Mobilizing the experiential knowledge of an expert elite coach in Modern Pentathlon to propose a framework of intelligibility to "uncertainty of the combat sports' competitor"

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1. Introduction

In previous communications (Couckuyt, Robin, & Sarremejane, 2014, 2015, 2016) and in articles for coaches (Couckuyt, 2016a, 2016b) as part of our thesis on knowledge capitalization we highlighted the interest of knowledge of high-level expert coaches for the coaching community. In this communication, the data collected from a modern pentathlon coach are used to provide a framework of intelligibility of the uncertainty faced by the fighter-competitor, especially in Kickboxing–Light Contact.

2. Methodology

The interviewee coach was an expert coach working in the French National Institute of Sport (INSEP). He is in charge since 2000 of the France team man in modern pentathlon. In May 2016, two of his athletes are ranked respectively # 1 and # 5 in the World Ranking list. Synthetically, through a capitalization process we have with the coach three interviews, observation of intervention and 2-3 conversations with peers or former athletes. The interviews focus on what is called "areas of expertise" of the coach. The data are treated according to thematic content analysis proposed by Bardin (2013). The analysis is focused on uncertainty in pentathlon competition as proposed by this coach. From these results we propose an analysis of the competition reality in Kickboxing –Light contact.

3. Results

The modern pentathlon consists of five events considered separately here. (1) *Running*. For the coach the uncertainty is not important. However, the course is always different and there are variations in the weather. There can be sand, slopes, wind; (2) *Swimming*. For the coach the uncertainty is not important. However, the pools are all different and more or less practical; (3) *Horse riding*. The horse is drawn at random: it may be more or less good and less in tune with the rider after regulatory 20min discovery of the horse; (4) *Shoot*. Outdoor stage with difficulties with the weather. Strategy depends on the position of "hunter" or "hunted" that depends on previous tests. Heterogeneity of the stands shooting and firing places. Uncertainty by the people who shoot next to the pentathlete (faster / slower / more accurate / less accurate / agitated / calm, etc.); and (5) *Fencing*. 35 different athletes in the finals "*large, small, fast, slow, attackers, defenders, malignant, more physical*" (JPG3.4). The favorite sword breaks or does not work. The referee can make mistakes, repeatedly. Gymnasium more or less noisy. If fencing fencer can try things, in

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pentathlon "fencing at 1 point" the athlete must pass the unique touch against each opponent. He cannot "*try and see the result*" (JPG3.15). He can fight successively several tough opponents or more easily, which plays on the mental aspects of performance.

4. Discussion and conclusion

From these results, it identifies several types of uncertainty, mapped to the Kickboxing/Light Contact (KLC) competition: (1) The uncertainty related to the environment, such as weather, the presence of supporter (positive or negative) or infrastructure quality. In KLC, there may be uncertainty about the surface, with different qualities of tatami. There may be uncertainty about the presence and quality of a warm-up area; (2) The uncertainty related to the human/animal environment, as horse. In KLC, there may be uncertainty about who will coach the fighter on the fighting and warm-up; (3) The uncertainty related to arbitration. In KLC, before a fight there is uncertainty about the appeal time. During, you have to adapt to arbitration, in particular concerning the control and marking of points; (4) Uncertainty related to previous fights. In KLC, the impact of warm-up but also of the previous fights, on the physical (injury?) and mental state. The appreciation of the referees over the preceding fights; (5) The uncertainty related to the opponent (morphology and style). In KLC, this uncertainty is temporal, spatial and event regarding techniques of attack and defense. Regarding tactics, the style of the opponent (tactician-technician-physical) is a source of uncertainty. For example, depending on the style of each of the opponents, a battle may begin to medium or high intensity with direct consequences on physiology. The direct confrontation with the uncertainty in the opponent is a major part of the training competitor; and (6) Uncertainty related to the personal material (breakdown). In KLC, it is not common but forgetting the material can happen.

Regarding the outlook, if the formalization of the main uncertainties that may face the fighter is needed, it's for the purpose of intervention. Also, we wish to continue this work by studying the "training strategies" and "training content" that can be developed for the Kickboxing from uncertainty analysis presented here and by studying the strategies and pentathlon content offered by the expert coach. The aim is to make proposals for training.

Subsequently, an analysis of uncertainties and consequences for training is considered with comparison between different percussion combat sports and martial arts, from regulated no-percussion fight (eg., point fighting) to unregulated full-percussion fight (eg., self-defense), through the regulated full-contact fighting. The research program could be extended by the study of uncertainty in mixed percussion/grip sports (MMA, Sambo, Ju-Jitsu).

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