**Mohammed Zerf**
**Wahib Beboucha**
University of Abdel Hamid Ibn Badis University, Mostaganem-Algeria
biomeca.zerf@outlook.com; wahib.beboucha@univ-mosta.dz

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| ORCID | 0000-0001-5013-5446 | |
| **CORRESPONDING AUTHOR** | | Mohammed Zerf |

# MULTI VISUAL INTELLIGENCE VS DIRECT INSTRUCTION WHICH APPROACH METHOD HEIGHTENS TACTICAL PERFORMANCE IN YOUTH SOCCER PLAYERS

**ABSTRACT**
Similar studies show that trainers must integrate strategies in their tactical lessons. Leading players to explore their tactics in a group of learners founded on their intelligence assimilated by simulation or multi visual intelligence (VMI) as new approach used and develops by American and European teams. However, in our teams the most approach used by our trainers, especially in tactical sessions stands for direct instruction (DI). From this technical point of view, the present study aimed to decide which approached can emphases the tactical performance in youth soccer players. To archive this proposal, 36 federated male soccer players aged under 16 and 17 years. Participate in this experiment, 18 of them base their tactical sessions on multi visual intelligence (VMI), where the others are exposed to direct instruction (DI). Build on design of study and statistical applied, our results advocate that performance in tactical situations be in flavors of players exposed to VMI compared to those taught using DI. Owing to motor space using visual tactical feedback as a remained strategy of combining collective tactics. Needing from player, the control of the gaze and attention over multiple visuomotor workspaces. As well as quantitative and qualitative aspects of performance decision-makers, as respond individually or cooperative during the soccer game. As well as to our coach to master this technique, which has become a means of monitoring the effectiveness of the player/team within the competition.
**Keywords:** Multiple Visual Intelligence, Direct Instruction, Tactical Performance, Soccer Players, Youth

## 1. INTRODUCTION
According to Gardner, intelligence must fulfil eight criteria: musical-rhythmic, visual-spatial, verbal-linguistic, logical-mathematical, bodily-kinesthetic, interpersonal, interpersonal, and naturalistic (Perry, 1997). Linguistic Intelligence enables us to use words efficiently and in a knowledgeable way, in both oral and written language. Musical intelligence is the ability to find, discriminate, transform and express musical forms. Logical-Mathematical Intelligence is branded by the ability to reason logically and use numbers properly. Spatial Intelligence allows us to notice the visual-spatial world accurately and carry out transformations of those perceptions. Bodily-Kinaesthetic intelligence involves the power to use the body in a coordinated approach to meet and to express ideas and feelings, as well as the ability to use their hands and feet to produce and transform objects. Interpersonal Intelligence is the ability to act

adaptive based on self-knowledge. Interpersonal intelligence includes abilities to recognize and discriminate other people's feelings, intentions, reasons and moods. Lastly, Naturalistic Intelligence is the ability to observe, find and classify objects of the natural world (Pérez, Nieto, Otero, Amengual, and Manzano, 2014). Whereas (Memmert, 2010) set that, few surveys have been inspected in the sporting context.

Admit by (Berry, Lomax and Hodgson, 2015) via the ways that augmented feedback of learner, including verbally video analysis as available sources inspect from real game situations. Indicated by Jay Martin (2012) as quality coaching job (Martin, 2012) in mastering video analysis software. Integrated as imagery, planning sections to discuss tactics and strategy during the championship phases (American Sport Education Program; USA Track & Field.; Hershey Company, 2008). Reported by (Memmer and Perl, 2009) as a key topic in scientific discussions. Experts in ball games as extraordinary creative behaviour sport-specific training programme, derived from real game contexts (Zerf, Besultan, and Hamek, 2017). Supported in the European team in the use of new technology instruments to figuring game-oriented creativity and tactical game intelligence. Admit by researchers in the use of "TACTFOOT SOCCER COACHING" as animation software to improve tactics strategy, analysis and evaluation of training and match play. As well as "FUT-SAT test" report by similar as TACTICAL SOFTWARE adapted to examine the players' performance in the reality of games according to (Costa, Garganta, Greco, Mesquita, and Maia, 2011).

Through the above and the lack of this technology in the clubs of Algerian football teams. Where our coach based their tactical lessons on direct instruction (DI) that does not place unrealistic demands, according to (Metzler, 2011). On this basis, this study aims to propose alternatives allowing the Algerian coach to use audio-visual aids to detect errors and correct them scientifically. Admit by UEFA via the use of animation software to analyse tactically each team's performances. Sustenance by England Football Association's national squads as a complementary part in the preparation, analysis and evaluation of training and match play to improve team strategy and tactics (Carling, Williams, and Reilly, 2006). Account in this study as Multi-visual intelligence platform (VMI) to comprehend information and communicate it to others. For the proposed 36 defenders soccer players participate in the present study, classified into two homogeneous groups (EG VS CG) control in Mini championship in pre-test and post-test. Based on FUT-SAT test adopted by Bernardo Silva, et al (Silva, Garganta, Santos, and Teoldo, 2014) from 3 vs. 3 to 6 vs. 6 Small-Sided Games.

## 2. RESEARCH SIGNIFICANCE

The present advancement in representing complex tactics in soccer steered trainers to consider multiple visual aids for developing soccer players' skills. The case of this study, which requires our coaches, the utilization of multimedia tools as flexible approach for players to understand his main role in green his post and his teammates. Subjected by American football teams in analysing games of the opponent team with video and reproduce the same situations in the games according to the analysis. As a new video-based method to describe injury in professional football temporal structures or events hierarchy according to (Olivas, 2010).

### 3. EXPERIMENTAL METHODS

The research questions have been raised in this study to analyse strategies that increased theoretical performance from the technical point of view geometric and schemes throughout the competition. Where the searcher supposes that multiple Visual Intelligence (VMI) method is preferable to Direct Instruction (DI), the most used by our trainers especially in tactical sessions. Claim in similar that the total football's ideology preaches that defenders should be willing and able to come forward as attackers (Worsnop, 2012). Our protocol is built on two training soccer groups. Guided by American football team's method that analyses games of the opponent team with video and reproduces the same situations in the games according to the analysis (Heudin, 2000). Experimental group ES=18 using (VMI) based on communicative media technology during the pre-competition phase training (3 competition, 3 tactical sessions). Before deciding the 22 players who would present the standard team for the football year 2015-2016. In the opposite of control group CG=18 that its behaviour founded on Direct Instruction (DI) structured by the coach. Tested based on FUT-SAT test specification. Adapt by the researcher in the video record and analysis of actions in slower. Were the advantages of this mean consisted in the possibility to review and discuss the data record (Gudmundsdottir and Vasbø, 2014). The case of our investigation attempts to analyse tactical guidelines via the game development as well as seances 3 tactical training (Memmert, 2015). Inspired by the previous in the optimizing of training decisions. Founded on the use of video replays, which must be introduced as new training programs or perceptive additional information through the tactical session (Hüttermann, Noël, and Memmert, 2017). Permitting players to improve the quality of movement by allowing them to exercise more effectively and intelligently in complex situations (Allanwood and Beare, 2014).

#### 3.1. Sample

The sample of this study was selected in a non-random manner by judgement sampling and consisted of 36 federated male soccer players aged between 16 and 17 years. Athletes belonged to a soccer team from the league Oran that participated in national competitions. The athletes trained on average 4 times per week and had a mean of 4.2±1.2 years of experiences. These ages were chosen since they are the first to participate in national youth soccer competitions in Algeria.

#### 3.2. Tactical Tests

In the lack of System of Tactical Assessment in Soccer (FUT-SAT test) that enables the assessment of tactical actions performed by players with and without ball possession (Teoldo, Garganta, Greco, Mesquita, and Maia, 2011). Built with the aims to provide coaches, teachers and researchers with approaches to access specifically, and objectively the information that reflects tactical behaviours performed by players' in-games. Its conceptual structure is founded on the core tactical principles of Soccer, being for the offensive phase: penetration, offensive coverage, depth mobility, width, length and offensive unity; and for the defensive phase: delay, defensive coverage, balance, concentration and defensive unity (Costa, Garganta, Greco, Mesquita, and Maia, 2011). However, in the case of the current study, we use 6 vs. 6 Small-Sided Games to record the numbers of passes decisive (PD), goals successfully (GS), cut the balls (CB), Participate in the offensive phase (POP), Participate in the defensive phase (PDP). Based on video analyses of match record during pre-test or post-test. As a derived application extracted from the protocol

Teoldo, et al (2011), the actions performed by goalkeepers were not assessed or considered for analysis. The playing area was adjusted according to the number of players involved (6 vs. 6) 60 m long and 39 m wide, for eight minutes.

### 3.3. Data Analysis

Statistical analyses were carried out using the Statistical Package for Social Sciences (SPSS Macintosh v 20; SPSS Inc., Chicago, IL). Based on the data pre-test & post-test and the data analysis procedures employed in this study consisted of the computation of the means, standard deviations, Levene's Test for Equality of Variances, independent t-test and Correlation Paired Samples between pre-test & post-test for each group. We have chosen the Descriptive statistics where we have calculated the conditions chose for this experience with a Statistical significance set at p<0.05.

### 4. RESULTS

According to Table 1 in the pre-test. Based on data analysed our sample is homogeneous in all variables study that was confirmed by the independent t-test and Levene's at p<0.05. Asserted by (Farkhondeh, Haydar, Alizadeh, Walid, Kashkoli, and Fatemeh, 2015) as a positive and significant relationship between goal orientation and exercise performance. Interpret by (Jay, 2014) as routines technical exercises, which do not permit players to learn how to use their intelligence in order to be adapted to the constantly changing situations in a game. Labelled by (Ward and Williams, 2003) via perceptual-cognitive skills, such as anticipation and decision-making, which are crucial performance determinants in team sports, such as football. Where speed and accurate decisions are required in a complex and rapidly changing environment.

Table 1. Present the characteristics of the sample in pre-test

| Pre-test | Simple | N | Mean±SD | Levene's | Sig. | t | Sig. |
|---|---|---|---|---|---|---|---|
| PD | EG | 18 | 0.95±1.50 | 3.16 | 0.08 | 1.02 | 0.31 |
| | CG | 18 | 0.55±0.88 | | | | |
| GS | EG | 18 | 0.30±0.57 | 0.98 | 0.33 | -0.50 | 0.62 |
| | CG | 18 | 0.42±0.68 | | | | |
| CB | EG | 18 | 2.13±1.41 | 0.65 | 0.21 | -1.04 | 0.28 |
| | CG | 18 | 3.04±1.37 | | | | |
| POP | EG | 18 | 3.05±2.35 | 3.82 | 0.07 | -0.81 | 0.42 |
| | CG | 18 | 3.55±1.43 | | | | |
| PDP | EG | 18 | 5.15±3.57 | 2.49 | 0.12 | -1.41 | 0.17 |
| | CG | 18 | 6.55±2.66 | | | | |

Experimental Group:
EG/control Group CG
Numbers of Passes Decisive (PD)
Goals Successfully (GS)
Cut The Balls (CB)
Participate in The Offensive Phase (POP)
Participate in The Defensive Phase (PDP)

From Table 2 in the post-test. Draw upon data analyses all variables studies are in the benefits of EG. Upheld by the present study based on the signification of independent t-test set at p<0.05. Providing the user to accredit that football is a deciding game into players must digest the information that reached them observed via different positions game. Make them able to act quickly to conclude

what it must be done effectively according to the game proper (Mansour, Abdellah, Rafik, and Meziane, 2017).

Table 2. Present the characteristics of the sample in post-test

| Post-test | Simple | N | Mean±SD | Levene's | Sig. | t | Sig. |
|-----------|--------|----|-----------|----------|------|------|------|
| PD | EG | 18 | 2.05±1.05 | 0.13 | 0.72 | 3.39 | 0.00 |
| | CG | 18 | 0.95±0.99 | | | | |
| GS | EG | 18 | 3.75±2.67 | 1.69 | 0.26 | 2.26 | 0.03 |
| | CG | 18 | 2.42±2.05 | | | | |
| CB | EG | 18 | 5.23±3.67 | 1.97 | 0.17 | 2.68 | 0.01 |
| | CG | 18 | 2.44±1.49 | | | | |
| POP | EG | 18 | 5.95±5.35 | 1.61 | 0.21 | 2.10 | 0.04 |
| | CG | 18 | 3.09±3.48 | | | | |
| PDP | EG | 18 | 6.85±7.07 | 2.60 | 0.13 | 1.26 | 0.25 |
| | CG | 18 | 3.95±4.46 | | | | |

However, all correlation Table 3, calculated between pre-test and post-test via CG are significant in the opposite GS related to the other variables studies which have been confirmed by (Shakespear and Caldow, 2009) via attackers and defenders changes their roles during the counter-attacking phase. Comment by (Rovegno and Bandhauer, 2017) to encourage the defenders to do a good job as challenges in the attack phase, consisting of its last to run intelligently in order to emphasize a specific tactical around the goal zone. Account for this researcher in the disadvantage of Direct Instruction (DI) as a tactical placement encompasses in tactical sessions. Approved in similar as features guided and individual practice (Pelton, 2010). The case of this study where the player's strings carry out its tasks reserved for his post. As directed oriented instructions claimed by its coach. Criticized by similar in intelligence used, where training based on repetitive technical exercises prevents the player from using their mental abilities, this idea was informed by (Butler and Griffin, 2010) that the players should learn how to use their intelligence in order to adapt to unforeseen situations, which change constantly in a game (defence or attack). Frequently revoked in change game strategy and tactics to score and to stop opponents from scoring (Couturier, Chepko, Hale, SHAPE America (Organization), 2014).

Table 3. Present the relationships pre-test with post-test via CG

| Pre-test Pearson Correlation | PD | GS | CB | POP | PDP |
|------------------------------|---------|--------|---------|---------|---------|
| POP | 0.664** | -0.047 | 0.771** | 1 | 0.957** |
| PDP | 0.420** | 0.014 | 0.922** | 0.957** | 1 |
| ** Correlation is significant at the 0.01 level (2-tailed) | | | | | |

Whereas all correlations table 4 computed between pre-test and post-test via EG are significant in all variables studied and recorded via the experimental group using multiple visual Intelligence (VMI) methods as feedback, enhanced by the benefits of small-sided games, identified in similar as a potential method to increase individual initiatives-numerical augmentation-role exchange to encourage the defender to score. Established in similar that analysis of tactical behaviour should not be solely based on a particular action performed in isolation or post-game, but rather on general tactical patterns, which comprise all the typical characteristics of actions performed by all players within a team (Mahlo, 1969) tactical conjugate. Uphold by (Silva, Garganta, Santos, and Teoldo, 2014) via Tactical Behaviour of Soccer Players. Accounted in this study toward the benefits of the

detailed training plan and prepared by the coach using video analysis, the most common methodology used in elite sports individual (Mooney, Corley, Godfrey, et al, 2015) or collective feedback (Phillips, Farrow, Ball, and Helmer, 2013). Endorses in numerous published via sports videos analyse, including technical recommendations, coaching comments; analysis of human movement advances (Mooney, Corley, Godfrey, Osborough, Quinlan, and ÓLaighin, 2015). The case of this study via EG in its feedback based on their real game situations presented with different tactical situations selected from real soccer matches by video films. Built on six types of decisions specified by Tom Reilly, et al (Reilly, Lees, Davids, and Murphy, 2011) (shooting at the goal-passing to free team-mate-passing around GK or an opponent-avoiding an offside-taking a penalty kick-taking free kick).

Table 4. Present the relationships pre-test with post-test via EG

| Post-test Pearson Correlation | PD | GS | POP | CB | PDP |
|---|---|---|---|---|---|
| POP | 0.876** | 0.648** | 0.938** | 1 | 0.878** |
| PDP | 0.855** | 0.674** | 0.951** | 0.878** | 1 |
| ** Correlation is significant at the 0.01 level (2-tailed) | | | | | |

## 5. DISCUSSION

From the tactical coaching point of view, the coach is demanded to point out the reason for specific errors in technique or tactics. As well as defenders can be a weapon in offensive tactics. Ours comes in this modest study that attempts to develop technical and tactical skills of players to achieve excellence in the game for a person or collective achievement. Counting on the improvement of the decision-making process related to players errors, which must be corrected before the following practices (training or match). Meanwhile, the use of multimedia videos can help players to be prepared for any potential anticipation by guiding them through the steps needed to perform a particular skill (Al-Asadi, 2016). Affirmed by analyses of video in its benefit qualitatively and quantitatively designed to provide relevant sports-specific feedback (Vanlandewijck and Thompson, 2017). Revoked by similar, that traditional feedback provided subjective observations, achieved by the performance of coaches (Bartlett, Gratton, and Rolf, 2009). While as an objective method to augment feedback. The most recent involved the uses of video and notations analysis, which provides a computerized representation of poor passing technique or poor choice of where to pass, or poor supporting play by the other (McMorris and Hale, 2006).

Since those backgrounds, our findings imply that the advent of high-quality, low-cost video technology has opened up new avenues for providing feedback. Assessment by implication of video analysis according to sports studies via the cost- individual effectiveness post-game or collective teams (Archer Cantrell, and Holtzman, 2016). Admitted by T. Reilly, et al (Reilly, Hughes, and Lees, 2001) and the actual results via the experimental group that received quantitative feedback based on specific computerized notational analysis, able to judge their own and collective performance, as feedback-based analysis strategy, according to (Bazzan and Pichara, 2014). The case of the presented results advocates that performance in tactical situations are in favours of players exposed to VMI, depending on the source video analysis tactical training or match compared to those taught using DI. Confirmed by Agne Suziedelyte (Suziedelyte, 2015) in problem-solving ability, a skill that is useful in many work situations. As part of the fluid or general intelligence, according to Johnson S.et al (Johnson, 2005).

Accounted by Joseph L. et al (Rotman, 2014) that a sports coach with a high level of this ability may set a goal of increasing the level events and emotions. Interpret by force of the American Psychological Association via the "ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, [and] to overcome obstacles by taking thought (Neisser, Boodoo, Bouchard, Boykin, Brody, et al, 1996). Confirmed by Schmidt FL, et al (Schmidt and Hunter, 2000) in the "ability to grasp and reason correctly with abstractions (concepts) and solve problems. Confirmed in this study via the sessions tactical behaviour that should not be solely founded on a particular action performed in isolation, but rather on general tactical patterns, which comprise all the typical characteristics of such isolated actions performed by all players within a team (Mahlo, 1969).

Avowed by Bernardo Silva, et al (Silva, Garganta, Santos, and Teoldo, 2014). Reason in this study toward the benefits of the detailed training plan and prepared by the coach using video analysis, the most common methodology used in developing countries via the elite sports individual (Mooney, Corley, Godfrey, et al, 2015) or collective feedback (Phillips, Farrow, Ball, and Helmer, 2013). Approves in several available sports videos analyse studies by its advantages of including the technical recommendations, coaching commentaries; analysis of human movement advances (Mooney, Corley, Godfrey, Osborough, Quinlan, and ÓLaighin, 2015). This finding suggests that challenges for the ball are probably more common in Direct Instruction (DI), where this inference, prevents the player from the individual initiative, the opposite of MI, which increases his ability to exchange roles from defender to striker. While as a recommendation, we agree that tactical processes teaching, learning and training, request from our coaches to stimulate their players in deference situations not only based on familiarizing situations. Because this practice kills the individual solutions that had become the weapon of the big teams.

To summarize, we agree that tactical performance based on Coach DI showed a low correlation with the cost-effectiveness of player performance in the offensive tactical the opposite of defensive actions. Explains by the researcher in the objectivity of filling the post-game poorly in complex and predictable situations. Contrary to the method of analysing video where the team's responsibilities are mapped as an adaptive demand generated by a tactical soccer game. Described by (Nimmerichter, Weber, Wirth and Haller, 2016) that football players can improve perceptual-cognitive skills with a 6 min video-based training performed twice a week. Interpret by (Bruland, Hagemann, and Strau, 2005) to initiate quick actions, athletes must focus their attention and visual perception on the most relevant information sources or key events. Support by (Nas, 2017) that the quality of the decisions depends on its organizations where different contexts can encourage the use of a different decision-making style to achieve the most desirable alternative outcome. As mentioned above, we suggest that tactical behaviours request means that reproduce the true demands of a game characterized by the permanent interaction between tactical-technical components in a complex decision context (Zerf, 2016). In this respect, video feedback is an essential instrument for both assessment and training individual or collective. As well as permutation and the supernumerary in the tactics combined in its tales, much on singular solutions to deliberate collaborates (Zerf and Bengoua, 2015).

**6. CONCLUSION**

Our results argue that the progress of tactical performance is in favors of Video analyses, which may enhance coaching tactical more than leadership and communication skills. Record in the benefits of players exposed to VMI compared to DI, according to this study. From that, we agree that our trainers must include the sports video technology as strategies that will lead to increase visual-motor function ability to carry out an action, calculations and decisions about orientation, motion, and location from the technical point of view space and time during the competition. While this practice requests Multiple Visual Intelligence (VMI) method training and learning in tactical sessions. Founded on video analyses that are more suitable than Direct Instruction (DI) as a most used by our coaches, especially in the development of the ability to understand and reason correctly with abstractions (concepts) and solve problems. As this hypothesis, the current research encourages our coaches to use the System of Tactical Assessment in Soccer (FUT-SAT) via their tactical situations training or assuming. Because it offers the player to review his individual faults, as well as its contribution to collective game.

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