

Analysis and Evaluation of Teaching Behaviours Among Physical Education Teachers in Athletics Lessons Using the SMITH System for Structured Observation

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ABSTRACT

The aim of this study was to analyse the teaching behaviours of physical education teachers in the Iraqi school setting using the CBAS teaching behaviour observation system, and to identify the most common behavioural categories and their polarity. The sample consisted of five teachers, and three lessons were observed for each teacher, making a total of fifteen lessons. The observation lasted twenty minutes of the main section of each lesson, divided into eight minutes for the instructional activity involving explanation and presentation, and twelve minutes for the practical activity. Behaviour was coded every five seconds, with two behaviours permitted to be recorded if they occurred within the same time interval. A total of 3,696 behaviours were observed. The results showed that general technical instructions were the most frequent category at 16.23 per cent, followed by error-related technical instructions at 15.83 per cent, then organisation at 11.93 per cent, and maintaining control at 10.88 per cent. Positive reinforcement accounted for 9.82 per cent, general encouragement for 8.28 per cent, and error-related encouragement for 8.12 per cent. Positive and functional behaviours accounted for 70.21 per cent of all behaviours, compared with 15.99 per cent for negative behaviours, whilst general communication unrelated to the activity was the least frequent, at 2.92 per cent. The standardised score values indicate a clear increase in general technical instructions and error-related instructions compared with the average for other classes. The study concluded that the prevailing teaching style was characterised by technical guidance, organisation and lesson control, with a predominance of positive behaviours. The study recommends increasing the use of specific reinforcement and encouragement, providing corrective feedback in a supportive manner, minimising punishment and overlooking mistakes, and incorporating training on the analysis of teaching behaviour and improving the quality of classroom interaction into teacher training programmes. The findings emphasise the importance of striking a balance between clear instructions and providing pupils with opportunities for participation and autonomy, whilst calling for follow-up studies on larger samples that link teacher behaviour patterns to pupil motivation, motor learning and the level of their active participation in organised classroom lessons.

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Keywords: Teaching behaviours; Objective analysis of teaching; Structured objective observation; CBAS observation system.

ABSTRAK

Tujuan studi ini adalah menganalisis perilaku mengajar guru pendidikan jasmani di lingkungan sekolah Irak menggunakan sistem observasi perilaku pengajaran CBAS, serta mengidentifikasi kategori perilaku yang paling umum dan polaritasnya. Sampel terdiri dari lima guru, dan tiga pelajaran diamati untuk setiap guru, sehingga total menjadi lima belas pelajaran. Pengamatan berlangsung selama dua puluh menit untuk bagian utama setiap pelajaran, dibagi menjadi delapan menit untuk aktivitas instruksional yang melibatkan penjelasan dan presentasi, serta dua belas menit untuk aktivitas praktis. Perilaku dikodekan setiap lima detik, dengan dua perilaku diizinkan dicatat jika terjadi dalam interval waktu yang sama. Sebanyak 3.696 perilaku diamati. Hasilnya menunjukkan bahwa instruksi teknis umum adalah kategori yang paling sering terjadi yaitu 16,23 persen, diikuti oleh instruksi teknis terkait kesalahan sebesar 15,83 persen, kemudian organisasi 11,93 persen, dan mempertahankan kontrol sebesar 10,88 persen. Penguatan positif menyumbang 9,82 persen, dorongan umum 8,28 persen, dan dorongan terkait kesalahan 8,12 persen. Perilaku positif dan fungsional menyumbang 70,21 persen dari semua perilaku, dibandingkan dengan 15,99 persen perilaku negatif, sementara komunikasi umum yang tidak terkait dengan aktivitas adalah yang paling jarang yaitu 2,92 persen. Nilai skor standar menunjukkan peningkatan yang jelas pada instruksi teknis umum dan instruksi terkait kesalahan dibandingkan rata-rata kelas lain. Studi menyimpulkan bahwa gaya pengajaran yang berlaku ditandai oleh bimbingan teknis, organisasi, dan pengendalian pelajaran, dengan dominasi perilaku positif. Studi ini merekomendasikan peningkatan penggunaan penguatan dan dorongan spesifik, memberikan umpan balik korektif secara mendukung, meminimalkan hukuman dan mengabaikan kesalahan, serta memasukkan pelatihan tentang analisis perilaku mengajar dan meningkatkan kualitas interaksi di kelas ke dalam program pelatihan guru. Temuan ini menekankan pentingnya menyeimbangkan antara instruksi yang jelas dan memberikan kesempatan kepada siswa untuk berpartisipasi dan mandiri, sambil menyerukan studi lanjutan pada sampel yang lebih besar yang mengaitkan pola perilaku guru dengan motivasi siswa, pembelajaran motorik, dan tingkat partisipasi aktif mereka dalam pelajaran kelas yang terorganisir.

Kata Kunci: Perilaku mengajar; Analisis objektif pengajaran; Observasi objektif terstruktur; Sistem pengamatan CBAS.

INTRODUCTION

The teaching process in the field of physical education and sport is a dynamic, integrated system in which behavioural and pedagogical factors interplay to form a key determinant of the lesson's effectiveness and the achievement of its stated objectives. The analysis and evaluation of teaching behaviours is not merely a passing descriptive exercise, but rather an essential diagnostic tool that enables the deconstruction of the interactive structure within the sports arena and an understanding of the nature of the

stimuli and reciprocal responses between the teacher and the student, particularly in lessons involving complex skills such as athletics.

The shift from traditional impressionistic assessment based on casual observation to scientific evaluation based on structured observation is a cornerstone in the development of teaching competencies, as structured observation enables the monitoring of verbal and non-verbal behaviours with high quantitative and temporal precision (Camerino et al., 2019). Consequently, teaching behaviours emerge as a key driver in motivating students and shaping the learning environment; the teacher's ability to manage time, provide qualitative feedback, and direct corrective or encouraging behaviours is directly reflected in the level of skill and knowledge acquisition (Thorburn, 2018). Consequently, subjecting these behaviours to rigorous scientific analysis is a strategic step towards reformulating the initial and continuing professional development programmes for physical education teachers, thereby ensuring the improvement of outcomes in physical education in line with modern approaches to approved curricula and teaching methods.

Globally, rigorous research has focused on analysing teaching and coaching behaviours using standardised assessment tools to ensure objectivity and minimise subjectivity in educational evaluation. In this context, some research has focused on comparing educational programmes designed to teach athletics disciplines, demonstrating that the teacher's planning and execution behaviours are the key differentiators in the quality of students' skill performance (García-Ceberino et al., 2020). Other studies have also addressed the design and standardisation of advanced observation tools to monitor feedback and patterns of behavioural interaction within the sporting arena, emphasising the significant impact of supportive teaching behaviour in reducing learners' levels of anxiety and stress and increasing their engagement in actual performance (Pulido et al., 2015). Furthermore, academic research has focused on examining authoritarian or directive teaching behaviours and their impact on the psychological environment of the lesson (), revealing that positive and encouraging teaching behaviours raise students' levels of perceived self-efficacy compared with behaviours based on absolute control (Castillo et al., 2014). With regard to the application of structured observation in school sports and age-group categories, contemporary literature has confirmed that the use of systematic behaviour monitoring systems provides teachers and coaches with an objective mirror that reveals gaps between their actual practices and their self-perceptions, thereby enhancing opportunities for professional development based on concrete, evidence-based insights (Santos et al., 2020).

Despite this growing global research momentum in the field of teaching behaviour assessment, a review of the educational and sports literature reveals a clear research gap worthy of study. This gap is evident in the scarcity of scientific studies – to the best of the researcher's knowledge—that have sought to subject the behaviours of physical education teachers in Iraq to systematic quantitative and qualitative analysis using standardised global observation systems, specifically when teaching athletics events. The prevailing practice in the local educational environment relies heavily on traditional assessment forms involving general quantitative evaluation (such as assigning general performance grades), which lack the capacity to monitor moment-to-moment behavioural interactions or to classify behaviours as immediate, automatic or planned

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responses. This gap widens when considering the specific nature of athletics lessons; whilst international research emphasises that the teacher's behaviour directly influences students' levels of physical activity and intrinsic motivation (González-Peño et al., 2021; Mayorga-Vega et al., 2020), local data still lacks a precise classification of the proportions of teaching behaviours (such as technical instruction, encouragement, organisational guidance and generalised criticism) prevalent on our sports fields, thereby obscuring the scientific understanding of the true causes behind the decline in our students' technical and skill-based performance in these vital activities.

In light of the above, the present study seeks to address this research gap directly by employing the 'Smith System of Organised Observation' as a rigorous and objective scientific tool for analysing teaching behaviours within the Iraqi classroom setting for athletics lessons. The application of this system will enable the assessment to move from general descriptive formulations to the language of precise figures and percentages, thereby allowing us to draw up a comprehensive behavioural profile of the Iraqi teacher during actual learning situations and to identify the most frequent and dominant behavioural patterns. This approach derives its significance from the fact that it links behavioural theory in training and teaching with the reality of field practice, drawing on studies which indicate that teachers' awareness of their actual behaviour contributes to transforming the educational environment into an engaging one that increases students' commitment, responsibility and positive engagement (Menendez-Santurio & Fernandez-Rio, 2020; Valero-Valenzuela et al., 2020). Through this methodological approach, the study will provide a reference database that curriculum and assessment experts in physical education faculties and the Ministry of Education can rely on to review educational supervision mechanisms and develop teaching competencies based on an accurate and realistic assessment, which will have a positive impact on the quality of educational and sporting outcomes in our beloved country.

Against this background, the research problem of the present study emerged in an attempt to answer the following main question: What are the actual teaching behaviours prevalent amongst physical education teachers in athletics lessons, and what is their evaluative level when assessed using the Smith System of Structured Observation? Accordingly, the aim of the present study is to analyse and evaluate the teaching behaviours of physical education teachers in athletics lessons using the Smith System of Organised Observation, in order to identify the nature of these behaviours and their frequency and temporal distributions. In light of the adopted theoretical frameworks and previous literature, the research hypothesis is formulated as follows: 'There is a notable variation in the proportions of teaching behaviours exhibited by physical education teachers in athletics lessons according to the Smith System of Organised Observation, with a deviation in certain behavioural patterns (such as organisational and critical behaviours) at the expense of supportive instructional and corrective behaviours, compared with pedagogically accepted normative levels.'

METHODS

Research Methodology

The researcher adopted a descriptive approach using an analytical method, as this was appropriate to the nature of the current study's objectives, which were based on observing the teaching behaviours of physical education teachers in athletics lessons

within their real-life teaching environment, and subsequently coding, transcribing and statistically analysing them, and interpreting their implications without interfering with or influencing the course of their work.

Participants

The population of the present study consisted of eight physical education teachers working in secondary schools in the city of Tikrit, Salah al-Din Governorate, for the 2025–2026 academic year. The researcher selected the study sample using a standardised purposive method to include five teachers from the original population, representing 62.5 per cent of the total; this is a sufficient and statistically acceptable proportion in educational and sports research that relies on intensive structured observation and the analysis of recurring teaching behaviours. The researcher's rationale for selecting this sample and excluding the other three teachers lies in objective and methodological criteria dictated by the nature of the study; The researcher stipulated that the teachers must have a uniform academic qualification, namely that they hold a Bachelor's degree exclusively in Physical Education and Sports Science, in order to standardise their knowledge base. This necessitated the exclusion of one teacher, as he held a postgraduate qualification which might have led to variations in the methods employed, in addition to emphasising the factor of extensive practical experience—no less than five consecutive years of active service—to ensure the maturity of teaching style, stability of behaviour, and the natural, unforced manifestation of these traits during observation. This led to the exclusion of a second teacher, as he was new to teaching and had not yet attained the required level of experience; whilst the third and final teacher was excluded due to the irregularity of their timetable during the observation period, as they had been assigned additional administrative duties within the school, as well as their withdrawal from participation for personal reasons, which prevented the comprehensive and systematic recording and documentation of their teaching behaviours throughout the duration of the observation programme.

Assessment

The Coaching Behaviour Assessment System (CBAS) for analysing teaching behaviours

The behavioural observation system known as the Coaching Behaviour Assessment System (CBAS) was used as a structured tool for monitoring and analysing the interactive and communicative behaviours exhibited by the teacher/coach during educational or training situations. This system is considered 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) with the aim of analysing behavioural patterns that emerge in natural educational and training environments.

The system relies on structured direct observation of the coach's behaviours whilst interacting with players, with behaviours recorded according to predefined categories using behavioural coding. A key feature of the system is its suitability for field use within lessons or teaching units without disrupting the flow of the teaching activity; the observer is positioned in a place that allows them to clearly view the interactions whilst ensuring they do not directly interfere with the course of the training.

The CBAS system divides behaviours into two main categories: reactive behaviours and spontaneous behaviours (Figure 1). Reactive behaviours refer to responses issued by the teacher as a direct reaction to a player's behaviour or performance, whether that performance is positive or incorrect, whilst spontaneous

behaviours refer to behaviours initiated by the coach independently and not directly linked to a previous event.

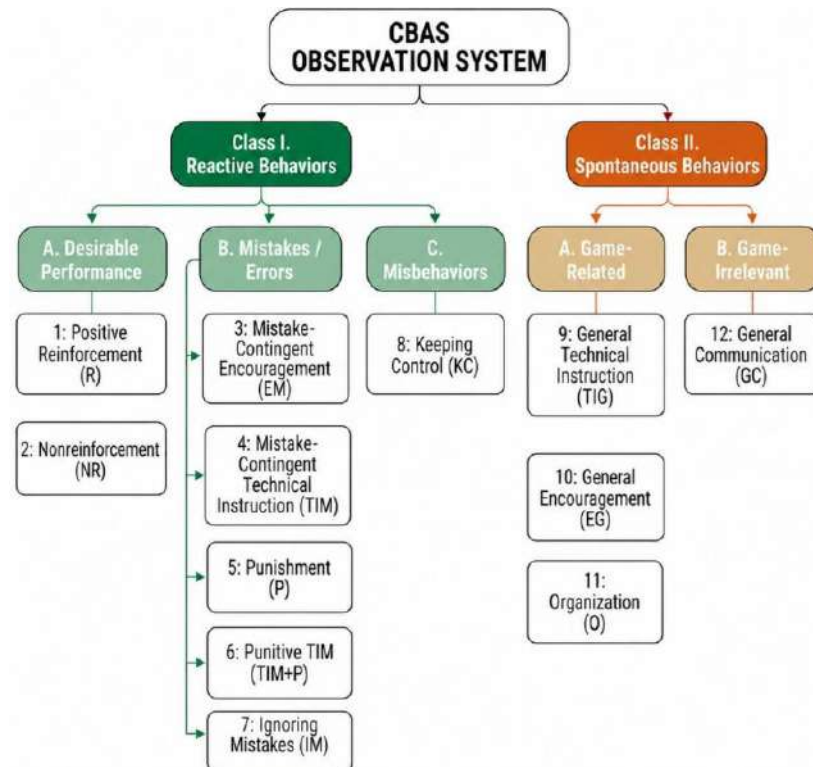


Figure 1. Teaching Behaviour Assessment System (CBAS) Behavioural Categories Hierarchy

Recording procedures: The observer records, every 5 seconds, one of the behavioural categories occurring during the athletics lesson, using a form that includes the behavioural categories specified by the observation system. After every 5 minutes of observation, the observer takes a further 5-minute break. These entries are then transferred numerically to a table showing the behavioural patterns. The observation takes place during the 20 minutes allocated to the main section of the training unit.

To verify the scientific basis of the adopted behavioural observation system (the Smith system), the researcher presented its behavioural categories and procedural details to a select group of experts and specialists in the fields of physical education teaching methods, sports psychology, and measurement and evaluation; this was done to seek their expert opinions on the clarity, comprehensiveness and complete suitability of the categories for monitoring the effective teaching behaviours of physical education teachers whilst conducting athletics lessons, specifically the effectiveness of the shot put.

The results of the arbitration revealed strong indicators of content authenticity, with the Content Authenticity Index (I-CVI) values for individual categories ranging from 0.83 to 1.00, whilst the overall Content Validity Index (S-CVI) for the system as a whole was recorded at 0.93. These are excellent scientific values, confirming that the system

possesses a very high degree of face validity and content validity within the local educational environment.

With regard to the calculation of reliability, two independent raters from the support team were extensively trained on the system's coding manual, after which they analysed and coded a pilot sample of video-recorded lessons completely independently of one another. Statistical analysis using Cohen's kappa coefficient revealed a high degree of agreement between the raters ($\kappa = 0.86$), a figure reflecting excellent consistency and a high level of agreement that safeguards the instrument from spontaneous personal judgements. The researcher also verified the instrument's stability over time (test-retest reliability) by having the observers recode the same exploratory lessons 14 days after the initial observation, with the coefficient of agreement reaching a value of ($\kappa = 0.88$), thereby demonstrating the stability and consistency of measurement and coding across separate time periods.

As for the objectivity of the system, this was clearly achieved through the formulation of precise and definitive operational definitions that prevent overlap between behavioural patterns, and the use of a standardised coding manual, as well as the practical training workshops that observers undertook prior to the actual implementation, which helped to neutralise personal biases and subjective judgements, and ensured that the statistical data extracted provided a completely accurate and objective reflection of the reality of actual teaching behaviours on school playgrounds.

Procedures

This study required the adoption of standardised field procedures and a rigorous methodology in accordance with the 'Smith System of Organised Observation', with the aim of monitoring and analysing the teaching behaviours of physical education teachers during athletics lessons in an objective and unbiased manner. The researcher began these procedures by conducting two exploratory trials on a sample outside the main research sample but from the same research population; The first exploratory experiment () aimed to verify the suitability of the school environment (the school playground and the shot put competition area) and to identify the ideal locations for installing digital cameras without disrupting the lesson or affecting the natural behaviour of the teacher and pupils, whilst the second pilot study focused on testing the efficiency of the audio and video recording equipment, determining the nature of the time-coding procedures, as well as training the support team on the mechanism for monitoring and documenting behaviours in the field and overcoming any technical obstacles that might arise during actual implementation.

In the same context, the observers underwent an intensive and in-depth training programme on the Smith System's coding manual; the programme included studying the procedural definitions of the system's behavioural categories, precisely defining the inclusion and exclusion criteria, and learning how to distinguish between verbal and non-verbal behaviours such as gestures, facial expressions and body language during explanation and performance. The training also included group and individual reviews of sample teaching video clips and the conduct of pilot coding tests to ensure standardisation of criteria amongst observers and to overcome personal bias, thereby achieving a high and consistent level of agreement and consistency by calculating the inter-observer reliability coefficient before commencing the actual application and analysis of the target lessons.

The present study relied on live digital field recording technology for physical education lessons on the shot put event, using three high-resolution CANON digital cameras mounted on balanced tripods and equipped with optical zoom (ZOOM); The cameras were positioned at carefully calculated angles to ensure comprehensive coverage of the lesson's dynamic environment: The first camera focused on the teacher's movements within the shot put circle and whilst delivering the lecture and practical demonstration, whilst the second camera monitored the students' interactions, behavioural responses and their organisation into performance groups, whilst the third camera documented the overall scene of the lesson and the link between the teaching stimulus and skill performance in the throwing discipline. To ensure the quality and clarity of the audio, the teachers were equipped with compact wireless microphones that captured all instructions and speech with the utmost precision, thereby ensuring a seamless integration of audio and visual interactions.

The field observation and filming process involved five experienced teachers in the city of Tikrit, where three complete lessons were filmed and recorded for each teacher on the shot put activity, bringing the total number of lessons analysed to 15, each lasting 40 minutes, which is the standard duration of a lesson in Iraqi schools. In filming these three lessons for each teacher, care was taken to cover the sequential stages of learning the shot put skill (from gripping and holding the shot put, to standing and the starting position, and the technical stages of the preparatory movement and the approach, through to the final push, release and balance), in order to ensure that the full range of behavioural patterns and the technical and corrective guidance provided by the teachers in various motor learning situations were captured.

Following completion of the fieldwork and the collection of video footage, the retrieved film footage and audio recordings were transferred to the teaching laboratory, where the various video clips were combined with the recorded audio instructions for each teacher using the professional editing software Adobe Premiere Pro CC to produce standardised, high-precision synchronised video files ready for behavioural analysis. This was followed by the actual behavioural coding process, in which the video clips from 15 lessons were subjected to careful and repeated viewing by trained observers, who recorded every teaching behaviour as it occurred and classified it into its designated category within the Smith System of Organised Observation. Once the process of monitoring frequencies and calculating the durations of each behaviour had been completed, the raw statistical data was transferred and exported from the coding forms to the Excel spreadsheet programme in preparation for extracting total frequencies, percentages and time proportions, and then statistically processed to arrive at the final indicators that enable the analysis and evaluation of teaching behaviours with complete accuracy and objectivity.

Data Analysis

The research data was analysed after completion of the behavioural coding process in accordance with the CBAS system; the collected data was organised using Microsoft Excel. Descriptive statistical analyses, comprising frequencies, percentages and arithmetic means, were used to analyse the teaching behaviours observed during shot put lessons in athletics, with the aim of identifying the most common behavioural categories and their distribution amongst 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 helped to explain the nature of the prevailing training behaviour among coaches in a quantitative and objective manner.

RESEARCH RESULTS

Table 1 presents the results of the structured observation of five physical education teachers, with three lessons per teacher, recording 3,696 teaching behaviours across 15 lessons. This number exceeded the total of 3,600 time intervals because two behaviours were sometimes recorded within a single time interval. General technical instructions (TIG) topped the list of observed behaviours with a frequency of 600, a proportion of 16.23 per cent and a standardised Z-score of 1.75, followed by technical instructions related to errors (TIM) with a frequency of 585, a proportion of 15.83 per cent and a Z-score of 1.66, reflecting the teachers' clear reliance on direct technical guidance and the correction of pupils' errors. Organisation (O) accounted for 11.93 per cent, followed by maintaining control (KC) at 10.88 per cent, which is consistent with the nature of a physical education lesson, which requires the organisation of pupils and equipment, as well as the regulation of movement and safety. Positive reinforcement (R) accounted for 9.82 per cent, general encouragement (EG) for 8.28 per cent, and error-related encouragement (EM) for 8.12 per cent, indicating the presence of support and motivation for pupils, albeit to a lesser extent than instructional and organisational behaviours. Positive and functional behaviours totalled 2,595 occurrences, representing approximately 70.21 per cent of all behaviours, compared with 591 occurrences of negative behaviours (15.99 per cent), which included punishment, lack of reinforcement, punitive instructions and ignoring mistakes. General communication unrelated to the activity (GC) was the least frequent behaviour, accounting for 2.92 per cent with a Z-score of -1.20, indicating that teachers' communication focused on the lesson content. Overall, the results reveal a positive and structured teaching style characterised by technical guidance and performance correction, with a need to increase reinforcement and encouragement and to reduce punitive and negative behaviours.

Table 1. Frequencies, Percentages, Standardised Z-Scores, and Behavioural Polarity of CBAS Behavioural Categories Observed Across Three Lessons for Each of Five Physical Education Teachers in Iraqi Schools

Behavioural Polarity	Z-score	Percentage	Frequency	Behavioural Category	Code	No.
Positive	0.33	9.82%	363	Positive Reinforcement	R	1
Negative	-1.03	3.65%	135	Non-reinforcement	NR	2
Positive	-0.05	8.12%	300	Mistake-Contingent Encouragement	EM	3
Positive	1.66	15.83%	585	Mistake-Contingent Technical Instruction	TIM	4
Negative	-0.84	4.55%	168	Punishment	P	5
Negative	-1.07	3.49%	129	Punitive Technical Instruction	TIM+P	6
Negative	-0.89	4.30%	159	Ignoring Mistakes	IM	7
Neutral/Controlling	0.56	10.88%	402	Keeping Control	KC	8

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Positive	1.75	16.23%	600	General Technical Instruction	TIG	9
Positive	-0.01	8.28%	306	General Encouragement	EG	10
Positive/Functional	0.80	11.93%	441	Organisation	O	11
Neutral	-1.20	2.92%	108	General Communication	GC	12
100.00%			3,696	Total		

Note. Frequencies represent the total number of coded behavioural occurrences recorded during 15 physical education lessons delivered by five teachers, with three lessons observed for each teacher. Each lesson was observed for 20 minutes, comprising 8 minutes of instructional activity, including explanation and demonstration, and 12 minutes of practical activity. Behaviours were coded at five-second intervals, resulting in 240 observation intervals per lesson and 3,600 intervals across all observed lessons. Coding began and ended with a period of stillness. As two behaviours could occasionally be recorded within the same five-second interval, the total number of coded behavioural occurrences ($N = 3,696$) exceeded the total number of observation intervals. Percentages were calculated relative to the total number of coded behaviours. Z-scores were standardised across the frequencies of the 12 behavioural categories using a mean of 308.00 and a population standard deviation of 167.18. Positive Z-scores indicate frequencies above the overall category mean, whilst negative Z-scores indicate frequencies below it. Behavioural polarity reflects the expected instructional function of each CBAS behavioural category.

DISCUSSION

The results showed that the predominant behavioural pattern among physical education teachers was direct technical instruction, with general technical instructions (TIG) ranking first at 16.23 per cent and a standardised (TIM) value of 1.75, followed by error-related technical instructions (TIM) at 15.83 per cent with a standardised value of 1.66. This pattern indicates that teachers focused primarily on explaining how to perform the task, guiding pupils during execution, and intervening to correct motor errors as soon as they occurred. This finding is directly consistent with the study by Tzioumakis et al. (2009), which utilised the CBAS system and found that error-related technical instructions and general technical instructions were the most frequently observed behaviours, followed by encouragement and positive reinforcement. Although that study was conducted in the context of sports training, the similarity in the ranking of the categories reinforces the likelihood that the frequency of technical instructions is a common feature in situations involving the teaching of motor skills, where the learner requires continuous information on how to perform and correct the movement.

The high frequency of technical instructions can also be explained by the nature of physical education lessons, which require the rapid conversion of verbal information into observable motor responses, particularly during the practical activity, which accounted for 12 minutes of the observation period. Mackinney (2025) demonstrated that verbal feedback in physical education lessons varies in terms of its quantity, type and degree of specificity, and that combining positive reinforcement with specific performance-related information is more beneficial than relying solely on general

statements. Therefore, a high TIM score is not in itself a negative indicator; rather, its educational value depends on the accuracy of the information, its timing, and the manner in which it is presented. This is supported by the findings of Vergara-Torres et al. (2020), who found that corrective feedback is more supportive to students when they perceive it as legitimate, fair and geared towards learning and improvement, rather than as a criticism or a threat to their competence. Consequently, the high proportion of technical corrections should be interpreted as a potential strength, provided it is accompanied by supportive language and an opportunity to try again.

Organisation (O) accounted for 11.93 per cent and maintaining control (KC) for 10.88 per cent, reflecting a clear presence of behaviours associated with lesson management. This seems logical in light of the large number of pupils, their spread across a wide area, the use of equipment, and the need to switch between explanation and practical application whilst ensuring safety. This finding is consistent with Kohake (2024), who found that behaviour management and classroom organisation were among the highest quality dimensions for physical education teachers, whilst the quality of feedback () was relatively lower. This comparison highlights the need to distinguish between the frequency and quality of behaviour; a high frequency of organisation or instructions does not automatically imply high teaching quality, unless these behaviours are clear, concise and allow sufficient time for pupils to practise. Similarly, García-Fariña et al. (2018) that analysing communication styles and training teachers in them broadened their repertoire of communicative strategies and increased the use of communication that engages pupils in the construction of learning, which suggests that the direct instructional style can be developed towards a more dialogic and participatory interaction.

On the positive side, behaviours classified as positive or functional accounted for 70.21 per cent, and included positive reinforcement, general encouragement, error-related encouragement, and technical and organisational instructions. This percentage indicates that the overall behavioural climate leaned more towards instruction and support than towards punishment or neglect. However, positive reinforcement and encouragement came after technical and organisational instructions, suggesting that teachers focused more on conveying information and regulating performance than on building motivation and engaging pupils psychologically in learning. A study by Maldonado et al. (2019) found that teachers' support for student autonomy was a positive predictor of intrinsic motivation and concentration in physical education lessons, whilst Van Doren et al. (2021) demonstrated that a motivational teaching style was associated with students' intrinsic motivation, whereas a controlling style was associated with regulated motivation and a lack of motivation. Accordingly, the current findings appear generally positive, but they also point to the need to balance direct instruction with more choices, questions, encouragement and the involvement of students in performance-related decision-making. However, it is not possible to infer from the current percentages an improvement in students' motivation or learning, as the study observed teacher behaviour and did not directly measure student outcomes.

In contrast, negative behaviours accounted for 15.99 per cent and included punishment, punitive technical instructions, a lack of reinforcement, and ignoring mistakes. Although this is lower than the proportion of positive behaviours, its occurrence at this level warrants attention; for the impact of a behaviour is not

determined by its frequency alone, but a single punitive behaviour may have a greater emotional impact than several neutral organisational or instructional responses. A study by Moreno-Murcia et al. (2018) showed that students' perception of a controlling teaching style was negatively associated with their intrinsic motivation, and that this effect extended to a reduced perception of the importance of physical education and intentions to engage in physical activity. Consequently, reducing punishment and corrective instructions accompanied by reprimands should be a goal of professional development, replacing them with specific technical corrections, a calm tone, an explanation of the reason for the error, and giving the student an immediate opportunity to retake the task. Furthermore, ignoring a mistake should not be considered entirely negative in all cases; a teacher may sometimes deliberately choose not to intervene in the case of a minor error to avoid disrupting the flow of the performance, but unjustified repetition of this approach may deprive the pupil of the information necessary for improvement.

As for general communication not related to the activity (GC), it was the least frequent behaviour at 2.92 per cent, with a standardised score of -1.20 , indicating that most of the teachers' communication was related to the lesson content and its organisation. This can be seen as an indication that observation time was invested in the activity; however, the low level of general communication should not always be interpreted as an advantage, as some brief social exchanges may play an important role in building relationships, trust and a sense of belonging. Therefore, the aim should not be to eliminate non-technical communication, but rather to ensure that it does not take up teaching time and that it is used purposefully to support interpersonal relationships and the psychological atmosphere of the lesson.

From a methodological perspective, structured observation in a natural setting provides a direct description of what the teacher does, rather than relying on self-reports; however, the findings should be interpreted within their limitations. The sample was limited to five teachers and three lessons per teacher; therefore, the results represent only the teachers and lessons observed and cannot be directly generalised to all physical education teachers in Iraq. Furthermore, the lessons overlapped across teachers, meaning that the recorded behaviours are not entirely independent observations; in subsequent studies, it would be preferable to present the results for each teacher and each lesson, and then use a multilevel analysis to distinguish between within-teacher variation and between-teacher variation. It is also advisable to report on observer agreement, to analyse the explanation and application phases separately, and to link behaviours to indicators such as the time spent by pupils on the activity, the quality of performance, motivation and enjoyment. Structured observation studies have highlighted the importance of double-coding and verifying observer reliability before drawing conclusions about the quality of teaching (García-Fariña et al., 2018; Kohake, 2024). Furthermore, the Z-values in the table indicate the frequency of each category relative to the average frequency across the twelve categories; they do not constitute a statistical significance test () or evidence that a behaviour is effective or ineffective. Moreover, the polarity of a behaviour is an analytical classification whose criteria should be clarified and should not be treated as an integral part of CBAS calculations.

Overall, the results reveal a structured teaching style dominated by technical guidance and performance correction, with a clear predominance of positive and functional behaviours and a relative decline in punitive behaviours. The key area for

development lies in shifting from the quantity of instructions to the quality of instructions and feedback; from directly controlling pupils to proactive management that supports their independence; and from general encouragement to specific reinforcement that clarifies to the pupil what they have done correctly and how they can continue to improve. In this way, the positive aspects of the current approach can be preserved, whilst building a teaching environment that is more supportive of motivation, engagement and active learning.

CONCLUSIONS AND RECOMMENDATIONS

The research concluded that the predominant teaching behaviour among the observed physical education teachers was characterised by direct technical guidance and continuous lesson organisation, with general technical instructions and error-related technical instructions being the most frequently observed behavioural categories, followed by behaviours related to organisation and maintaining control. This reflects the teachers' focus on explaining motor performance, correcting errors and managing practical activities, which is consistent with the nature of physical education lessons, which require continuous guidance, organisation of movement and equipment, and ensuring pupils' safety. The results also showed a predominance of positive and functional behaviours, which accounted for approximately 70.21 per cent of all observed behaviours, compared with a lower proportion of negative behaviours at 15.99 per cent. This indicates that the teaching climate was generally positive, and that teachers relied more on instruction, encouragement and reinforcement than on punishment or ignoring mistakes. However, the results showed that instructions and organisation were more prevalent than positive reinforcement and encouragement, revealing a teaching style that tends towards teacher control and direct guidance rather than engaging pupils in learning and providing them with opportunities for independence and decision-making. Consequently, the research concludes that it is necessary to maintain clear technical instructions and efficient organisation, whilst increasing the use of positive reinforcement and specific performance-related encouragement, providing corrective feedback in a supportive rather than punitive manner, and reducing punitive behaviours, non-reinforcement and the ignoring of mistakes.

It is also recommended that physical education teacher training programmes and professional development include practical training in the analysis of teaching behaviour, proactive classroom management, and achieving a better balance between technical guidance and psychological and motivational support, thereby contributing to a more positive, participatory and effective learning environment. These findings remain specific to the teachers and lessons observed; this calls for further studies involving larger samples and across different year groups and school settings, whilst linking teaching behaviours to pupils' learning levels, motivation and motor performance.

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