

Qualification et formation continue des entraîneurs : quel poids sur la performance des programmes sport-études au Maroc ?

Coach Qualification and Continuing Training: How Much Do They Weigh on the Performance of Sport-Study Programs in Morocco?.

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Déclaration de divulgation : L’auteur n’a pas connaissance de quelconque financement qui pourrait affecter l’objectivité de cette étude.

Conflit d’intérêts : L’auteur ne signale aucun conflit d’intérêts.

Pour citer cet article : SLAOUI .R, SLAOUI .D & EL FADI .L (2026) « Qualification et formation continue des entraîneurs : quel poids sur la performance des programmes sport-études au Maroc ? », African Scientific Journal « Volume 03, Num 38 » pp: 001 – 018.



DOI : 10.5281/zenodo.22937680

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Résumé

Peut-on faire réussir, en même temps, un élève et un athlète ? C'est le pari que le Maroc a formalisé en 2019 en ouvrant, sous la co-tutelle du Ministère de l'Éducation Nationale et du Ministère de la Jeunesse et des Sports, ses premières filières sport-études dans l'enseignement secondaire public. Le pari repose sur un maillon rarement documenté : l'entraîneur, chargé à la fois d'accompagner la performance sportive et de veiller à la trajectoire scolaire. Cette étude cherche à savoir dans quelle mesure la qualification académique et la formation continue de cet encadrant pèsent sur la réussite du dispositif dans son ensemble.

Nous avons observé dix filières pilotes réparties dans trois régions (Casablanca-Settat, Rabat-Salé-Kénitra, Tanger-Tétouan-Al Hoceima), en croisant trois sources : un questionnaire standardisé rempli par l'entraîneur responsable de chaque filière, six entretiens semi-directifs menés auprès du personnel encadrant, et des données de performance transmises par les coordinateurs régionaux et les fédérations sportives nationales.

Trois indicateurs ont servi à mesurer la performance de chaque filière : un indice scolaire, un indice sportif et un indice global combinant les deux. L'analyse statistique — tests t de Student, corrélations de Pearson, régression linéaire multiple exploratoire — met en évidence un écart net selon le profil de l'encadrant : les filières pilotées par un entraîneur diplômé de l'enseignement supérieur affichent un score global supérieur de 15 à 20 points en moyenne à celles pilotées par un entraîneur sans diplôme universitaire ; la formation continue récente ajoute un gain supplémentaire, plus modeste. Les corrélations restent fortes dans les deux cas ($r > 0,7$), avec la réserve qu'impose un échantillon de dix cas.

Ces résultats plaident pour considérer le capital humain des encadrants comme un déterminant central de la réussite des dispositifs de double projet, et pour instaurer des seuils minimaux de qualification initiale et de formation continue. L'étude reste limitée par la taille de l'échantillon, son caractère transversal et son focus unique sur l'entraîneur; les infrastructures, la coordination pédagogique ou le soutien familial mériteraient d'être intégrés dans des travaux ultérieurs, de préférence à plus grande échelle et dans une perspective longitudinale.

Mots-clés : Sport-études, ressources humaines, performance, Maroc, encadrement

Abstract

Can a student and an athlete succeed at once, within the same person? That is the wager Morocco formalised in 2019 when the Ministry of National Education and the Ministry of Youth and Sports jointly opened the country's first sport-study tracks in public secondary schools. The wager rests on a link that is rarely studied empirically: the coach, who is asked to carry both the athletic project and the academic one. This paper asks how much of the programme's overall success can be traced back to that coach's academic qualification and ongoing professional training.

Ten pilot programmes across three regions — Casablanca-Settat, Rabat-Salé-Kénitra, and Tangier-Tétouan-Al Hoceima — were examined by combining a standardised questionnaire completed by each programme's head coach, six semi-structured interviews with supervisory staff, and performance data supplied by regional coordinators and national sports federations.

Three standardised indicators captured programme performance: an academic score, an athletic score, and a combined overall score. Descriptive statistics, Student's t-tests, Pearson correlations, and an exploratory multiple linear regression were used to relate coach profile (qualification level, continuing training, experience) to these outcomes. Programmes run by degree-holding coaches scored 15 to 20 points higher on average than those run by non-graduate coaches, and recent participation in continuing training added a further, more moderate gain. Correlations between qualification, training, and performance were consistently strong ($r > 0.7$), though the small sample ($N = 10$) calls for caution in how far these coefficients can be generalised.

These findings support treating coaches' human capital as a central lever for the success of dual-career schemes, and argue for minimum thresholds on both initial and continuing training. The study is limited by its small sample, cross-sectional design, and single focus on coaches; future work should widen the lens to infrastructure, pedagogical coordination, and family support, ideally with larger samples followed over time.

Keywords: Sport-study, human resources, performance, Morocco, supervision

Introduction

Combining extensive training in sports with schooling poses great difficulties for many young athletes. The two disciplines take up time and require commitment, and therefore, balancing the two is not easy. Bloom (1985) has noted in his theories of development of talent that the need for proper assistance throughout the whole process cannot be ignored. Failure to get the assistance leads to difficulties in pursuing one's sporting dreams and progressing in school at the same time. It has led many countries to design sport and study programs to create an enabling environment for young athletes to learn and develop their talents in sports.

Morocco took its place in this space in 2019. Together, the two Ministries – National Education Ministry and the Youth and Sport Ministry – established for Morocco the first ever sport-study programs in public secondary schools, equipped with tailored schedules, sports infrastructure, and additional academic mentoring. The goal was clear – produce athletes that can become graduates at the same time. The field assessments made after the establishment revealed some flaws in governance, institutional coordination, and, importantly, in human resource management (Harfi & El-Jazouli, 2022).

There is one lever that has appeared several times in the international literature yet is mostly untouched in Morocco – the coach. Particularly, the level of competence of such an individual as well as their continuous training. Both Berry and Fowler (2019), and Li et al. (2024) have noted that coach's competence affects not only sporting outcomes, but also motivation, wellness, and academic performance of athletes.

The aim of this paper is to assess numerically the impact of the mentioned lever in Morocco – what share of achievements of sport-study athletes can be attributed to qualifications and education of the head coach and their continuous training? This hypothesis is obvious by itself – more educated and trained coaches must deliver better results in all spheres – but, as far as we know, it had not been checked in Morocco.

The ten public schools that came from different parts of the Kingdom provided the information using a combination of figures and interviews. There were two objectives that governed the fieldwork process: the production of a sustainable diagnosis and its subsequent recommendation. Therefore, the present paper deals with the aspect of human resources involved in sports education programs in Morocco and considers the academic qualification of the coach and his/her

participation in the process of continuing education. The objective of the research is to reveal the degree to which these two factors contribute to the overall success of the program analyzed through quantitative and qualitative data gathered from ten pilot tracks. The structure of the paper will include the following: Section 1 - Theoretical background and literature review on the issue of coaching and dual-career development; Section 2 – The description of the gap that the present research is going to fill; Section 3 – Research methodology, i.e., the design of the research, data gathering techniques and analysis; Section 4 – Results; Section 5 – Discussion of the results in terms of the literature review.

1. Theoretical framework and literature review

The model of athlete development proposed by Wylleman and Lavallée (2004) should be taken as the starting point in this discussion, since it implies the necessity to consider the athletic, academic, psychosocial, and transitional aspects of young athletes' lives within one single framework. The ecological concept of talent environment proposed by Henriksen, Stambulova, and Roessler (2010) shares the same opinion: coaches and other staff working together through the years rather than months is essential for such an environment.

Talent schools in The Netherlands (Topsport Talent Schools) and Germany (Sportschulen) serve as examples of how this idea works in reality: intensive academic monitoring, appropriate infrastructure, qualified staff, everything is working in synergy (Van Rens et al., 2012; Capranica & Guidotti, 2016). The assessment made by De Bosscher, De Knop, and Vertonghen (2016) on the basis of Flemish elite sports schools' analysis confirms this idea in a slightly different way: human resources play as important role as infrastructure and financial support and lead to improved resilience, reduced risk behaviors, and balanced life of these schools' students (Ryba et al., 2017). A closer look at the coach itself brings additional focus. Coaching effectiveness is described by Côté and Gilbert (2009) as a combination of technical skills, pedagogical skills, and context perception ability as an extension of their previous research in which the impact of structured practice on building athletic skills was revealed (Côté, Baker, & Abernethy, 2007). Berry and Fowler (2019) estimate the contribution of coaching in a team's performance at 30%. Finally, Li et al.'s (2024) meta-analysis adds training to the list of factors: the coaches that keep improving perform better, apply an educational approach to training, and extract more from the players.

The evidence regarding the above issues in Morocco is limited. However, even this small amount suggests the presence of weaknesses in organisations, as well as a lack of a defined role for coaches (Harfi & El-Jazouli, 2022); Mortabit et al.'s (2025) systematic review also states the tendency of Moroccan sports organisations to seek competitiveness through results without developing human resource capacity.

2. Gap in the literature

Dual-career research is advanced in Europe but scarce in Morocco, and the profiles of coaches in particular – where qualification and training come together to produce an effect – represent the scarcest point in the gap. There has been no study found that uses an integrated measure of performance, both academic and practical, for Moroccan sport studies programs. This is where this paper fits in.

Methodology

1. Design of research

The design of research consists of the core of the quantitative nature, which uses standardised information from questionnaires, and the qualitative element using information from semi-structured interviews. The underlying logic of research is explanatory — tracks run by coaches with better qualifications should work more successfully than those led by less qualified staff, and data should confirm or disprove this.

The use of this mixed methods design was not accidental but deliberate. The research problem under consideration – how important the qualification and ongoing education of a coach is for the program success – requires the researcher to take a positivist approach to epistemology: the research sees coach profile and program success as measurable variables whose link can be established statistically, although the researcher is aware that no matter what he or she does, it will be only an approximation of a broader social reality. The research follows hypothetico-deductive reasoning: the hypothesis based on the literature (the better coach is qualified and trained, the better his or her success is) is tested against the evidence obtained in the field. In other words, the hypothesis is not established through induction but then verified using the data.

2. Methods of data collection and instruments used

Ten pilot tracks, three regions – Casablanca-Settat, Rabat-Salé-Kénitra, and Tangier-Tétouan-Al Hoceima – each one regarded as a separate case (one track in a football department of a certain

high school is equal to one case, for example). There were two tools used for this part of the research: a questionnaire for the coach of each track about his degrees, certification, years of experience and trainings he had recently, and an interview about 30 minutes long with six persons responsible for supervision, which was focused on the nature behind statistics – practice, difficulties, and definition of “success” in their opinion.

Results were obtained from two sources: academic and athletic statistics (percentage of passed students, honors, university enrollment, etc.) were obtained from regional coordinators and verified with national federation data.

Outcomes came from two directions: regional coordinators supplied academic figures (pass rates, honours, university progression) and athletic figures (national selections, competition results, technical progress), cross-checked against national federation records.

3. Methodology for analysis

The statistical package SPSS was employed to perform the descriptive layer of analysis, where means and standard deviations were used to draw up pictures of coaches' profiles and their initial performances. A further layer of analysis would be comparative; here coach profile was contrasted to the outcome by using either t-test or Mann-Whitney test according to the nature of the distribution and correlation was estimated by Pearson correlation coefficient for each connection. The final layer of the analysis was multiple regression to build the model of performance based on qualification and training.

Results

What follows moves from description to inference to interpretation: first the shape of the sample, then the statistical links between coach profile and outcome, then what the interviews add to that picture. Throughout, the question is the same one posed at the outset — does better supervision actually move the needle, and if so, how?

1. Who is coaching these tracks, and how are the tracks doing?

Half the sample - 5 of 10 coaches - holds a university degree; the other half works from certifications and field experience alone. Six have taken at least one training course in the past year; four have taken none. Average experience sits near nine years overall, but splits sharply by qualification: 12–13 years for degree holders against just 5–6 for the rest — in this sample, at least, a diploma and a longer career tend to arrive together.

Figure 1 lays out these staff-profile characteristics side by side: the qualification split, the continuing-training split, and the experience gap between the two groups.

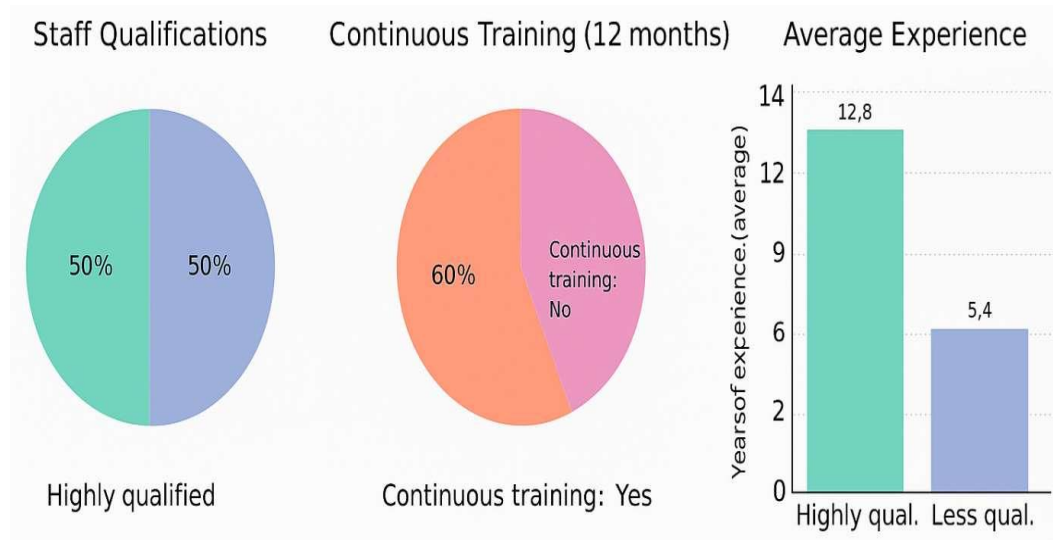


Figure N°1: Profiles of Staff in the Studied Programs

Source: Compiled by the authors based on survey data collected from the ten sport-study programs (2026).

The performance picture is uneven. Athletic scores stretch from roughly 60, for a track with nothing to show at national level yet, to close to 95 for one that competes seriously. Academic scores cover similar ground — around 60 where failures are common and honours rare, up to about 90 where nearly everyone graduates with distinction. Combine the two into an overall index and the range runs from about 65 to 90 out of 100: four tracks clear 85, two sit between 75 and 85, and four fall below 75. Only a handful of tracks manage both dimensions at once; most lean one way or struggle on both.

Split by domain, 40% of tracks reach a strong athletic level and 20% show nothing notable yet; academically, 40% do very well, half sit at an acceptable middle ground, and one track is in real difficulty.

Figure 2 breaks this distribution down by dimension, showing the share of tracks that fall into the low, intermediate, and high bands for global, athletic, and academic performance respectively.

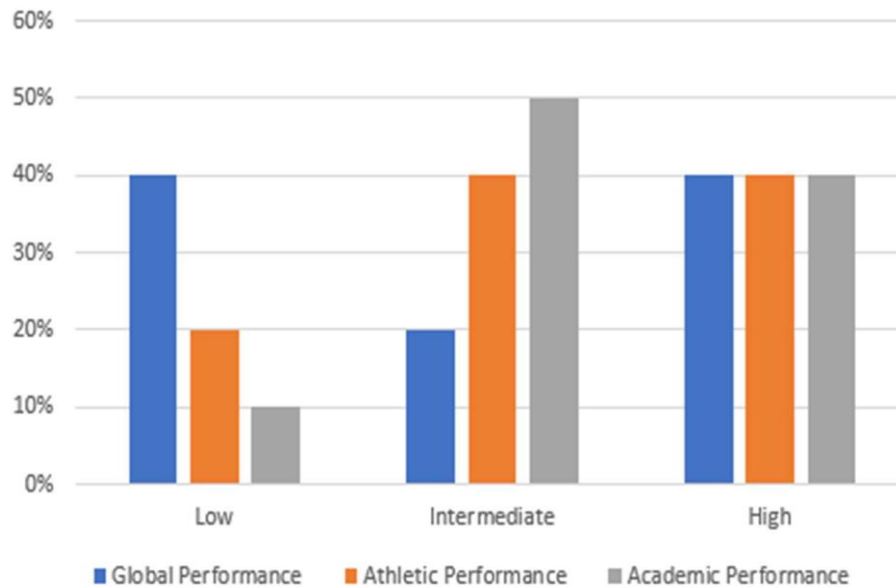


Figure N°2: Distribution of Performance Levels Across the 10 Programs (per dimension)

Source: Compiled by the authors based on survey data collected from the ten sport-study programs (2026).

2. Does a coaching degree actually change outcomes?

Yes, and by a wide margin. Tracks led by a degree-holding coach average 89.5 out of 100 overall; those led by a non-graduate average 72.5 — a 17-point gap that a Student's t-test confirms is not chance ($t = 6.23$; $df = 8$; $p < 0.001$), though with only five tracks per group the result should be read as suggestive rather than conclusive. Academic pass rates run 88% versus 78%; athletic scores run 91/100 versus 68/100 — the sporting gap, if anything, is wider than the academic one. Overall, coach qualification correlates with track performance at $r \approx 0.91$, a strong association by any social-science standard, though the small sample ($N = 10$) counsels caution before generalising it. The pattern tracks with what Thompson et al. (2022) and the Ministry of Education both argue: coaching sits close to the centre of whether dual-career pathways work, a point Thompson and colleagues later reinforced with direct accounts from student-athletes themselves (Thompson et al., 2023).

Figure 3 puts the two bars side by side: 90 points on average for highly qualified coaches against 72 for less qualified ones.

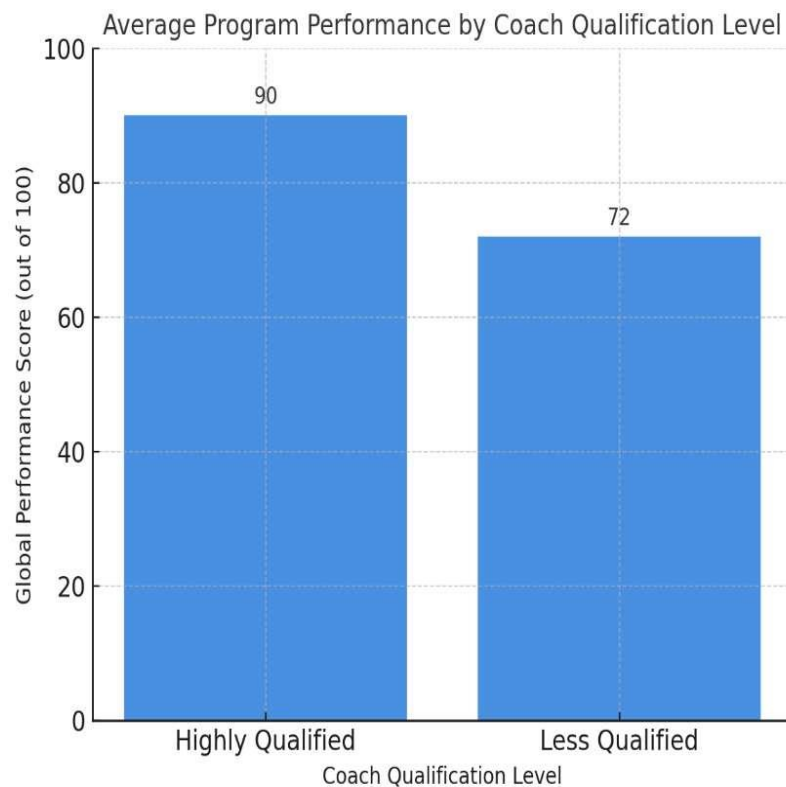


Figure N°3: Average performance of programs according to the coach's qualification level

Source: Compiled by the authors based on survey data collected from the ten sport-study programs (2026).

3. Does ongoing training add anything on top of that?

Yes, though less dramatically. Tracks whose coach trained recently average 86.4 overall; those whose coach did not average 72.9 — a 13.5-point gap, statistically significant ($t = 2.84$; $p \approx 0.021$). Five of the six recently-trained cases score above 80; three of the four untrained cases fall below 75. The correlation between training (yes/no) and overall performance lands at $r \approx 0.71$ — strong, if a notch behind the degree effect.

Figure 4 plots this gap directly: 86 points on average for tracks with a recently trained coach, against 72 for those without.

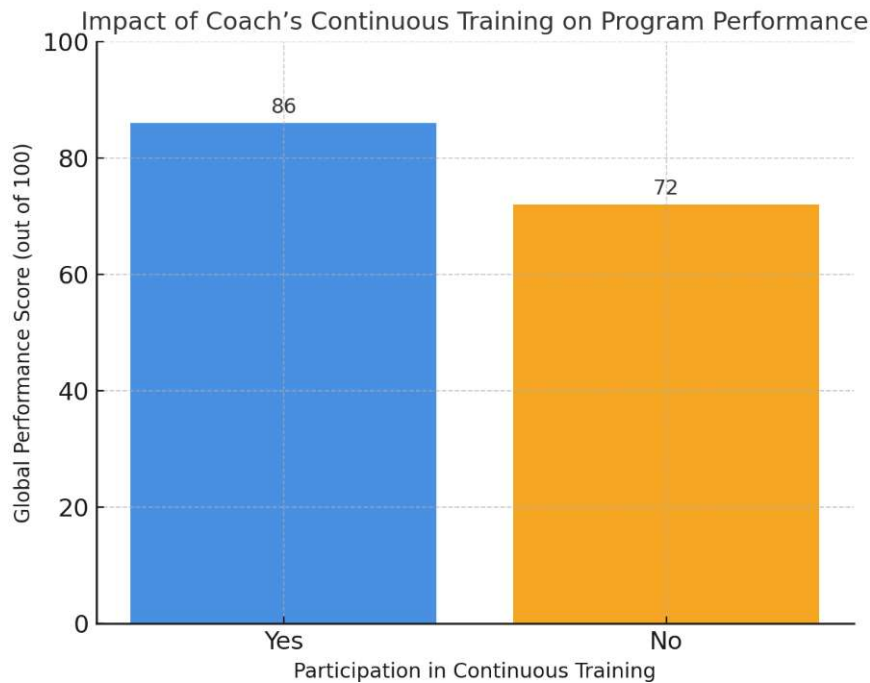


Figure N°4: Average Program Performance Based on Coach's Participation in Continuous Training

Source: Compiled by the authors based on survey data collected from the ten sport-study programs (2026).

The differences noted in the programs can also be demonstrated using two cases in the study. In Casablanca B, the coach is a master's degree holder in sports science and had attended FIFA U17 trainings recently. The program earned an overall score of 89 with an academic success rate of 88% and a national gold medal. However, the case of Kénitra was different because the coach had neither attained a university degree nor had received any professional training recently.

The program scored 75 and an academic success rate of 78% without any national championship. Moreover, the coach had reported having challenges in assisting the students in their mental and academic preparations. On the other hand, the Casablanca coach had reported that professional training had helped improve his efforts in monitoring academic progress of the students and communicating with the teachers. These two cases highlight the impact of professional training on how coaches handle both academic and sports challenges in the programs.

4. Putting the HR variables together

Coach qualification correlates most strongly with every outcome measured: $r = 0.91$ overall, $r = 0.86$ athletically, $r = 0.83$ academically. Training correlates less strongly but still meaningfully,

between 0.54 and 0.61 depending on the measure. Experience alone tells a more mixed story — a moderate link to athletic performance ($r \approx 0.59$), a weak one to academic performance ($r \approx 0.40$), landing at $r \approx 0.54$ overall. Years on the job, in other words, do not substitute for a degree: some long-serving coaches without pedagogical training post weak academic numbers (Fès is one example), while younger, better-credentialed coaches get almost every student through.

Figure 5 summarises these Pearson correlations at a glance: darker cells mark stronger relationships, and qualification (top row) is visibly the darkest across all three performance columns, followed by continuing training, with experience trailing both.

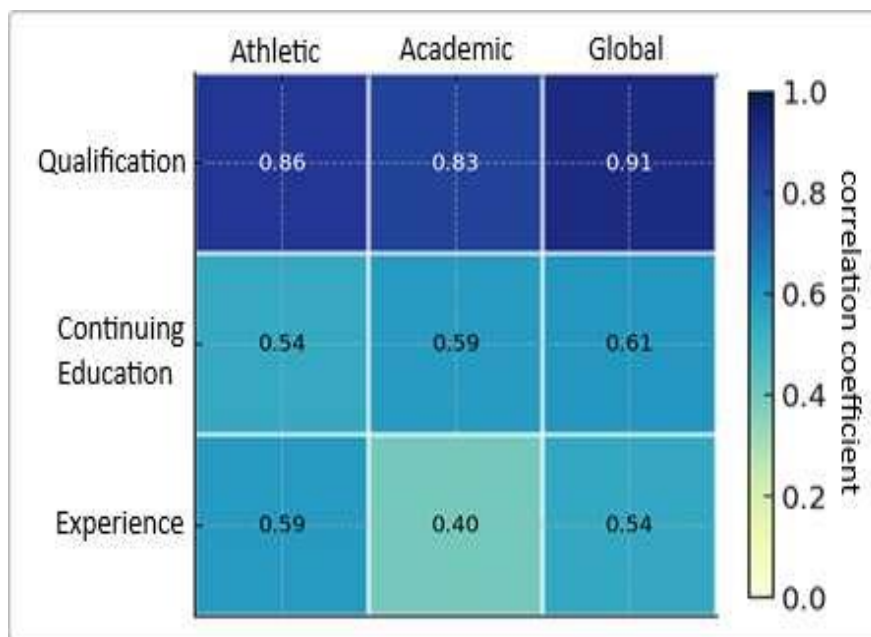


Figure N°5: Pearson Correlation Matrix between Coach-Related Variables (Rows: Qualification, Continuing Training, Experience) and Program Performance Indicators (Columns: Athletic, Academic, and Overall Performance)

Source: Compiled by the authors

based on survey data collected from the ten sport-study programs (2026).

Discussion

The results of this study are consistent with the significance of human resources for the functioning of sport-study programs. It is worth noting that this assertion is supported by many studies on this topic, including the work conducted by Thompson et al. (2022). Our findings are an empirical confirmation of this statement in the Moroccan context. There are evident differences in the

functioning of sport-study programs depending on the level of qualification and professionalism of coaches.

Nevertheless, there is one more factor that is not less important than the above one and that should be taken into account. Indeed, the few anomalies in the correlation found make one conclude about the role of motivation, school culture, and teaching skills in the development of sports programs.

The mechanism itself is fairly intuitive once you look for it. A well-trained coach plans the season around the exam calendar rather than against it — lighter training loads before exams, catch-up sessions after competitions — which is close to what Rongen et al. (2018) call "informed management": the problem was never the sport-study concept itself, but how it gets run day to day. The most qualified coaches in this sample track grades individually, talk to teachers regularly, and adapt training around academic need — excusing a student struggling in maths from a session so they can get tutoring, for instance.

Even qualified coaches, though, run into limits that have nothing to do with their own competence: thin infrastructure, weak coordination with the school, little institutional recognition of the dual role they are asked to play. Effectiveness, in other words, is not purely a personal trait — it depends on the system around the coach as well.

The academic payoff of good coaching shows up directly in the numbers above. Less-trained coaches, conversely, often lack the tools to monitor academic progress and can end up treating schoolwork as someone else's problem — exactly the divide Harfi and El-Jazouli (2022) flagged in Morocco's pilot academies, which they tied to weak coordination and training. Coaches with a higher-education background appear better placed to close that gap.

On the athletic side, the payoff is just as visible. A Tanger A coach with a sports-science master's built a training-load monitoring system that kept injuries and fatigue in check; a comparable track without that expertise saw two serious injuries in one season. The academic credential, in that case, translated directly into athlete safety.

Pull back further and the implication is that sport-study schemes do not run themselves — they need continuous investment in the people running them, or they drift toward a cycle of weak results, disengagement, and eroding support. Strong coaching does the opposite: it builds momentum, which Stambulova (2015) has documented elsewhere, and which argues for early intervention before gaps between schools harden into something structural.

The findings of this study point to several areas in which the management of coaches could be strengthened. One priority concerns their initial qualifications. Requiring a degree in physical education, sports science, or coaching could provide a more consistent foundation for working within sport-study programmes. For coaches who do not hold a university degree, access to recognised professional qualifications, including DESJEPS-type training, could be facilitated through partnerships with specialised institutions or universities. Continuing professional development is equally important.

Regular training could address issues that coaches encounter in their daily work with student-athletes, particularly dual-career management, pedagogy, and youth sport psychology. Greater attention should also be given to coordination between the sporting and academic sides of these programmes. Assigning an academic referent to work alongside the coach could help improve communication and the monitoring of students' progress. Such an approach is consistent with the emphasis placed by Lindner (2002) and Martel (1995) on coordination among the different actors involved in student-athlete development. More recently, De Maio et al. (2025) also highlighted the value of institutional dual-career committees bringing together coaches, teachers, and pedagogical staff.

Concretely, that means: a national minimum qualification for sport-study coaches, ideally a degree in physical education or coaching science; an annual training seminar on dual-career management, jointly run by education and sport authorities; and a formal coach–referent pairing in every track, tasked with tracking student progress together.

Zoom out to policy level and the case is for genuine competency management alongside the sport-study rollout — assigning students and coaches to tracks is not enough if the coaches lack the skills the role demands. Get this right and the payoff extends past the school gates, since many of these coaches also work with clubs outside the education system.

None of this changes the bottom line: human resource management, and coach qualification and training specifically, decides how well sport-study tracks perform in Morocco. The gap between well-trained and under-trained staff is not a rounding error — it shows up in real pass rates and real medals, and it confirms both the study's starting hypothesis and what the international literature already suggested about coaching's place in dual-career pathways.

Limitations and future directions

Ten tracks is a small sample, and it limits how far these findings travel across sports, regions, or socio-economic contexts in Morocco. The analysis also looks at coaches alone — teachers, families, and pedagogical coordinators sit outside its scope, as does the possibility of harm from an overly intensive dual workload, which Moazami-Goodarzi, Sorkkila, Aunola, and Ryba (2020) documented as burnout in Finnish sport high schools and which Moroccan evaluations would do well to watch for. Qualification itself was treated as binary — degree or no degree — without distinguishing level or field of study. And the cross-sectional design cannot follow any student-athlete's trajectory, or any track's performance, over time.

A larger, more diverse sample; other actors in the system; sharper explanatory variables; a longitudinal design — all four would sharpen what this study could only sketch.

Conclusion

The performance level of track and field teams in Moroccan sports academies depends in part on the educational qualification and level of continuous education of human resources - in other words, the coaching staff. The difference between the two is quite tangible since it is expressed through the rate of success and medals; it confirms both the hypothesis of the paper and the general international experience.

It would be logical to proceed to a structured human resources management system based on the above-mentioned conclusion. In the short-term perspective, basic recruitment criteria and required training would increase the basic level. In the long run, institutional management would connect coaching staff, teachers, administrative personnel, and families into one system, which would allow for monitoring the individual athlete-scholars and setting goals.

However, the implications of these results could be extended beyond the Moroccan case as well. It is possible that the experiences of other countries could help in the formation of more efficient national sport-education policies. In Morocco, it would be helpful to improve the professionalism of coaches and to ensure the better coordination of all parties involved, which could result in the future success of this model of sport and education. Nevertheless, human resources management is not the only issue involved in this process. It would be necessary to pay attention to the influence of other factors on student-athletes.

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