19, 77.8% of the respondents do not continuously assess the training process, 22.2% of the respondents do assess the training process. Regarding to item 30 of table 19, 44.4% of the administrative personnel and 50%of federation expert evaluate the providing service is satisfactory, 33.3% of the administrative personnel and 50%of federation expert evaluate the providing service is poor and 22.3% of the administrative personnel evaluate the providing service is good. This shows that the administrative personnel's were not assessing and providing service adequately.

Adair (1988) has identified a number of skills which are relevant to the Sports situation:

planning; making the necessary plans for the task to be carried out, Briefing; telling everyone what their involvement is (in a shared discussion), controlling; monitoring through the work to ensure that everything is proceeding according to plan, evaluating; having a realistic assessment of what is happening in the process and how close the successful completion of the task is, organizing; ensuring that everyone is working in a planned co-ordinate way towards the end goal, setting an example ; showing a commitment and enthusiasm which will encourage others to follow and so ease the functioning of the operation towards the end goal.

4.8 Types of Support for club team

Table20 Responses on Addis Ababa Athletics Federation expert and Administrative personnel

No	Item	Respondents			
		Federation experts		Administrative personnel	
		No	%	No	%
31	What type of support you provide for athletes/clubs?	-	-	-	-
	Facilities and equipment	-	-	-	-
	Financial support	-	-	-	-
	Technical support	2	100	-	-
	Provide pocket money for athletes and coaches	-	-	-	-
	All the above listed	-	-	9	100
	total	2	100	9	100
32	Have you given upgrading course for club coaches and concerned body?	-	-	-	-
	Yes	2	100	-	-
	No			-	-
	Total	2	100	-	-

As indicate in item 31 of table 20, 100% or all experts replied that athletics federation provides technical support for clubs and all administrative personnel replied that administrative personnel provides facilities and equipment support, financial support technical support provide pocket money for athletes and coaches. This shows that athletics federation provide inadequate. As indicate in item 32 of table 20, 100% or all experts replied that athletics federation give courses that upgrade for club coaches and concerned bodies.

4.9 Athletes, Coaches and Federation Experts Responses to the Open-ended Questions

In response to the open-ended question which required athletes, coaches, administrative personnel and athletics federation experts with regard to the problems and challenges that hinder the performance of club short distance running, they suggested the following problems and solutions. The open ended questions focused on:

4.9.1 Response of athletes

1. What the reason of you had not got a necessary service from this club?
    - ✓ The club does not provide the necessary material for example martial such as sport wearing and gymnasium equipment.
    - ✓ Because I was trained by different coaches but all of them are not appropriate for short distance most of them failed to implement modern training system.
    - ✓ Because I did not improve my skill except gaining salary.
    - ✓ I cannot get sufficient training that related with my field

2 What is the reason of your daily training secession is not improve your performance?

- Because most of the time the coach emphasized only on running. There is no modern machine to support the gymnasium, lack of nutrition and sufficient rest.
- The activity that we are doing is not sufficient.

3 write other problems that did not improve your performance?

- There is no coach that train only short distance.
- In Ethiopia there is no attention for short distance event.
- Lack of good training.
- Lack of educated and effective coach.
- Enforcing coaches to live the club and lack of transportation service.
- Lack of assessment.
- In general the short distance coaches are not educated. As the result they cannot implement modern training system.
- They train us only running there is no gymnasium.
- Poor administrative system

4. What is the solution of the above problems?

- If the administration is committed
- If the federation give attention.
- If the federation facility the external competition.
- Within the club if there is short distance coach.
- If they fulfill all equipments and give support.
- Creating good administration in sport.
- The concerned body should discuses with the athletes.
- By providing enough nutrition by providing sufficient rest.
- By providing sport wearing.
- Opining clear discussion between the coach and athlete beside this doing what is given to us by our coach.

4.9.2 Responses of coaches, administrative personnel and federation experts

1. What are the selection criteria of athletes?

- Some times by competition, by body type, by interest, by based on their physical activity and physical fitness.
- Based on their talent, age, their running style and their interest on athletics.
- By his/her result and their health condition.
- Based on their future performance and current performance.

2. Write the problem that does not improve athlete's performance?

- Personal training, without knowing the training system they do training together especially by the name of friend some athletes engaged in illegal sexual intercourse.
- Their feeding style, track, performance of the coach and equipment are not fulfill.
- Lack of good social relation
- The burden of training and unbalanced nutrition before and after training.
- The absence of modern training system.
- Lack of continuous competition
- Lack of sufficient rest after training.
- Absence of necessary support.
- Lack of sufficient transportation.

- Lack of educated and knowledgeable coach and good administrative person.

3. What is the solution of the above problems?

- The athletes showed emphasis athletics as his/her own work.
- Fulfilling nutrition, truck, knowledgeable coach and necessary sport materials such as shoes clothes and etc.
- Beyond the athletes the coach should understand and support his athletes.
- Importing foreign manager to support the athletes.
- Creating awareness among the community by using media, encourage government to support the athletics.
- The club must give sufficient support for his athlete.
- If the club enhance the coach performance.
- Preparing and implementing the annual plan.
- Employing coach on each event.
- The coach must follow up-to-date information and technology such as VCD, modern book, internet etc.
- Employing professional expert that follow the activity and competition of the athletes.
- Providing the necessary facilities.

4.10 Analysis of Findings Obtained Through document

Table 21 40th Ethiopia athletics champion medalists. (100,200 and 400 metres)

Rank	Female	Club/ Region	Time	rank	Male	Club	Time
1	Fetia kider	Etio/com/bank	12.07	1	Wotere gelch	Etio/com/bank	10.79
2	Banchayhu Tamene	Defence	12.78	2	AbealMengsha	Trunesh Dibaba	10.87
3	Trunsh Mingstu	Amhara	12.92	3	Abiote Lincho	Etio/com/bank	10.88
200 meters							
1	FantuMigeso	Fed/maremia	23.60	1	Wotere Gelcha	Etio/com/bank	21.19
2	Fetia kider	Etio/com/bank	24.10	2	Abiote Lincho	Etio/com/bank	21.20
3	Mantsegbosh	Defence	24.80	3	Mohammed Mesbhe	Fed/maremia	21.36
400 meters							
1	FantuMigeso	Fed/maremia	52.15	1	Berket Desta	Defence	45.79
2	Mantsegbosh	Defence	54.65	2	Hagos Taddese	Defence	46.13
3	Selam Abrhali	Truneshe	55.41	3	Habtamu Gobi	Defence	46.53

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This table shows that athletes result in 100 meter running both female and male sex. When we see the result compare to world record and Ethiopian club athlete's result is very low. For example female's world record is 10.49 held by Florence Griffith Joyner but in 40th Ethiopia athletics champion medalists was Fetia Kider, her result is 12.07 seconds. There is 1.68 second difference. When we come to male athletes result, world record is 9.58 seconds held by Usain Bolt and in 40th Ethiopia athletics champion medalist was Wotere Gelcha, his result is 10.79 seconds. There is 1.21 seconds difference. Regarding to 200 meter Wotere Gelcha is medalist, his result is 21.19 and world record is 19.19 seconds held by Usain Bolt, there is 2 second difference between world record result and Ethiopian club athlete's result. Regarding to 400 meter result Bereket Desta is Ethiopian medalist, his result is 45.79 seconds and world record result is 43.18 seconds held by Michael Johason, there is 2.61 second difference.

(http;/ / www.iaaf .org/ statistics/top list/100detaihtmal) 2012-04-10

The researcher analyze the results of short distance running from different competition for example at Botswana 10th Africa youth athletics champion in may 12-15/2011 Ethiopian athletes gains 33 medals. Out of 33 medals 3 of them were short distance and 13th international athletics champion Koria Deagu (2011) there was no any result in the competition regarding short distance. This indicates that there is a problem of improving the performance of club athletes, some of the problems that founded athlete's, coach, administrative personnel and federation experts response on the open ended questions showed that Personal training without knowing the training system they do training together especially by the name of friend some athletes engaged in illegal sexual intercourse, their feeding style, track, performance of the coach and equipment are not fulfilled, lack of good social relation, the absence of modern training system, lack of continuous competition, absence of necessary support, lack of educated and knowledgeable coach and good administrative person are factors that affect athletes performance.

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4.11 Analysis and Interpretation of Observation of training

Table 22 observation check list

No		Excellent	Very good	satisfactory	Unsatisfactory
1	Truck			✓	

2	Use starting block				✓
3	Principle of training				✓
4	Training program				✓
5	Method of training				✓
6	Style of coach			✓	
7	Communication			✓	
8	Motivation		✓		
9	Feed back			✓	
10	Body type			✓	
11	Athletes interest	✓			

The observation checklist involved more of the coaches' duty, athletes' interest, methodology of training, principles of training and facilities. However, as indicated in Table, the training track were satisfactory, using starting block during training was unsatisfactory, principle of training, training program used by the coach, method of training were unsatisfactory, style of coach and communication between the coach and the athlete was satisfactory, feedback given by the coach and body type of the athlete was satisfactory and athletes interest were excellent. Therefore, it is difficult to say there is effective training system and facilities.

Finally, several writers advocated that training requires various attributes to be successful. In providing feedback encourage the athlete to self analyze by asking appropriate open questions, provide specific and simple advice, limit the advice to 1 or 2 points, check they understand what they will do next and make the whole process a positive experience for the athlete. (Mackenzie, B. (2005)

During the race, the athlete will experience many different sensations and demands. For a sprinter to excel, the race must be broken down into easily learnable parts. Sprinting is usually thought of in terms of maximum velocity sprinting; however, a sprinter's top speed will last for a very short duration. Over the course of the entire sprint race, many other significant components can be identified. After all components are mastered individually in training, they can be reassembled to produce a successful race and a coach creates a perfect training program to develop the physiological potential of a particular athlete, little will be accomplished if that athlete's goals and perceptions do not line up with those of the coach. If a coach wants to win a national championship, but the athlete is only looking for a better fit of his or her bathing suit, the conflicting objectives will make for a difficult and unsuccessful relationship and a coach must also understand and apply the fundamental principles that govern any type of physical training. These principles derive from the human body's response to training, stress and skill acquisition
LA84 foundation Thomas E.Larkinand, Anita. Defratz (2008)

As the athlete matures and demonstrates a sound understanding of training principals (autonomous stage) then the athlete will determine the training requirements. The coach's role becomes one of a mentor providing advice and support as and when required (Mackenzie, B. (2005).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This part deals with the major findings, the conclusion reached at and the recommendations forwarded based on the finding.

5.1 Summary

The major purposes of this study were to improving the performance of short distance race focusing on 100,200 and 400 meters race some selected first divisions in Addis Ababa athletics club.
To this achievement of this objective the following basic questions were raised

1. What are the selection criteria of athletes?
2. To what extent short distance runners were trained and improve their performance?
3. To what extent sprinters are satisfied with service provided by the training center?
4. What are the current challenges of the clubs short distance runners?
5. What could be the mechanism to overcome the problem?

In order to answer the above questions, descriptive survey research method was employed. The data relevant to the study were collected through questionnaire, document analysis and observation checklists.
This study used both qualitative and quantitative research approach. The results of data collected through questionnaire, document analysis, and observation were interpreted using quantitative and qualitative methods.
From the data analysis, the major findings obtained are summarized as follows:

- ❖ From the finding the major problems of club short distance especially 100,200 and 400meter are lack of scientific method of training and ignorance to the methodology of coaching. In addition to the quality and quantity of training track, lack of qualified coaches, lack of support from family and peer ,lack of communication between coach and athlete, lack of scientific training methods, lack of continuous competition, lack of sufficient rest after training and the training are not more related to short distance.

- Lack of good social relationship and good administrative staff.
- Most of the time the coaches emphasized only on running. There is no modern machine to support the gymnastic activity, lack of nutrition and sufficient rest.
- There are no individualized training methods compatible with the age of the club athletes which leads to decreasing performance and burn out the youngster athletes. The training should be individualized and age related
- The selection criteria do not follow scientific way such as measure by test.
- The nutrition, performance of the coach, transportation service, equipment and other necessary support are not fulfilled.
- The club does not provide necessary materials, for example, materials such as starting block, sport wearing and gymnasium equipment.
- There is no attention for short distance event in Ethiopia.
- Enforcing coaches to leave the club.
- The athletes do personal training without knowing the training system.
- Having untimely sexual intercourse.
- There is a gap between the administrative personnel and the coaches.
- The coaches are not motivated by their monthly payment and the administrative personnel do not evaluate the training process.

5.2 Conclusion

Based on the major findings, the following conclusions are drawn. From the finding the major problems of club short distance athletes especially 100,200 and 400 meter are lack of scientific method of training and ignorance of the methodology of coaching. Besides, the quality and quantity of training track, lack of qualified coaches, support from family and peer, communication between coach and athlete, scientific training methods, continuous competition, sufficient rest after training and the training are not more related to short distance running.

Furthermore, coaches are the immediate centers of the training program. Therefore, the interest of a coach is a key factor for success in athletics.

Thus, developing effective relationships with athletes and coaching colleagues, application of knowledge, theory and methodology of training are very essential.

The principles of training are the foundation of this complex process. Knowing the training factors will clarify the role each factor plays in training. The planning is the back bone to train athletes as a factor for the decreasing performance at the desired time. A training program must include regeneration and recovery between training lessons to ensure continuous improvements in the athletes' performance and the training plan must be prepared by three seasons and in modern way. It is better for the administrative staff to give more emphasis on feeding styles, performances of the coach, assessment and evaluation, selection criteria, equipment, necessary support and focus on supportive exercises like gymnastic activity. Because these are the main factors for decrease the performance of the athletes. The athletes do personal training without knowing the training system; in addition, they have untimely sexual intercourse.

5.3 Recommendation

For administration and concerned bodies

- The administration should be committed; the federation should be give attention and facilitates external competition. There should employ short distance coach within the club, the concerned body fulfill all equipment and give support, create good administration in sport and discus with the athletes in order to bring about improvement.
- By providing enough nutrition, sufficient rest, sport wearing and opening clear discussion between the coach and athlete about the improvement of the athlete's performance.
- The club must enhances the performance of the coach, the motivation of the athletes are increased. The coach should understand their need and interest and give equal support for all athletes. Creating awareness among the community by using media and getting support from the government will play a vital role for the event
- The concerned body should select the athletes by using field testes, there would be better result.

For coaches

- The coaches must give individual training, motivation and feedback. Since team preparation is one of the coach's main objectives, the coach can accomplish this by establishing harmony in the team's physical, technical, and strategic preparation. The coach must establish a concord for psychological preparation, meaning sound relationships, friendships, and common goals among teammates.
- Creating a training system for a sport may stem from the general knowledge in the theory and methodology of training, scientific findings, the experience of the nation's best coaches, and the approach used in other countries.
- It is good to prepare and implement the annual plan, employ coaches and professional expert on each event who follow the activity and competition of the athletes.
- The coach must follow up-to-date information and technology such as VCD, modern book, internet etc.
- By developing research, especially applied research, could enrich training knowledge how to improve methods of athlete evaluation, selection, peaking, recovery and regeneration following training and increase knowledge on how to cope with stress and how to get the successor athlete.

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Appendix A

ADDIS ABEBA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

FACLITY OF LIFE SCINCE

DEPARTMENT OF SPORT SCINCE

Questionnaire filled by athletes'

Dear respondents

The purpose of this questioner for studying first division athletics club to collect data short distance runner current status, training system, factors affecting improving the performance of short distance and their solution. There for your answer and comment, what you give have a great importance in this study. The study helps to bring up certain ideas suggestion to improvement, there for the following question is not meant for testing you. Then, place answer what you feel and think.

Direction

No need of writing your name

Put mark in the box

1 Sex male ☐ female ☐

2 Age ________________________________

3 Educational level grade 8-☐ grade10 compl☐ certificate ☐ diploma ☐ degree ☐

4 Marital status single ☐ married ☐

5 Work experience ____________________________________

6 Do you have a piece of information about talent scouting process and selection criteria?

Yes ☐ No ☐

7 From where you join this team?

From school ☐ on road running ☐ From club ☐ From project ☐

8 How much you interested by the coaching style of your coach?

Very high ☐ high ☐ medium ☐ Low ☐ very low ☐

9 Do you believe that you came from this club to improve your performance?

Agree ☐ disagree ☐ very disagree ☐ not decide ☐

10 How many times you train per week in the club?

3 days ☐ 4 days ☐ 5 days ☐ 6 days ☐

11 How long you train per training session?

Below 30 mint ☐ from 30- 60 mint ☐1- 1:30 hour ☐ 1:30- 2; 00 hou☐ above 2 hour ☐

12 Do you think that the daily training secession is improving your performance?

Yes ☐ No ☐ I do not know ☐

13 From question number seven, if your answer is No or I do not know write your reason?

____

____

14 How much your coach gives feedback on each training scission?

Always ☐ sometimes ☐ No ☐

15 How do you evaluate the training method of short distance training program?

Poor ☐ enough ☐ good ☐ very good ☐ excellent ☐

16 Does your coach motivate you to keep on training and improve your performances?

Yes ☐ No ☐ some times ☐

17 How much do you train individual training during training program?

Very high ☐ high ☐ medium ☐ low ☐ very low ☐

18 How much is the training program related with the short distance running?

Very high ☐ high ☐ medium ☐ low ☐ very low ☐

19 Do you use starting block during training?

Always ☐ some times ☐ rarely ☐ No ☐

20 Do you use nutrition before and after training to improve your performance?

Always ☐ some times ☐ rarely ☐ No ☐

21 Do you think that you had got necessary service from this club?

Yes ☐ No ☐ I do not know ☐

22 From question number sixteen, if your answer is No or I do not know write your reason?

____

____

23 Put this mark on the table below that there are the main problem not to improve your performance.

No	Item	1	2	3	4	5
1	Lack of attention from the administrative person.					
2	Shortage of nutrition.					
3	Problems of modern training system and lack of coaches.					
4	Lack of planned and coordinated training					
5	Lack of initiation and motivation					
6	Lack of evaluation and assessment.					
7	Shortage of individual training.					
8	Shortage of sport wearing and other equipments.					
9	Environmental influences.					
10	Lack of support from peer and family.					

24 Write other problems that did not improve your performance?

25 What is the solution of the above problems?

Appendix B

ADDIS ABEBA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

FACLITY OF LIFE SCINCE

DEPARTMENT OF SPORT SCINCE

Questionnaire filled by coaches

Dear respondents

The purpose of this questioner for studying first division athletics club to collect data short distance runner current status, training system, factors affecting improving the performance of short distance and their solution. There for your answer and comment, what you give have a great importance in this study. The study helps to bring up certain ideas suggestion to improvement, there for the following question is not meant for testing you. Then, place answer what you feel and think.

Direction

No need of writing your name

Put mark in the box

1 Sex male ☐ female ☐

1 Age ________________________________

2 Educational level ☐ grade 8-1☐ grade10 com☐e certific☐ diploma ☐ degree ☐Ms ☐

3 Marital status single ☐ married ☐

4 Work experience ____________________________________

5 How much the training secession considers athletes interest?

Very high ☐ high ☐ medium ☐ low ☐ very low ☐

24 Do you agree that athletes came from this club to improve their performance?

Agree ☐ disagree ☐ very disagree ☐ not decide ☐

25 How many times you give training per week in the club?

3 days ☐ 4 days ☐ 5 days ☐6 days ☐

26 How long your training program per training session?

below 30 mint ☐ from 30- 60 mint ☐1- 1:30 hour ☐1:30- 2; 00 hour above 2 hour ☐

27 How many mints you give recovery between two sets?

1-3 mints ☐ 4-5 mints ☐ 6-8 mints☐ above 8 mints ☐

28 Is your training program having the increscent of intensity, load and frequency?

yes ☐ No ☐ I do not know ☐

29 How much your daily training program relate with monthly and annual plan?

Very high ☐ high ☐ medium ☐ low ☐ very low ☐

30 How much you give feedback on each training scission?

A. Always ☐ B. sometimes ☐ No ☐

31 How much do you give individual training during training program?

Very high ☐ high ☐ medium ☐ low ☐ very low ☐

32 How much is the training program related with the short distance running?

Very high ☐ high ☐ C. medium ☐ low ☐ very low ☐

33 Do you use starting block during training?

Always ☐ sometimes ☐

Do you prepare nutrition before and after training to improve your athlete's performance?

Always ☐ sometimes No ☐

13 What are the selection criteria of athletes?

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14 Write the problem that does not improve athlete's performance?

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15 what is the solution of the above problems?

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Appendix C

ADDIS ABEBA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

FACLITY OF LIFE SCINCE

DEPARTMENT OF SPORT SCINCE

Questionnaire filled by administrative personnel

Dear respondents

The purpose of this questioner for studying first division athletics club to collect data short distance runner current status, training system, factors affecting improving the performance of short distance and their solution. There for your answer and comment, what you give have a great importance in this study. The study helps to bring up certain ideas suggestion to improvement, there for the following question is not meant for testing you. Then, place answer what you feel and think.

Direction

No need of writing your name

Put mark in the box

1 Sex male ☐ female ☐

1 Age ________________________________

2 Educational level grade 8-10 ☐ grade10 complete ☐ certificate ☐ diploma ☐ degree ☐

3 Marital status single ☐ married ☐

4 Work experience ____________________________________

5 How much is the training program related with the short distance running?

Very high ☐ high ☐ medium ☐ low ☐ very low ☐

6 Do you provide starting block during training?

Always ☐ sometimes ☐ No ☐

7 Do you provide nutrition before and after training?

Always ☐ sometimes ☐ No ☐

8 Did you believe that administer given a necessary service for athletes and coaches?

Yes ☐ No ☐ I do not know ☐

9 In the above question, if your answer is No write your reason?

____

____

10 Do you believe that the coach had given modern and successful training to improve athlete's performance?

Yes ☐ B. No ☐ C. moderate ☐

11 Do you continuously assess the training process lead with weekly, monthly and annual plan?

Yes ☐ No ☐

How do you evaluate your providing service?

Poor ☐ enough ☐ good ☐ very good ☐ excellent ☐

12 What type of support you provide for athletes?

Material and sport wearing ☐ financial ☐ technical ☐ all of the above ☐

13 What are the selection criteria of athletes?

____

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14 Write the problem that does not improve athlete's performance?

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15 what is the solution of the above problems?

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Appendix D

ADDIS ABEBA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

FACLITY OF LIFE SCINCE

DEPARTMENT OF SPORT SCINCE

Questionnaire filled by Federation expert

Dear respondents

The purpose of this questioner for studying first division athletics club to collect data short distance runner current status, training system, factors affecting improving the performance of short distance and their solution. There for your answer and comment, what you give have a great importance in this study. The study helps to bring up certain ideas suggestion to improvement, there for the following question is not meant for testing you. Then, place answer what you feel and think.

Direction

No need of writing your name

Put mark in the box

1 Sex male ☐ female ☐

1 Age ________________________________

2 Educational level grade 8-10 ☐ grade10 c☐plete certific☐ diploma ☐ degree ☐ Ms ☐

3 Marital status single ☐married ☐

4 Work experience ____________________________________

6 How much club administrative personnel's had given a necessary service for clubs team?

Very high ☐ high ☐ medium ☐ low ☐ very low ☐

7 Do you believe that the coach had given modern and successful training to improve athlete's performance?

Yes ☐ No ☐

8 from question number two, if your answer is No know write your reason?

____

____

8 How do you evaluate clubs providing service?

Poor ☐ enough ☐ good ☐ very good ☐ excellent ☐

9 What type of support you provide for clubs?

Material and sport wearing ☐ financial ☐ technical ☐ all of the above ☐

10 Have you given upgrading course for club coaches and concerned body?

Yes ☐ No ☐

11 What are the selection criteria of athletes?

____

____

12 Write the problem that does not improve athlete's performance?

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13 what is the solution of the above problems?

____

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Appendix E

ADDIS ABEBA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

FACLITY OF LIFE SCINCE

DEPARTMENT OF SPORT SCINCE

Observation check List

No		Excellent	Very good	satisfactory	Unsatisfactory
1	Truck				
2	Use starting block				
3	Principle of training				
4	Training program				
5	Method of training				
6	Style of coach				
7	Communication				
8	Motivation				
9	Feed back				
10	Body type				
11	Athletes interest				

Appendix a

በአትሌቶች የሚሞላ

የተከበራችሁ አትሌቶች የዚህ መጠይቅ ዓላማ ስለ እናንተ አትሌትክስ ማሰልጠኛ ማዕከል የአጭር ርቀት ሩዋጮችን ወቅታዊ የስልጠና መሻሻል፣የስልጠና ሁኔታ፣ ችግሮችና ስኬታማነታቸዉ ምን ይመስላል በሚል ዙሪያ መረጃ ለመሠብሠብ ነው፡፡

ሆኖም ከናንተ መረጃ ለመሠብሠብ ይህ የጽሁፍ መጠይቅ በመሙላት እንድትተባበሩኝ በትህትና እጠይቃለሁ፡፡ ይህ የሚሠበሠበው መረጃ ከታለመው ዓላማ ውጭ ለሌላ ጉዳይ የማይውል መሆኑን አረጋግጥላችኋለሁ፡፡

የመጠይቁን ምስጢር ለመጠበቅ ስመህን (ሽን) መፃፍ አያስፈልግም ለትብብርህ (ሽ) በቅድሚያ አመሠግናለሁ፡፡

ከዚህ በታች የተዘረዘሩትን ጥያቄዎች ተስማሚውን መልስ በተሰጠው ስጥን ውስጥ "✓"ምልክት በማስቀመጥ መልሱን ምረጥ/ጭ

1. ፆታ ሀ. ወንድ ☐ ለ. ሴት ☐
2. ዕድሜ ________________
3. የትምህርት ደረጃ ሀ. ሰርተፍኬት ☐ ለ. ዲፕሎማ ☐

   ሐ. ዲግሪመ. ☐ ሁለተኛ ዲግሪ ☐ ሠ. ዶክትሬት ☐

4. የጋብቻ ሁኔታ ሀ. ያላገባ (ች) ☐ ለ. ያገባ(ች) ☐ ሐ. በሞት የተለየ(ች) ☐
   መ. የተፈታ(ች) ☐
5. ለስንት ጊዜ ያህል ልምምድ ስርተሀል (ሽል)?
6. የክለባችሁ የምርጫ መሰፈርት ታውቃለህ?
   አዎ ☐ አለውቅም ☐
7. ከየት ነው ይህን ክለብ የተቀላቀልከው?
   ከትምርህት ቤት ☐ በመንገድ ሩጫ ላይ ☐ ከፕሮጀክት ☐
   ከክለብ ☐ ሌላ ☐
8. ከዚህ ክለብ የመጣኸው(ሽው) ክህሎትህን (ሽን) ለማሻሻል ነው ብለህ ታምናለህ/ሽ?
   በጣም አልስማማም ☐ አልስማማም ☐
   አልወሰንኩም ☐ እስማማለሁ ☐

9. ክህሎታችሁን ለማሻሻል አስፈላጊውን አገልግሎት አግኝቻለሁ ብለህ/ሽ ታስባለህ/ሽ?

አዎ አይደለም አለውቅም

10.ለጥያቄ ቁጥር “9”አይደለም ወይም “አላውቀውም” ከሆነ ምክኒያትህን/ሽን ዘርዝር/ሪ

____

11.ክህሎታችሁን ለማሻሻል በአስልጣኙ የአስለጣጠንን ስልት ምን ያህል ወደህዋል/ሽዋል?

በጣም ከፍተኛ በከፍተኛ በመካከለኛ በአነስተኛ በጣም ለአነስተኛ

12. በየቀኑ የሚሰጣችሁ የልምምድ ፕሮግራም ብቃቴን ያሸሽለዋል ብለህ ታስባለህ/ሽ/?

አዎ አይደለም

13.ለጥያቄ ቁጥር “12” “አይደለም” ከሆነ ምክኒያትህን/ሽን /ዘርዝር/ሪ?

____

14.በአማካይ በአንድ የልምምድ ጊዜ ለስንት ደቂቃዎች/ ሰዓት ትሠራለህ/ሽ/?

30 ደቂቃ በታች ከ30-1፡00 1፡00-1፡30 1፡30-2፡00

ከ2፡00 ሰዓት በላይ

15.ስልጠና በሳምንት ምን ያህል ጊዜ ትሰራለህ(ሽ)

ቀን 3 ቀን 4 ቀን 5 ቀን 6 ቀን

16.ችሎታህን/ሽን ለማሳደግ አስልጣኙ ያበረታታሀል/ሽል/

አዎ አያበረታታኝም አንደንዴ

17.በልምምድ ጊዜ የግል ልምምድህ/ሽ መጠን?

በጣም ከፍተኛ ከፍተኛ በመካከለኛ በጣም አነስተኛ

18.በልምምድ ወቅት የምትሠሩት እንቅስቃሴ ምን ያህል ከአጭር ርቀት ሩጫ ጋር የተዛመደ ነው?

በጣም ከፍተኛ ከፍተኛ መካከለኛ አነስተኛ በጣም አነስተኛ

19.ብቃትህን/ሽን ለማሳደግ ከልምምድ በፊት እና ከልምምድ በኋላ ተመጣጣኝ ምግብ ምንያህል ትጠቀማለህ/ሽ/

ሁልጊዜ አንዳንዴ በጣም ጥቂት አልጠቀምም

20.በልምምድ ጊዜ ለአጭር ርቀት የሚያገለግሉ መሳሪያዎችን(መነሻ ብሎክ) ትጠቀማለህ/ሽ

ብዙ ጊዜ ☐ አንዳንድ ጊዜ ☐ አነስተኛ ጊዜ ☐ አልጠቀምም ☐

21.በልምምድ ጊዜ አሰልጣኙ ግብረ መልስ ወይም ማስተካከያ ምን ያህል ይሠጣል

በጣም ከፍተኛ ☐ ከፍተኛ ☐ መካከለኛ ☐ አነስተኛ ☐ በ.አነስተኛ ☐

22.በስልጠና ጊዜ የምትሰለጥኑት የአጭር ርቀት ሩጫ አጠቃላይ ስልጠና እንዴት ትገመግመዋለህ/ሽ

ደካማ ነው ☐ በቂ ነው ☐ ጥሩ ነው ☐ እጅግ በጣም ጥሩ ነው ☐

23.ክህሎትህ/ሽ እንዲያድግ ከሚያደርጉ ተፅዕኖዎች መካከል ዋናዋናዎቹ ከዚህ በታች በተሠጠው ሰንጠረዥ ውስጥ "✓"ምልክት በማድረግ የሚሰማማህን (ሽን) መልስ ግለፅ (ጭ)

በጣም ዝቅተኛ= 1 ዝቅተኛ = 2 መካከለኛ=3 ክፍተኛ=4 በጣም ከፍተኛ =5

ተ.ቁ	መጠይቅ	1	2	3	4	5
1	ከአስተዳደር ሰራተኞች ትኩረት ማጣት					
2	በቂና ተመጣጣኝ ምግብ አለማግኘት					
3	በቂ ስልጠና እና ክህሎት ያለው አሰልጣኝ አለመኖር					
4	በዕቅድና ሁኔታ የተቀናጀ ስልጠና አለማድረግ					
5	ተነሳሽነት እና ማበረታቻ ማጣት					
6	በቂ ክትትል ቁጥጥር አለማግኘት					
7	የግል ፍላጎትን ያማከለ ስልጠና ማጣት					
8	የስፖርት ትጥቅና ቁስቁስ አለመኖር					
9	የአካባቢ የሚመጡ ተፅዕኖዎች					
10	የጓደኛና የቤተሰብ እገዛን አለማግኘት					

24.ሌላ ችግ የምትለው/ይው ካለ ዘርዝር/ሪ

____

____

25.ከላይ ለተጠቀሰው (ሱት) ችግሮች መፍትሔ ምን ይሆናል ብለህ ታስባለህ/ሽ

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Appendix b

በአሰልጣኞች የሚሞላ

የተከበራችሁ አሰልጣኞች የዚህ መጠይቅ ዓላማ ስለ አትሌትክስ ማሰልጠኛ ማዕከል የአጭር ርቀት ሩዋጮችን የስልጠና መሻሻል፣የስልጠና ሁኔታ፣ ችግሮች እና ስኬታማነታቸዉ ምን እንደሚመሥል መረጃ ለመሠብሠብ ነው፡፡

ሆኖም ከናንተ መረጃ ለመሠብሠብ ይህ የጽሁፍ መጠይቅ በመሙላት እነድትተባበሩኝ በትህትና እጠይቃለሁ፡፡ ይህ የሚሠበሠበው መረጃ ከታለመው ዓላማ ውጭ ለሌላ ጉዳይ የማይውል መሆኑን ለማሳሰብ እፈልጋለሁ፡፡

የመጠይቁን ምስጢር ለመጠበቅ ስመህን (ሽን) መፃፍ አያስፈልግም ለትብብርህ (ሽ) በጣም አመሠግናለሁ፡፡

ከዚህ በታች የተዘረዘሩትን ጥያቄዎች ተስማሚውን መልስ በተሰጠው ስጥን ውስጥ "✓"ምልክት በማስቀመጥ መልሱን ምረጥ/ጭ

1. ፆታ ሀ. ወንድ ☐ ለ. ሴት ☐
2. ዕድሜ ________________
3. የትምህርት ደረጃ ሀ. ሰርተፍኬት ☐ ለ. ዲፐሎማ ☐ ሐ. ዲግሪ ☐
   መ. ሁለተኛ ዲግሪ ☐ ሠ. ዶክትሬት ☐
4. የጋብቻ ሁኔታ ሀ. ያላገባ (ች) ☐ ለ. ያገባ(ች) ☐ ሐ. በሞት የተለየ(ች) ☐
   መ. የተፈታ(ች) ☐
5. ለስንት ጊዜ ያህል በዚህ ሙያ ሰርተሀል (ሽል)?
6. አጭር ርቀት ሯጮች እዚህ ስልጠና ማዕከል የመጡት ክህሎታቸውን ለማሳደግ ነው ብለህ ትስማማለህ/ሽ/
   በጣም አልስማማም ☐ አልስማማም ☐ አልወሰንኩም ☐ እስማማለሁ ☐
7. በድግግሞሽ ጥርቅም (set) መካከል ምን ያህል የእርፍት ጊዜ ትጣለህ/ሽ
   1-3 ደቂቃ ☐ ከ4-5 ደቂቃ ☐ ከ6-8 ደቂቃ ☐ ከ8 ደቂቃ በላይ ☐
8. በየቀኑ የምትሠጡት ስልጠና የሯጮችን ፍላጎት ምን ያህል ያገናዘበ ነው?
   በ.ከፍተኛ ☐ ከፍተኛ ☐ መካከለኛ ☐ ዝቅተኛ ☐ በ.ዝቅተኛ ☐
9. በሳምንት ምን ያህል ጊዜ ታሠራለህ(ሽ)
   2 ቀን ☐ 3 ቀን ☐ 4 ቀን ☐ 5 ቀን ☐ 6 ቀን ☐

10.በአማካይ በአንድ የልምምድ ጊዜ ለስንት ደቂቃ ወይም ሰዓት ያህል ቆይታ ታደግጋለህ

ከ1፡30 ደቂቃ በታች ☐ ከ30-1፡00ሰዓት ☐ ከ1፡00 ሰዓት-1፡30 ☐

ከ1፡30-2፡00ሰዓት ☐ ከ2፡00 ሰዓት በላይ ☐

11.የምትሠጡት ስልጠና ከአጭር ርቀት ጋር ምን ያህል ግንኙነት አለው?

በ.ዝቅተኛ ☐ ዝቅተኛ ☐ መካከለኛ ☐

12.የምታሠለጥኑት ስልጠና በየጊዜው ጫናው (intensity) ፣ ክብደት (Lode)፣ ድግግሞሽ (Frequency) እየጨመረ ይሄዳል?

አዎ ☐ አይደለም ☐ አላውቅም ☐

13.ምን ያህል ግብረ መልስ ትሰጣለህ

ሁልጊዜ ☐ እነዳነዴ ☐ አልሠጥም ☐

14. የቀኑ የልምምድ ፕሮግራም ከአመታዊ እና ከወርሀዊ ጋር ምን ያህል ይሄዳል

በ.ዝቅተኛ ☐ ዝቅተኛ ☐ መካከለኛ ☐ ከፍተና ☐ በ.ከፍተኛ ☐

15. በስልጣና ጊዜ ምን ያህል የግል ልምምድ ትሰጣለህ

በ. ዝቅተኛ ☐ ዝቅተና ☐ መካከለኛ ☐ ከፍተኛ ☐ በ. ከፍተኛ ☐

16.የአትሌቶችን ችሎታ ለማሳደግ ከልምምድ በፊት እና ከልምምድ በኋላ ከአጭር ርቀት ጋር የሚዛመድ ምግብ እንዲወስዱ ታደርጋልህ

አዎ ☐ አንዳንዴ ☐ አላደርግም ☐

17.በልምምድ ጊዜ ለአጭር ርቀት የሚሆን መሳሪያዎችን ትጠቀማለህ

ሁልጊዜ ☐ አንዳንዴ ☐ አልጠቀምም ☐

18.አትሌቶችን የምተመርጥበትን መስፈርት ጥቀስ/ሽ

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19.የአትሌትች ብቃት ከፍ እዳይል ወይም እደይሻሻል የሚደርጉ ችግሮችን ጥቀስ/ሽ

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20.ከላይ ለጠቀስካቸው/ሻቸው ችግሮች መፍትሔ ምነ ይሆንል ብለህ ታስባለህ/ሽ

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Appendix c

በአስተዳደር ሰራተኞች የሚሞላ

የተከበራችሁ የአስተዳደር ሰራተኞች የዚህ መጠይቅ ዓላማ ስለ አትሌትክስ ማሰልጠኛ ማዕከል የአጭር ርቀት ሩዋጮችን ወቅታዊ የስልጠና መሻሻል፣የስልጠና ሁኔታ፣ ችግሮችና ስኬታማነታቸዉ ምን እንደሚመስል መረጃ ለመሠብሠብ ነው፡፡

ሆኖም ከናንተ መረጃ ለመሠብሠብ ይህ የጽሁፍ መጠይቅ በመሙላት እነድትተባበሩኝ በትህትና እጠይቃለሁ፡፡ ይህ የሚሠበሠበው መረጃ ከታለመው ዓላማ ውጭ ለሌላ ጉዳይ የማይውል መሆኑን ለማሳሰብ እፈልጋለሁ፡፡

የመጠይቁን ምስጢር ለመጠበቅ ስመህን (ሽን) መፃፍ አያስፈልግም ለትብብርህ (ሽ) በጣም አመሠግናለሁ፡፡

ከዚህ በታች የተዘረዘሩትን ጥያቄዎች ተስማሚውን መልስ በተሰጠው ስጥን ውስጥ "✓"ምልክት በማስቀመጥ መልሱን ምረጥ/ጭ

1. ፆታ ሀ. ወንድ ☐ ለ. ሴት ☐
2. ዕድሜ ________________
3. የትምህርት ደረጃ ሀ. ሰርተፍኬት ☐ ለ. ዲፕሎማ ☐ ሐ. ዲግሪ ☐
   መ. ሁለተኛ ዲግሪ ☐ ሠ. ዶክትሬት ☐
4. የጋብቻ ሁኔታ ሀ. ያላገባ (ች) ☐ ለ. ያገባ(ች) ሐ. በሞት የተለየ(ች) ☐
   መ. የተፈታ(ች) ☐
5. ለስንት ጊዜ ያህል በዚህ ሙያ ስርተሀል (ሽል)?
6. የአትሌቶችን ችሎታ ለማሳደግ አሠልጣኞች አጥጋቢ ስልጠና ይሠጣሉ ብለህ ታምናለህ
   አዎ ☐ በመጠኑ ☐ አለምንም ☐
   አራት ሳምንት ☐ ሌላ ካለ ይጥቀሱ______________________________
7. የአትሌቶችን ችሎታ ለማሳደግ ከልምምድ በፊት እና ከልምምድ በኋላ ከአጭር ርቀት ጋር የሚዛመድ ምግብ እንዲወስዱ ታደርጋላችሁ
   አዎ ☐ አናደርግም ☐
8. ክህሎታቸውን ለማሳደግ አስፈላጊውን አገልግሎት አቅርበናል ብለህ/ሽ/ታስባለህ/ሽ)
   አዎ ☐ አለቀርብንም ☐ አላውቅም ☐
9. ለጥያቄ ቁጥር "8" አላቀርብም ወይም አላወቅም ከሆነ ምክኒያትህን(ሽን)ዘርዝር

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10.የአትሌቶች የስልጠናሂደት በሳምንታዊ፣ በወርሀዊ እና በአመታዊ እቅድ እንደሚመራ ተከታታላለህ/ሽ/

አዎ ☐ አልከታተልም ☐

11.የሚሠጠው ስልጠና ከአጭር ርቀት ጋር ምን ያህል ግንኙነት አለው

በ.ከፍተኛ ☐ ከፍተኛ ☐ መካከለኛ ☐ ዝቅተኛ ☐ በጣም ዝቅተኛ ☐

12.በልምምድ ጊዜ ከአጭር ርቀት የሚሆኑ መሳሪያዎችን እንዲጠቀሙ ታደርጋላችሁ

አዎ ☐ አናደርግም ☐

13.አትሌቶችና አሰልጣኞች ብቃታቸው ከፍ እንዲል ምን አይነት ድጋፍ ታደርጋላችሁ

☐ ለአጭር ርቀት የሚያስፈልጉ አቅርቦቶችን እና ትጥቅ

☐ የገንዘብ እርዳታ

☐ ቴክኒካል የሆኑ ድጋፍ

☐ ሁሉም የተዘረዘሩትን

14.በአጠቃላይ አትሌቶች ብቃታቸው እንዲሻሻል የምትሠጡት አገልግሎት እንዴት ትገመግመዋለህ/ሽ

ደካማ ነው ☐ በቂ ነው ☐ ጥሩ ነው ☐ እጅግ በጣም ጥሩ ነው ☐

15.ክለቡ አትሌቶችን የሚመርጥበት ዋና ዋና መስፈርት ጥቀስ/ሽ

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16.የአትሌቶች ብቃተ እንዳይሻሻል ወይም እንዳያደግ የሚያደርጉ ችግሮች ምን ምን ናቸው ብለህ ታስባለህ/ሽ/____

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17.ከላይ ለጠቀስከው/ሽው/ ችግሮች መፍትሄ ምን ይሆናል ብለህ ታስባልህ/ሽ/

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Appendix d

በአዲስ አባባ አትሌቲክስ ፌደሬሽን ኤክስፐርቶች የሚሞላ

የተከበራችሁየአዲስ አባባ አትሌቲክስ ፌደሬሽን ኤክስፐርቶች የዚህ መጠይቅ ዓላማ ስለአንደኛ ደርጃ የአትሌትክስ ማሰልጠኛ ማዕከል የአጭር ርቀት ሩዋጮችን ወቅታዊ የስልጠና መሻሻል፣የስልጠና ሁኔታ፣ ችግሮችና ስኬታማነታቸዉ ምን ይመስላል በሚል ዙሪያ መረጃ ለመሠብሠብ ነው፡፡

ሆኖም ከናንተ መረጃ ለመሠብሠብ ይህ የጽሁፍ መጠይቅ በመሙላት እነድትተባበሩኝ በትህትና እጠይቃለሁ፡፡ ይህ የሚሠበሠበው መረጃ ከታለመው ዓላማ ውጭ ለሌላ ጉዳይ የማይውል መሆኑን አጥብቄ ለማሳሰብ እፈልጋለሁ፡፡

የመጠይቁን ምስጢር ለመጠበቅ ስመህን (ሽን) መፃፍ አያስፈልግም ለትብብርህ (ሽ) በጣም አመሠግናለሁ፡፡

ከዚህ በታች የተዘረዘሩትን ጥያቄዎች ተስማሚውን መልስ በተሰጠው ስጥን ውስጥ "✓"ምልክት በማስቀመጥ መልሱን ምረጥ/ጭ

1. ፆታ ሀ. ወንድ ☐ ለ. ሴት ☐
2. ዕድሜ ________________
3. የትምህርት ደረጃ ሀ. ሰርተፍኬት ☐ ለ. ዲፕሎማ ☐ ሐ. ዲግሪ ☐
   መ. ሁለተኛ ዲግሪ ሠ. ዶክትሬት ☐
4. የጋብቻ ሁኔታ ሀ. ያላገባ (ች) ☐ ለ. ያገባ(ች) ☐ ሐ. በሞት የተለየ(ች) ☐
   መ. የተፈታ(ች) ☐
5. ለስንት ጊዜ ያህል በዚህ ሙያ ስርተሀል (ሻል)
6. የአትሌቶችን ብቃት ለማሻሻል ለክለበ አሰልጣኞች እና አመራሮች አጫጭር ደጋፊ ስልጠናዎችን ትሰጣላችሁ?
   አዎ ☐ እናደርግም ☐
7. በጥያቄ ቁጥር "6" መልስዎ አዎ ከሆነ በየስንት ጊዜው ትሰተጣላችሁ?
   ____
   ____

8. ፌደሬሽኑ ለክለቦች አትሌቶች ብቃታቸውን እንዲያሻሻሉ ምን ድጋፍ ታደርጋላችሁ

☐ ለአጭር ርቀት የሚያስፈልጉ ቁሳቁስ ንና ትጥቅ

☐ የገንዘብ እርዳታ

☐ ቴክኒካል የሆኑ ድጋፍ

☐ ሁሉም የተዘረዘሩትን

9. የአትሌቶችን ብቃት ለማሻሻል (ለማሳደግ) የክለብ አሠልጣኞች ሂደቱን ወይም ደረጃውን የጠበቀ ስልጠና ይሠጣሉ ብለህ ትስማማለህ?

አዎ እስማማለሁ ☐ አልስማማም ☐ አላውቅም ☐

10. የአትሌቶችን ብቃት ለማሳደግ የክለቡ አመራሮች አስፈላጊውን አገልግሎት ምን ያህል ይሠጣሉ?

በጣም ዝቅተኛ ☐ ዝቅተኛ ☐ መካከለኛ ☐ ከፍተኛ ☐ በ.ከፍተኛ ☐

11. ክለቦች የአትሌቶች ብቃት እንዲሻሻል የሚሰጡት አገልግሎት እንዴት ትገመግመዋለህ?

ደካማ ነው ☐ በቂ ነው ☐ ጥሩ ነው ☐ እጅግ በጣም ☐ ጥሩ ነው ☐

12. ክለቦች አትሌቶችን የሚመርጡበት መስፈርት ምንድ ነው ብለው ያስባሉ?

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13. የአትሌቶች ብቃታቸው እንዳይሻሻል የሚያደርጉ ችግሮች ምን ምን ናቸው ብለህ ታስባለህ?____

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14. ከላይ ለጠቀስከው ችግር መፍትሄ ምን ይሆናል ብለህ ታስባለህ?

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Declaration

I, the undersigned, declare that this thesis is my original work done under the advice of Pro Wondmu Taddese and has not been presented for a degree in any other university, and that all sources of materials used for the thesis have been duly acknowledged.

Name ______Jemal Getahun _____________

Signature______________________________

Date ________ __________

This thesis has been submitted by my approval as a university advisor.

Name_________Pro Wondmu Taddese ________

Signature______________________________

Date _____ ________________