

Review of Critical Thinking and Fighting Spirit among Athletes

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Abstract

This paper is written as a conceptual paper where the main purpose is to discuss about the importance of critical thinking and fighting spirit on athlete's performance. Cognitive approach as one of the famous approaches in psychology concentrates on the important role of mental processes such as processing and remembering new information, developing language, problem solving, and thinking. Moreover, critical thinking specifically emphasises on some cognitive processes which attempt to minimize the influence of preconceptions and biases while rationally assessing evidence and signs, concluding on the base of interpretation of evidences and signs, and concerning alternative explanations. On the other hand, fighting spirit refers to the internal motivation due to enhance the athletes' performance through the sport competition. The authors explain the definitions of cognitive approach, critical thinking, fighting spirit as internal motivation among athletes, and also a briefly discussion on importance of critical thinking skills among athletes are included in the discussion. Future direction in critical thinking research and fighting spirit among athletes is brought up as well suggestion to psychologists and sport psychologist to embark critical thinking research.

Keywords: Cognitive Approach, Critical Thinking, Fighting Spirit, Athletes

1.0 Introduction

The major role of Coaches is to challenge and motivate athlete to behave as an independent thinker with the high level of analysing the problem. There is agreement among some sport experts that fostering athletes' critical thinking is a worthwhile effort in order to success in sport competitions. However, many researchers would agree that there are some athletes in the sport competitions who are able to think well but often choose not to utilize those skills during the competitions. On the other hand, the fighting spirit is an important internal motivational characteristic which can affect the athlete's performance and success in the sport competitions. Fighting spirit has a significant role to arouse the athletes' motivation and has a close relationship with critical thinking among athletes. However, there is little investigation about the effects of critical thinking among athletes in sport competition and the contribution of this thinking skill with fighting spirit. One of the important components of education and an influential source in human being's life is critical thinking which is broadly considered by humanistic researchers (Mary et al., 2009). Likewise, critical thinking is known as a cognitive activity that mentions about the best way of thinking by applying some mental processes like consideration, selection, and judgment which considers as effective components by athletes in sport competitions. Critical thinking can assist individuals specially in the way of thinking and in relevant and irrelevant issues to make better decision about whether something is true and effective or not (Cottrell, 2011).

2.0 Cognition & Behaviour

It is undeniable that cognition plays a significant role in our everyday behaviour. We take a majority of our cognitive behaviour without any attention because the cognitive process are so routine function that we cannot easily distinguish them (Galotti, 2008). Similarly, Cognition refers to the process of thinking, or following accepted social thought conventions and involves of various activities such as recognition, recall, attention, reasoning, problem solving, knowledge representation, making decision, and so on. However, a great number of our cognitive processes are developed through modelling, mainly by parents, and imitation, during our life span. Therefore, it will affect the development and improvement of efficient cognitive functions if any interruptions occur through this development. These interruptions to stimulus adequate modelling input amend the development of our clear thinking approach. On the other hand, if our cognitive approaches are developed appropriately, these approaches could help us to perform in a socially appropriate manner. It is notable to consider that cognition may not continuously function in the same approach for all individuals and development of cognitive processes and functions could be stopped at any level for different people. It is obvious that, there are many different kinds of stimuli which can create disruption at a very early age and can be considered gaps in many areas of cognition because people superficially differ in their cognitive abilities, especially in such things as mental speed, storage capacity, and attention span (Galotti, 2008). In sum up, the process and the function of cognitive among individuals differ from each other and have different effects on individuals' behaviours.

It is notable to consider that athletes can have different cognitive approaches or styles in regards to different tasks on the base of their cognitive abilities. Sometimes, if athletes have un-developed cognitive abilities to cope with their problems or challenges, they may experience tension and stress which can cause over reactions and emotional disorders such as stress, anxiety, depression, and so on. As a result, emotional disorders can affect the athletes' performances and functions by decreasing the level of their performance. Consequently, low level of athletes' self-esteem, self-confidence, and self-competence can be caused and the vicious cycle of maladaptive behaviour which can be repeated again and again. As above mentioned, athletes' cognitive skills can play an important role in their behaviour and functions before, during and after the sport competitions. The considerable subject is that, if athletes attempt to distinguish that their cognitive skills are undeveloped, they will able to improve their abilities and performances by applying a series of cognitive exercises due to remediate specific inefficient skills. On the base of this self-monitoring, insight, and attempt to substitute new cognitive skills, they could be enabled to improve significantly their sport performance in the areas found most in need. Once athletes' cognitive approaches and abilities begin to develop, the athletes begin to change how to react to different kinds of stimuli and conditions (e.g. sport competition, competition's situations and conditions, task-relevant and task-irrelevant thoughts which is related to the sport competition) in three steps such as: before, during and after the competitions. As a result, if athletes begin to apply some effective cognitive skills in their sport competitions, they will have more alternatives choices in their competitions to make decisions properly in their own eyes and in the eyes of others.

3.0 Mental abilities versus Physical abilities in the Sport Competitions

As professional athletes, they need to maintain a balance between physical and mental abilities. With regards to the mental abilities, athletes could be able to choose their game that they will be success in the sport competition. Therefore, the mental part of the game becomes the key part of the game that will determine whether they will just good or great in that area. Although, it is undeniable that the physical abilities are an important part of athletes' succeeding, but the athletes' ability to think rapidly, efficiently and conclusively under the pressure of the game becomes more and more important when they participate in the professional sport competitions. Some athletes attempt to develop and improve their thinking abilities and skills by personally or by their coaches. But some athletes and their coaches do not pay attention to these vital mental abilities which can affect their results in the sport competitions. It is notable that athletes' performance under high pressure will be affected by both mental and physical athletes' abilities through the competitive sports. In sum up, the mental part of the athletes has a very significant role in success in the sport competitions and it is like a black box and no one has effectively deciphered it until now.

Critical thinking skills can help athletes to perform at their best when they are under high pressure and stress. When these basic thinking skills are most well-organized, athletes' performance will be improved and maintained at a high level of performance even under high pressure of the professional competition.

Commonly highly skilled athletes have to cope with the intense pressure of the competition by applying the mental skills like critical thinking skills. They will be able to stay focused and perform at their highest level even in the most intense contests or games if they utilize the effectiveness of mental skills and abilities in the sport competitions. With regards to the high investments on the competitions which are performed by athletes, their families, coaches, teams, agents and owners, it is remarkable to invest a little more into the critical thinking skills as a crucial mental skill to gain the best result which is desirable by athletes and others. In conclusion, athletes need to improve their mental abilities as same as physical abilities in order to achieve the best performance under pressure with the average effort.

4.0 Fighting Spirit as an Internal Motivation and a Mental Skill

Motivation mentions to the biological, emotional, cognitive and social forces which stimulate and affect the people acting on or arouse an organism to start certain behaviours (Hockenbury & Hockenbury, 2007). Correspondingly, the term of motivation refers to the process that begins, directs and maintains goal-oriented behaviours. Therefore, it is so important to know about the motivation if we are interested to be motivated to do everything. Motivation is the significant reason which causes us to behave, whether it is getting a glass of water to reduce our thirst or reading a book to increase our knowledge. There are different kinds of motivational theories such as: Intrinsic theories, Drive theories, Incentive Motivation, Arousal theory, and Humanistic theory. Humanistic theories of motivation stress on psychological and cognitive components of human motivation which can cover the critical thinking too. With regards to this theory, motivation could be affected by human's cognitive process and challenge by the critical thinking skills like the following statements:

- How we perceive the world and our environment (e.g. our perception about the dangerous or friendly environment, the athletes' perception about the competition);
- How we think about ourselves and others (e.g. perception about the others are friend or enemy or our perception about the self-confidence, self-esteem, and self-actualization, athletes' perception about their self and their opponent);
- How we think about our abilities and skills (e.g. our beliefs about self-efficacy, athletes' beliefs about their self-efficacy) (Rogers, 1961, 1977).

On the basis of humanistic approach, individuals could be motivated to apprehend their highest personal potential like self-actualization. Although, the motivation in this approach attempts to pay attention strongly on individuals' self-concept, self-esteem, self-confidence, self-efficacy, self-actualization, and personal potential, but also it emphasizes on the importance of the environment (Maslow, 1970). Therefore, individual's highest potential could be jeopardized if the combination of individuals' cognition and supportive or encouraging environment motivators are weak (Hockenbury & Hockenbury, 2007). On the other side, fighting spirit involved with the internal interest of the athletes' achievement in the competition. For instance, athletes especially in the martial arts behave with the high confidence and perform with the highest effort by applying their fighting spirit as an internal motivation to avoid of any failure in their competitions. Likewise, fighting spirit can assist athletes to experience a positive competence about their abilities and performance before, during and after the sport competitions.

There are three important motivational components such as: activation, persistence and intensity which fighting spirit can reinforce every component to reach to the goal (see in Figure 1).

- a. Activation refers to the decision to begin an action such as enrolling in a certain sport competition;
- b. Persistence refers to constant effort toward a certain goal while you may face with some difficulties. For instance, if you want to attend into the sport competition due to reach to your favourite goal, you will require to spend a significant amount of your time and energy;
- c. Intensity is often contributed within the concentration and potency that could show your interest to reach the goal (Cherry, 2012).

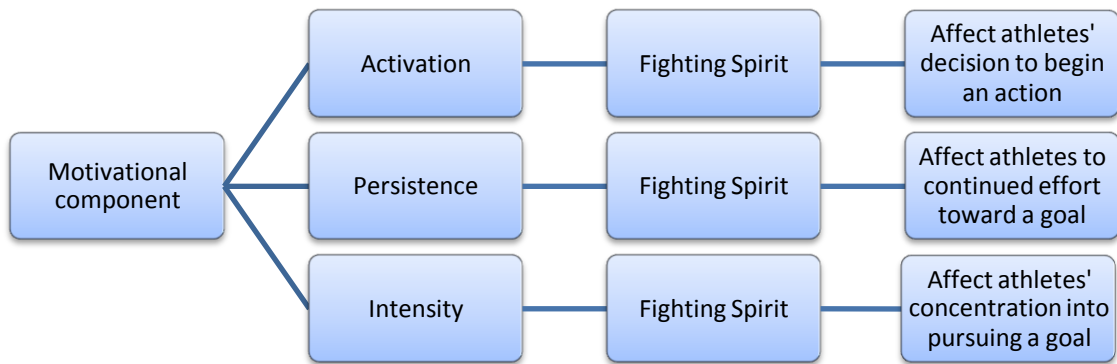


Figure 1: Motivational Components and Fighting Spirit among Athletes

5.0 Critical Thinking

Critical thinking was known as the purposeful and self-regulatory judgment process which involves of cognitive process, nonlinear, and recursive process due to encourage individuals to gather and assesses different kinds of evidences about what to believe or what to do in a certain situation. Thus, critical thinking could assist individuals to apply various cognitive skills to form a judgment about the situation such as: monitoring, making decision, and developing a high quality judgment (Facione, 2010). Therefore, it is safe to say that critical thinking can be classified as a reasonable and reflective thinking process which is directed to make decision about our beliefs or actions, and also about the certain situation or problem. Through this decision making process, individuals could be able to evaluate their functions are always true, sometimes true, partly true, or false (Bullock, Nunner-Winkler, Stern, López, & Ziegler, 2003).

Contemporary critical thinking scholars acknowledge that any discussion of critical thinking must include thinking skills and thinking attitudes, or dispositions (Ennis, 2003; Halpern, 1996). The term critical thinking disposition refers to a person's internal motivation to think critically when faced with some problems or challenges which need to problem solving, evaluating different ideas, or making decisions (Facione, 2010). Sometimes critical thinking refers to as the ethic of a critical thinker (Sears & Parsons, 1991) or a critical spirit (Facione, 2010), these attitudes, values, and inclinations are dimensions of one's personality that relate to how likely a person is to approach problem identification and problem solving by using reasoning. Some psychologists claim that it is worthless to learn a skill like critical thinking if you fail to exercise what you have learned. The honing of one's critical thinking skills, as well as developing the disposition to use one's skills, is vital for success in school and throughout a person's life (Halpern, 1998).

As above mentioned, critical thinking was known as a cognitive activity or skill that refers to the best way of thinking by applying some mental processes like consideration, selection, evaluation, and judgment. It can assist individuals specially in the way of thinking and in relevant and irrelevant issues to make better decision about whether something is true and effective or not (Cottrell, 2011). Likewise, critical thinking can clarify about goals, examines assumptions, distinguishes hidden values, evaluates evidence, accomplishes actions, and assesses conclusions (Unger, 2011). There are a great number of steps on critical thinking to approach with the personal problems such as:

- a. Formulating a workable solution to a complex personal problem;
- b. Elaborating as a group about what course of action to take;
- c. Analysing the assumptions and the quality of the methods applied in scientifically arriving at a reasonable level of confidence about a given hypothesis.

On the other hand, Richard Paul in 1995 has classified critical thinker into weak and strong-sense critical thinkers.

- a. The weak-sense critical thinkers may be extremely trained however egotistically driven pseudo-intellectual who work to advance personal agenda while not seriously considering the moral consequences and implications. Planned intrinsically, the weak-sense critical thinkers are usually extremely trained however utilize those skills by selection therefore on pursue unjust and egotistical ends (Paul, 1995).

- b. The strong-sense critical thinkers competently approach to the problems and issues logically without any egocentric or socio-centric bias. Consequently, the strong-sense critical thinkers seek actively, systematically, reflectively, and fair-mindedly construct insight with sensitivity to expose and address the many obstacles that compromise high quality thought and learning (Paul, 1995).

Critical thinking an equivalent as different cognitive process will occur whenever people decide to judgment, making decision, or solving a problem; generally, whenever people would like to find out what to try and do or what to believe, and do consequently in a reasonable and reflective method. Critical thinking is vital to turning into an in depth reader and a substantive writer. Generally speaking, the term of critical thinking refers to the way and method of taking up the problems of life with regards to the cognitive process.

6.0 Critical Thinking Skills for Athletes

Facione states some core critical thinking skills such as: interpretation, analysis, inference, evaluation, explanation, and self-regulation which can be applied them by the athletes to improve their sport performance in the competitions (see in Figure 2) (Facione, 2010). The first step of core critical thinking skill refers to interpretation which mentions how to comprehend and express the significant and meaning a wide variety of experiences, situations, events, judgments, conventions, benefits, roles, criteria, and procedures. Therefore, athletes should be able to apply their interpretations as a core critical thinking skills to cope with the different kinds of sport competitions. They need to have a clear insight about their situations in the competition. For instance, they need to distinguish about the event (e.g. what kind of competition they attend), experiences (e.g. what experiences they have to combat with this competition), situation (e.g. what kind of situation they should cope with), and judgement (e.g. what is their judgment about their abilities or success). The athletes should utilize some sub-skills such as: categorization, decode significance, and clarifying meaning to have a better interpretation.

The second step of core critical thinking skills is analysis which mentions to identify the intended and actual inferential relationship among statements, concepts, descriptions, experiences, judgments, information, reasons, and opinions. In this skill, athletes could examine ideas, identity arguments, and identity reasons as sub-skills of critical thinking to combat sufficiently with the competitions. The third step of core critical thinking skill refers to inference which related to identity and secure elements needed to draw reasonable conclusion or consider relevant information and educed the consequences flowing from data, statements, principles, evidences, judgments, benefits, and opinions. Some sub-skills of inference which athletes could apply them involved of query evidence, conjecture alternative, and draw conclusion. The fourth step of core critical thinking skill mentions about evaluation. Evaluation emphasize on two activities such as: (a) to assess the credibility of claims or statements of other representations that are accounts or descriptions of a person's perception, experience, situation, judgment, opinion; (b) to assess the quality of arguments with regard to logical strength or the intended inferential relationships among strategies, descriptions, questions, or other forms of representations. The fifth step of core critical thinking skill is explanations which focused on state and justify the reasoning in terms of the evidential, conceptual, and methodological considerations upon which one's results were based; and to present one's reasoning in the form of clear arguments.

The last step of core critical thinking skill refers to self-regulation. The ability to self-regulation has various advantages in the course of an individual's mental life, especially within the sporting context. Self-regulation mentions to self-consciously to monitor individual's cognitive activities, and the results educed particularly by applying skills in analysis and evaluating to individual's own inferential judgments with a view toward questioning, confirming, evaluating, or correcting either one's reasoning or one's results. Moreover, some researchers proven that the ability of athlete self-monitoring, and self-monitoring within a team environment could influence the perception of athlete and team performance expectations, and confidence of success (Kim, 1999; Kim & Cho, 1996). In sum up, the perception of self-control or self-mastery refers to utilize the self-monitoring and self-regulation processes to promote self-confidence in order to gain high performance of a given task.

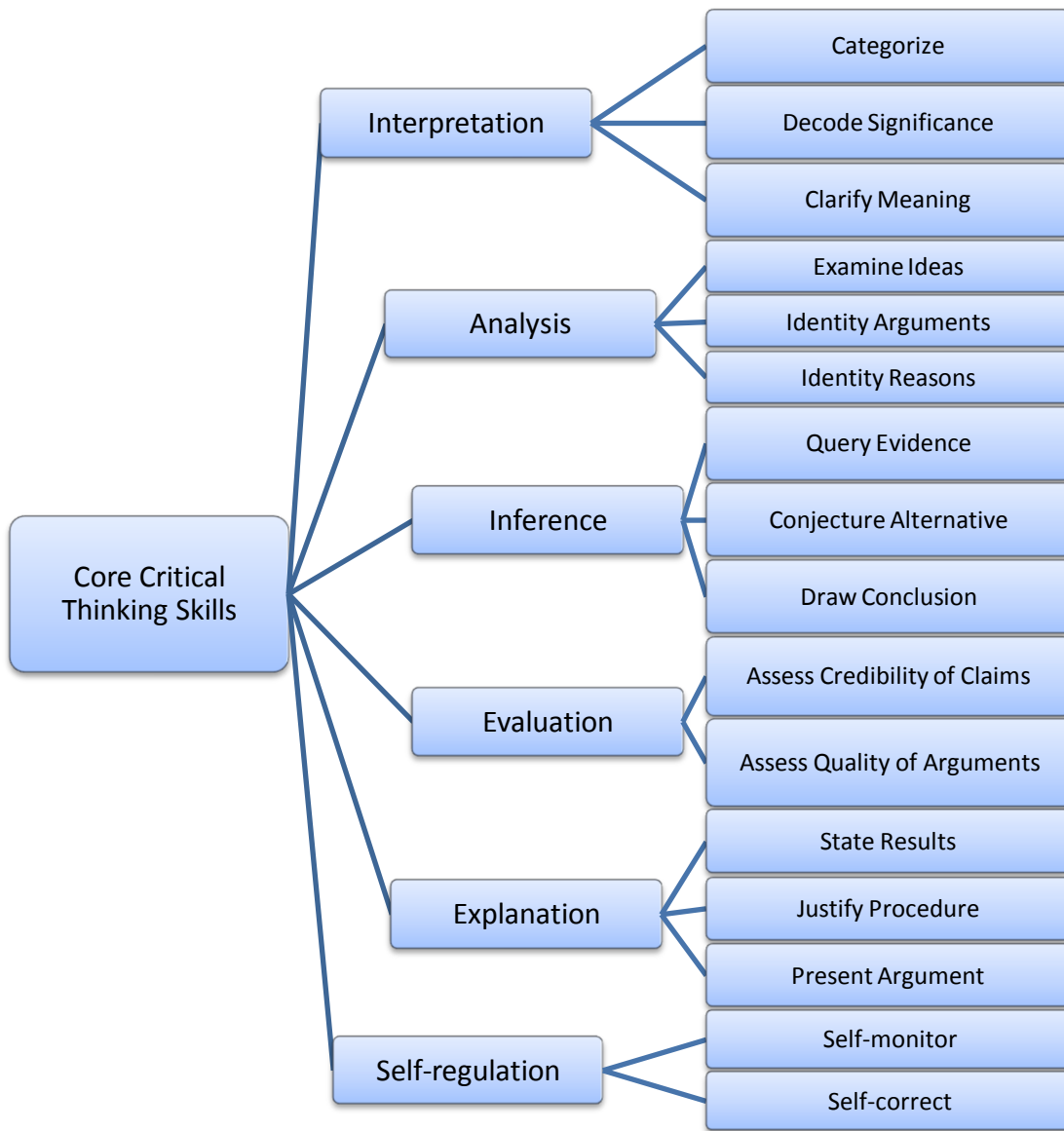


Figure 2: Core Critical Thinking Skills and Sub-skills adopted from (Facione, 2010)

Furthermore to have strong critical-thinking skills, athletes should be inclined to engage problems and make decisions appropriately to applying those skills. Critical thinking mentions not only logical processes but broad intellectual criteria such as clearness, trustworthiness, accurateness, exactness, fairness and significance.

7.0 Critical Thinking Procedure among Athletes

With regards to above mentioned critical thinking for athletes can be classified in the following steps of thinking process:

- Recognizing the problems: If athletes do not have any clear attention to the problem or cannot distinguish that what kind of problem approaches to them, they will not perform in the best way.
- Understand the importance of prioritization and order of precedence in problem solving: athletes need to know about the importance of prioritization in problem solving. On the base of prioritization, athletes can avoid of wasting time and energy during the problem solving process.
- Gather and marshal pertinent (relevant) information: For gaining the goal, athletes need to gather all relevant information about the task and avoid of any irrelevant information or thoughts.
- Recognize unstated assumptions and values: After attention to the relevant information, athletes should recognize the assumptions and values which have not intentioned to them already.

- Comprehend and use language with accuracy, clarity, and discernment: One of the important elements in critical thinking is language because it is a vital process of critical thinking. Therefore, athletes should attempt to utilize the simple and clear sentences to describe the problem.
- Interpret data, to appraise evidence and evaluate arguments: Athletes need to begin to interpret data which they have gathered to give them meaning because information without any meaning is useless.
- Recognize the existence or non-existence of logical relationships between propositions: At this stage, athletes should distinguish the existence or non-existence of logical relationship between plans. Attention to the reality is the key factor of this stage.
- Draw acceptable conclusions and generalizations: Conclusion is the final product of the critical thinking procedure. Therefore, if athletes perform perfectly all the critical procedures through the sport competition, they will reach to their goals and will generalize their procedures to other problems in the future.

8.0 Contribution of Fighting Spirit and Critical Thinking

Fighting spirit is an intrinsic motivation that refers to the energy that is released by positioning our energy with our deepest values and long productive functions. Thus, fighting spirit could be a powerful supply of motivation which can affect the behaviours. On the other side of view, critical thinking is concerning being each willing and able to assess one's thinking that incorporates a correlation with fighting spirit within the willing. Athletes' thinking can be criticized if athletes do not pay attention to the relevant information about the sport competition and the game. In this case, athletes' necessary and important information could stay undiscovered, or the knowledge might not even be knowable; therefore, athletes may create unjustified inferences, use inappropriate ideas, or fail to note necessary implications. Athletes' thinking could also be unclear, inaccurate, imprecise, irrelevant, illogical, or unimportant, because of mental object or misapplication of the suitable learned skills of thinking.

Athletes' thinking may be considered as a result of a sub-optimal disposition that is logical character of critical thinking. It concentrates on learning and developing the typical purpose to be truth-seeking, unbiased, logical, systematic, assured in reasoning, and cautious in judgments. Athletes who are unsure on one or additional of those aspects of the disposition toward critical thinking or who have a contrasting disposition (intellectually self-important, prejudiced, intolerant, disorganized, emotional, indifferent toward new information, suspicious of reasoning, or irresponsible) are additional probably to encounter sport problems and challenges in utilizing their critical-thinking skills. Failure to distinguish the importance of correct tendencies will lead to numerous varieties of misconception and closed-mindedness, both individually and collectively (Hindery, 2001).

9.0 Importance of Critical Thinking among Athletes

One of vital elements of all professional fields and academic disciplines with regards to referencing their respective sets of acceptable questions, evidence sources, principles, and so on is critical thinking. With regards to scepticism, critical thinking processes include the careful acquisition and interpretation of information and apply them to gain a well reasonable decision. The ideas and principles of critical thinking can be utilized to any context or case but only by reflecting upon the nature of that application. Thus, critical thinking can formulate a system of relating and overlapping modes of thoughts due to the certain purpose. In other words, critical thinking ideologies are universal and their utilization to disciplines needs a process of reflective contextualization. It is safe to say that critical thinking plays a significant role in the sport competition because it can help athletes to analyse, evaluate, explain, and restructure their thinking more effectively, and also cause to decrease the risk of adopting, acting on, or thinking with incorrect beliefs. Nevertheless, even with knowledge of the approaches of logical analysis and reasoning, athletes' mistakes could happen on the base of athletes' inability to utilize the appropriate approaches or because of some characteristic traits such as egocentrism. Although, critical thinking consists of identification of prejudice, bias, distortion, misinformation, and so on, but Socratic method is defined as a prolonged series of questions and answers which disproves a moral assertion by leading an opponent to draw a conclusion that contradicts his own viewpoint (Aaron & Tucker, 2007). Coaches could promote applying critical thinking skills as a benefit tools among athletes due to increase athletes' self-confidence, self-esteem, self-image, and so on in the competition and also could create a repeatable thought process to question and positively approach to solve the problem in the best. Athletes also could improve their sport performance by applying critical thinking skills through Socratic method in the sport competitions.

In conclusion, critical thinking skills have a broader and deeper impact on individuals to combat with their problems and difficult situations especially for athletes to challenge their thoughts and beliefs to improve their performance before, during and after the sport competitions.

10.0 Promoting Critical Thinking and Fighting Spirit among Athletes

Numerous colleges and universities expect their students to think critically (Loving & Wilson, 2000). Likewise, sport psychologists stress to utilize various instructional methods to promote critical thinking and problem solving among athletes in order to increase their sport performance. Although sport psychologists have attempted to encourage athletes to think critically about concepts and utilizing the fighting spirit in the sport competition, but unfortunately a majority of athletes did not apply these methods in their competitions. One of the suitable tactics to promote critical thinking is a variety of questions on the base of how a question is asked. In this case, athletes should apply various kinds of critical thinking activities such as: analysis, interpretation, and conclusion (Walker, 2003). Mills argued that the considerate use of questions, only as good as the thought put into them and should go beyond knowledge-level recall, might be the essential activity of an effective educator (Mills, 1995). Some researchers have found that often clinical educators asked significantly more lower-level cognitive questions than higher-level questions to promote evaluation and synthesis of facts and concepts among learners to arouse them to utilize critical thinking skills to solve the problems (Craig & Page, 1981; Mary et al., 2009; Phillips & Duke, 2001). Asking an athlete to evaluate once interception exercises ought to be enclosed in a program is more difficult than asking an athlete to identify interception. Higher-level thinking questions ought to begin or finish with words or phrases such as: why, which, explain, and compare could be an answer to the problem. Additionally, sport psychologists might apply these forms of questions among athletes to promote them to think critically before, during, and after the sport competitions.

11.0 Conclusions

Nevertheless of the methods used to promote critical thinking and fighting spirit, care must be taken to consider the many factors that may hinder athletes from thinking critically. The athletes' disposition to think critically and applying fighting spirit are important factors, and if a deficit in a disposition or fighting spirit is noticed, this should be substitute with the adequate one. Although not appropriate for all athletes and competitions, critical thinking can be used and adapted to facilitate athletes' performance through the competitions. Athletes should be encouraged to think critically, ask questions about the problem, and do not accept everything that could limit their sport performance. Additionally, coaches should aware of their sport goals and attempt to evoke athletes' critical thinking and improve their fighting spirit toward the goal in sport competition. If these goals and objectives are stated as higher-order thought outcomes to the athletes, then activities and training that promote critical thinking and fighting spirit should be included in their sport activities and training. Finally, it is important that critical thinking skills and fighting spirit be encouraged and reinforced in all sport teams by teaching coaches and athletes at the same time. Although huge gains in critical thinking may not be reflected in all athletes, but we can still plant the seed and encourage athletes to utilize their thinking activities and fighting spirit in the hope these will grow over time. Yet little information exists in the athletic training literature regarding fighting spirit, critical thinking and methods to promote thought. The goal must be to bridge the gap of athletes' knowledge and practical application and thereby help athletes become critical thinking professionals in the sport competition and life.

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