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An Assessment of the Behavioural Performance of Youth Football Coaches at Academies in the City of Samarra

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ABSTRACT

The present study aimed to identify the reality of coaching behaviours among youth football academy coaches in the city of Samarra using the Coaching Behaviour Analysis System (CBAS) developed by Smith et al (1977), as one of the standardised scientific systems for analysing coaching behaviour within sporting environments. The researcher adopted a descriptive approach using structured observation. The research sample consisted of eight coaches working at private football academies in the city of Samarra. Two training sessions were filmed for each coach, totalling 16 training sessions, with each session lasting 40 minutes. The study used three high-resolution digital cameras to document the training sessions, after which the coaching behaviours were analysed according to the behavioural categories adopted in the CBAS system. A 5-second time interval was adopted during the behavioural coding process, after which the data was organised and analysed using frequencies, percentages and Z-scores to identify the polarity and trends of the behaviours. The results also showed that the general technical instructions category recorded the highest frequency of occurrence among training behaviours, followed by the organisation and management category, indicating that trainers focused heavily on technical and organisational aspects during the training sessions. The results also showed a relative increase in positive reinforcement and general encouragement behaviours, compared to a clear decrease in punitive and negative behaviours such as punishment, punitive instructions and ignoring mistakes. The study concluded that the training environment within football academies in the city of Samarra tends towards the use of supportive and positive coaching behaviours rather than negative and punitive ones. The study recommended the need to employ standardised behavioural observation systems in the assessment of coaching performance, as well as the development of training programmes for age-group coaches, thereby contributing to improving the quality of coaching interaction within sports academies.

Keywords: Coaching behaviours; CBAS system; Football academies; Age-group coaches; Behavioural observation; Football; Coaching environment.

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ABSTRAK

Studi ini bertujuan untuk mengidentifikasi realitas perilaku kepelatihan di antara pelatih akademi sepak bola remaja di kota Samarra menggunakan Sistem Analisis Perilaku Pembinaan (CBAS) yang dikembangkan oleh Smith et al (1977), sebagai salah satu sistem ilmiah standar untuk menganalisis perilaku kepelatihan dalam lingkungan olahraga. Peneliti mengadopsi pendekatan deskriptif menggunakan observasi terstruktur. Sampel penelitian terdiri dari delapan pelatih yang bekerja di akademi sepak bola swasta di kota Samarra. Dua sesi pelatihan difilmkan untuk setiap pelatih, dengan total 16 sesi pelatihan, dengan setiap sesi berlangsung selama 40 menit. Studi ini menggunakan tiga kamera digital resolusi tinggi untuk mendokumentasikan sesi pelatihan, setelah itu perilaku pembinaan dianalisis sesuai dengan kategori perilaku yang diadopsi dalam sistem CBAS. Interval waktu 5 detik diadopsi selama proses pengkodean perilaku, setelah itu data diatur dan dianalisis menggunakan frekuensi, persentase dan skor Z untuk mengidentifikasi polaritas dan tren perilaku. Hasilnya juga menunjukkan bahwa kategori instruksi teknis umum mencatat frekuensi kejadian tertinggi di antara perilaku pelatihan, diikuti oleh kategori organisasi dan manajemen, menunjukkan bahwa pelatih sangat fokus pada aspek teknis dan organisasi selama sesi pelatihan. Hasilnya juga menunjukkan peningkatan relatif dalam penguatan positif dan perilaku dorongan umum, dibandingkan dengan penurunan yang jelas dalam perilaku hukuman dan negatif seperti hukuman, instruksi hukuman, dan mengabaikan kesalahan. Studi ini menyimpulkan bahwa lingkungan pelatihan di akademi sepak bola di kota Samarra cenderung menggunakan perilaku kepelatihan yang mendukung dan positif daripada perilaku negatif dan menghukum. Studi ini merekomendasikan perlunya menggunakan sistem pengamatan perilaku standar dalam penilaian kinerja pembinaan, serta pengembangan program pelatihan untuk pelatih kelompok usia, sehingga berkontribusi untuk meningkatkan kualitas interaksi pembinaan dalam akademi olahraga.

Kata Kunci: Perilaku pembinaan; Sistem CBAS; Akademi sepak bola; Pelatih kelompok usia; Pengamatan perilaku; Sepak bola; Lingkungan pembinaan.

INTRODUCTION

Youth football is characterised by high-intensity physical and technical performance, which places players under constant competitive pressure requiring comprehensive preparation that goes beyond tactical plans to include psychological and educational support, which directly highlights the leadership and educational role of the sports coach as the central figure in guiding the training process (Smith & Smoll, 2011). From this perspective, the coach's behavioural performance emerges as a key determinant in shaping players' personal traits, fostering positive attitudes, and developing their intrinsic motivation to continue participating in sport whilst avoiding burnout (Cote & Gilbert, 2009). Numerous published foreign studies and research papers have addressed the effectiveness of standardised and positive coaching behaviour in fostering a positive educational climate within specialised football academies (Horn, 2008), whilst other research has focused on evaluating leadership styles and their relationship with athletes' satisfaction and levels of loyalty to their teams (Hollembek & Amorose, 2005). Despite the great importance of this international literature, most of it has been limited to administrative and general theoretical aspects, without subjecting

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the actual, day-to-day on-field behaviour of coaches to standardised assessment and characterisation in specific, emerging environments such as the academies in the city of Samarra.

The research gap here is evident in the scarcity of local studies and scientific tools capable of monitoring and examining the reality of these coaches' actual behavioural practices, and the extent to which they align with contemporary professional and educational standards for training these age groups. Therefore, this current research seeks to address the existing knowledge and field gap by presenting a descriptive-analytical study to assess the behavioural performance of youth football coaches at the Samarra City Academies, in order to accurately determine their behavioural and professional levels across the following dimensions (pedagogical, educational, guidance and leadership) and comparing them with scientific standards (Mageau & Vallerand, 2003).

Accordingly, the main objective of the present study is to identify the reality of these coaches' behavioural performance from the perspective of the young players themselves, as well as to reveal the nature of statistical differences in these performance levels according to the coaches' demographic and professional variables (; Jowett, 2017). To achieve this objective and explore the issues involved, the study seeks to answer the following central question: "What is the level of behavioural performance of youth football coaches in Samarra's academies from the players' perspective? And to what extent does this performance vary according to the study variables?" (Chelladurai, 2007). Based on the nature of the targeted training environment and the aforementioned theoretical findings, the researcher hypothesises that coaches at the academies in Samarra generally exhibit acceptable and average levels of behavioural performance, with statistically significant variations and differences in some sub-dimensions attributable to the variables of years of field experience and the coach's educational attainment (Mallett et al., 2009). The researcher also hypothesises that there are statistically significant differences in the assessment of behavioural performance dimensions attributable to the variables of the age of the young players and their perception of the coaching style (Myers et al., 2008). The practical significance of these findings lies in providing sports organisations and academies with a scientific roadmap and objective indicators for developing training programmes and courses that contribute to the development of the behavioural, educational and leadership competencies of coaching staff, thereby positively impacting sporting outcomes in the governorate.

METHOD

Research methodology

The researchers adopted a descriptive (analytical) approach using the method of (Systematic Observation), due to its suitability for the nature of the current research objectives, which are based on observing the actual behaviours of football coaches in their real-life training environment, and subsequently transcribing, statistically analysing and interpreting their implications without interfering with or influencing the course of work.

Participants

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The current research population consists of 12 football coaches representing the technical staff working with youth teams, distributed across 10 official football academies in the city of Samarra for the 2025–2026 football season. The researcher selected the study sample using a stratified purposive method to include eight coaches from the original population, representing approximately 66.6 per cent, which is a sufficient and statistically acceptable proportion in research relying on the method of intensive structured observation (Erickson et al., 2011). The researcher's rationale for selecting this sample and excluding the other four coaches is based on several objective criteria; most notably the need for the targeted coaches to lead training sessions and official matches consistently throughout the observation period without interruption, and to ensure that the age group of the young players under their supervision was similar, in order to avoid variations in coaching behaviour across different youth or junior categories (Cote & Gilbert, 2009). The researcher also stipulated that coaches in the sample must have at least five consecutive seasons of practical coaching experience within academies to ensure the stability of their leadership and behavioural patterns and their natural manifestation during observation, as well as to exclude coaches whose records were incomplete or who declined to participate for personal reasons.

Measurement

The Coaching Behaviour Assessment System (CBAS)

The behavioural observation system known as the Coaching Behaviour Assessment System (CBAS) was used as a structured tool to monitor and analyse the interactive and communicative behaviours exhibited by the teacher/coach during educational or training situations. This system is one of the most widely used behavioural observation systems in the fields of physical education and sport psychology, having been developed by Smith et al. (1977) to analyse behavioural patterns that emerge in natural educational and training environments.

The system relies on structured direct observation of the coach's behaviour whilst interacting with players, with behaviours recorded according to predefined categories using behaviour coding. The system is characterised by its applicability in the field within lessons or teaching units without disrupting the flow of the educational activity, as the observer is positioned in a place that allows them to clearly see the interactions whilst avoiding direct interference in the course of the training.

The CBAS system divides behaviours into two main categories: Reactive Behaviours and Spontaneous Behaviours (Table 1). Reactive behaviours refer to responses issued by the teacher as a direct reaction to the learner's behaviour or performance, whether this performance is positive or incorrect, whilst spontaneous behaviours refer to behaviours initiated by the trainer independently and not directly linked to a previous event.

Table 1. Behavioural Categories and Descriptions of the CBAS Observation System

Abbreviation	Behaviour / Response Category	No.	Subcategory	Main Class
R	Positive Reinforcement	1	A. Desirable	Class I.
NR	Non-reinforcement	2	Performance	Reactive
EM	Mistake-Contingent Encouragement	3	B. Mistakes / Errors	Behaviours
TIM	Mistake-Contingent Technical Instruction	4		

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P	Punishment	5		
TIM+P	Punitive TIM	6		
IM	Ignoring Mistakes	7		
KC	Keeping Control	8	C. Misbehaviours	
TIG	General Technical Instruction	9	A. Game-Related	Class II.
EG	General Encouragement	10		Spontaneous
O	Organisation	11		Behaviours
GC	General Communication	12	B. Game-Irrelevant	

Recording Procedures: The observer records, every 5 seconds, one of the behavioural categories arising from the interaction between the teacher and the student, in accordance with a form listing the behavioural categories specified by the observation system. After every 5 minutes of observation, the observer takes a further 5-minute break, these codes are then transferred numerically to a table showing the behavioural patterns, and the observation takes place during the 40 minutes allocated to the main section of the training module.

To verify the scientific validity of the behavioural observation system based on the CBAS system, its categories and procedural definitions were presented to a group of experts and specialists in physical education, educational psychology, and measurement and evaluation, in order to verify the clarity, comprehensiveness and suitability of the categories for monitoring the coaching behaviours of trainers in youth football training sessions. The results of the review showed high content validity indices, with the content validity index (I-CVI) for each category ranging from 0.80 to 1.00, whilst the content validity index for the scale as a whole (S-CVI) was 0.90, indicating that the scale possesses a high degree of validity. As for reliability, two independent raters were trained on the system's coding manual and then coded the lessons independently; the coefficient of agreement using Cohen's Kappa was ($\kappa = 0.82$), a value indicating a very high level of agreement between the raters.

Testing reliability was also verified by re-coding the same sample ten days later, yielding a coefficient of agreement of ($\kappa = 0.85$), indicating that the measurement remains stable over time. The objectivity of the system was ensured through the adoption of precise operational definitions, the use of a standardised coding manual, and the training of observers according to standardised procedures prior to actual implementation. This helped to minimise personal bias and ensure that the extracted data objectively and accurately reflected the observed behaviours.

Procedures

This study required the implementation of field procedures organised according to the CBAS system, with the aim of objectively and systematically observing and analysing training behaviours within the training units. The procedures began with the implementation of two pilot studies to verify the suitability of the training environment, the tools used, and the nature of the filming and coding procedures, as well as training the support team on the fieldwork methodology. The observers also underwent an intensive training programme on the CBAS coding manual, which included procedural definitions of behavioural categories, inclusion and exclusion criteria, and the mechanism for recording behaviours during observation, with the aim of standardising

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coding criteria, minimising personal bias, and achieving a high level of inter-observer agreement prior to the actual implementation.

The study relied on direct field filming of youth football training sessions using three high-resolution CANON digital cameras equipped with zoom functions, to provide comprehensive coverage of all interactions and behaviours within the training session. Audio support was also used to ensure the clarity of the audio and visual recordings. The filming process involved 8 coaches, with two training sessions filmed for each coach, totalling 16 training sessions, each lasting 40 minutes. After filming was completed, the video clips were merged with the audio recordings using Adobe Premiere Pro CC to produce integrated video files ready for behavioural analysis.

Subsequently, behavioural coding was carried out by viewing the video clips and recording training behaviours according to the behavioural categories defined in the original system by Smith and colleagues, as the behaviour occurred in real time during viewing. Once the coding process was complete, the data on behaviour frequencies and percentages was exported to Excel in preparation for extracting, analysing and evaluating the indicators of training behaviours.

Data Analysis

The research data was analysed after completion of the behavioural coding process according to the CBAS system, with the collected data organised using Microsoft Excel. Descriptive statistical analyses, including frequencies, percentages and arithmetic means, were used to analyse the training behaviours observed within the youth football training sessions, with the aim of identifying the most common behavioural categories and their distribution among the sample. The Z-score was also used to reveal the polarity of training behaviours and determine their direction, by indicating the extent to which the frequencies of behaviours deviated from the overall mean, which contributed to explaining the nature of the prevailing training behaviour among coaches in a quantitative and objective manner.

RESEARCH RESULTS

The table of training behaviour results according to the CBAS system shows that the total number of coded behaviours was 7,750 occurrences, a figure close to the total number of time intervals (7,680), with a slight increase due to the possibility of recording more than one training behaviour per time interval. The 'general technical instructions' category recorded the highest frequency among all behavioural categories, with 1,420 occurrences and a percentage of 18.32%. It also achieved the highest standardised score (Z-Score = 2.13), indicating that this behaviour represents the most common teaching style among physical education teachers, followed by the organisation and management category with 1,180 occurrences (15.23%) and a standardised score of 1.47, which reflects the teachers' focus on organising the lesson flow and managing educational activities. The category of technical instructions related to errors recorded 890 occurrences, accounting for 11.48%, with a positive standardised value of 0.67, whilst general encouragement occurred 760 times (9.81%) and positive reinforcement 720 times (9.29%), figures reflecting a good level of supportive and motivating teaching behaviours within the lesson.

Similarly, the category of error-related encouragement recorded 640 occurrences (8.26%), and the category of discipline 620 occurrences (8.00%), values

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which were close to the overall average for instructional behaviours. In contrast, some behaviours recorded relatively low rates, with general communication occurring 460 times (5.94%) and a negative standardised value of -0.51 , whilst the non-reinforcement category occurred 310 times (4.00%) with a standardised value of -0.92 . The least frequent behaviours were ignoring errors (280 occurrences, 3.61%), punitive instructions (260 occurrences, 3.35%), and direct punishment, which recorded the lowest frequency of 210 instances (2.71%) and a high negative standardised value (-1.20), indicating a low reliance on punitive methods within the sports education environment. The results of behavioural polarity indicate that technical and organisational behaviours were characterised by positive polarity as they exceeded the overall average frequency, whilst punitive and negative behaviours were characterised by negative polarity due to their lower rates of occurrence compared to the other behavioural categories.

Table 2. Frequencies, Percentages, Standard Scores, and Behavioural Polarity of Instructional Behaviours According to the CBAS Observation System

Direction	Behavioural Polarity	Z-Score	Percentage (%)	Frequency	Instructional Behaviour (CBAS)	No.
Moderate	Positive	0.20	9.29	720	Positive Reinforcement	1
Low	Negative	-0.92	4.00	310	Non-reinforcement	2
Moderate	Neutral	-0.02	8.26	640	Mistake-Contingent Encouragement	3
Relatively High	Positive	0.67	11.48	890	Mistake-Contingent Technical Instruction	4
Very Low	Negative	-1.20	2.71	210	Punishment	5
Very Low	Negative	-1.06	3.35	260	Punitive TIM	6
Low	Negative	-1.01	3.61	280	Ignoring Mistakes	7
Moderate	Neutral	-0.07	8.00	620	Keeping Control	8
Very High	Strong Positive	2.13	18.32	1420	General Technical Instruction	9
Moderate	Positive	0.31	9.81	760	General Encouragement	10
High	Strong Positive	1.47	15.23	1180	Organisation	11
Relatively low	Negative	-0.51	5.94	460	General Communication	12
			100%	7,750	Total	

Note: Percentages were calculated based on the total number of coded behaviours ($N = 7.750$), which slightly exceeded the total number of observational intervals (7680 intervals) due to the possibility of coding more than one instructional behaviour within the same 5-second interval. Positive Z-score values indicate behaviours occurring above the overall mean frequency, whereas negative values indicate behaviours occurring below the mean.

DISCUSSION

The study results showed that technical and organisational coaching behaviours were the most common among physical education teachers, with the 'general technical

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instructions' category recording the highest frequency of occurrence (18.32%) and a total of 1,420 occurrences, followed by the organisation and management category at 15.23%, with 1,180 occurrences. These results suggest that coaches place significant emphasis on providing technical guidance and organising the training process to ensure that objectives are met and that the flow of physical activity within the training environment is maintained.

This can be explained by the nature of the training sessions, which require continuous guidance on technical performance and close monitoring of player organisation, time management and equipment, meaning that technical and organisational behaviours account for the largest proportion of training interactions. The results also showed a relative increase in positive reinforcement and general encouragement behaviours, with rates of 9.29% and 9.81% respectively, reflecting a supportive training approach that relies on encouragement and motivation as means to enhance participation and improve players' motor performance. This finding is consistent with the observations of Ronald E. Smith and his colleagues in the development of the CBAS system, who emphasised that supportive and encouraging behaviours are associated with increased satisfaction, motivation and improved interaction within sporting and educational settings.

The results also showed a decrease in punitive behaviours, with the 'punishment' category accounting for only 2.71%, whilst 'punitive instructions' accounted for 3.35%, and 'ignoring mistakes' accounted for 3.61%. These results indicate a reduced reliance on negative methods in managing training situations, which can be explained by the development of modern training trends that now encourage the use of positive feedback rather than direct punishment, given its positive impact on the psychological climate and motivation to improve. Furthermore, the decline in these behaviours may reflect coaches' awareness of the importance of maintaining a positive relationship with players within the training environment, particularly in training settings that rely on direct interaction and group participation.

The findings of the current study are consistent with the original study by Smith, Smoll and Hunt (1977), which showed that general technical instructions and instructional feedback were among the most frequently observed behaviours among coaches and teachers during sporting situations, whilst punitive behaviours were relatively less frequent. They also align with the study by Millard (1996), which noted the predominance of instructional and organisational behaviours compared to negative or punitive behaviours among coaches in school sports settings. The findings are also consistent with the study by Rodríguez-Peláez et al. (2015), which emphasised the importance of supportive and organisational behaviours in creating a positive motivational climate within sporting activities, and showed that patterns of encouragement and technical instruction are associated with higher quality interaction between the coach and learners. Studies by Torregrosa et al. (2008), Mora et al. (2009), and Wallhead and Ntoumanis (2004) also supported the importance of using instructional and positive behaviours as indicators of an effective and learning-supportive coaching climate.

In contrast, the present study partially differs from some studies conducted in high-level competitive environments, which showed a relatively high use of direct criticism and punitive behaviours as a result of pressures associated with sporting performance and achievement; the results of the present study showed a clear reduction

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in these behavioural patterns. This difference can be explained by the nature of the current sample, which focused on the environment of specialised academies rather than high-level competitive sports environments, as well as cultural and social characteristics that encourage coaches to adopt calmer and more supportive communication styles within the training environment.

As for the research gap, the present study sought to address a clear shortage of Arab and Iraqi studies that have analysed coaching behaviours within specialised football academies using standardised behavioural observation systems such as the CBAS. Although this system is widely used in foreign studies, local studies employing direct behavioural observation and the analysis of coaching interactions remain very limited, particularly within the Iraqi educational environment. Consequently, the present study provided quantitative descriptive data on the prevailing coaching behaviour patterns among youth football coaches in the city of Samarra and contributed to the application of an international observation system within a local coaching context, thereby helping to expand the knowledge base regarding coaching behaviour and interactions in football training environments.

CONCLUSIONS AND RECOMMENDATIONS

The present study found that technical and organisational coaching behaviours represent the predominant pattern among youth football coaches according to the Coaching Behaviour Analysis System (CBAS), with the categories of general technical instructions, organisation and management recording the highest rates of frequency and positive behavioural polarity compared to the other categories. The results also showed a relative increase in the use of positive reinforcement and general encouragement, compared with a clear decrease in punitive and negative behaviours such as punishment, punitive instructions and ignoring mistakes. These findings suggest that the training environment in football training units leans more towards supportive and development-oriented training methods, with a reduced reliance on direct punitive methods. The study also demonstrated the potential for employing the CBAS system as a structured scientific tool for analysing coaching behaviours within the Iraqi sports training environment, by providing accurate quantitative data on coaches' interaction patterns and coaching behaviours. The present study helps to address a gap in research regarding the analysis of coaching behaviours using standardised behavioural observation systems in the Arab and Iraqi contexts, as well as providing indicators that can be utilised in the development of football coach training and qualification programmes and in enhancing the quality of coaching interaction between coaches and players.

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