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Coaches' Experiences and Evaluations Towards Sports Technologies

"Antrenörlerin Spor Teknolojilerine Yönelik Deneyimleri ve Değerlendirmeleri"

Yusuf KURT[1] & Onur ÖZTÜRK[2]

ORGINAL ARTICLE

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Authors Communications
1-(Corresponding Author) İnönü University, Institute of Health Sciences, Malatya, TÜRKİYE.
e-mail: yusufkurt0046@gmail.com
https://orcid.org/0000-0002-6066-6109
2-İnönü University, Institute of Health Sciences, Malatya, TÜRKİYE.
e-mail: onur_ozturk_44@hotmail.com
https://orcid.org/0000-0002-7630-6861

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ABSTRACT

Aim: This study aimed to explore coaches' experiences and evaluations regarding the use of sports technologies across different sports branches.
Material and Method: This qualitative study used a descriptive phenomenological design. Participants were selected through purposive maximum variation sampling and consisted of nine actively working coaches (6 males and 3 females) from different individual and team sports. Data were collected through semi-structured individual interviews and analyzed manually by a single researcher using content analysis within a descriptive phenomenological framework.
Results: Participants reported using various sports technologies, including video analysis systems, performance analysis software, physiological and physical performance measurement tools, and anthropometric assessment methods, particularly in performance evaluation, training planning, and competition processes. They perceived these technologies as useful for talent identification, individualized training, training-load regulation, and performance monitoring. Technology use varied in relation to economic conditions, institutional opportunities, educational background, and sport-specific characteristics, while some participants identified cost and accessibility as limitations. Participants also emphasized that technology should support coaches' decisions. Regarding future developments, they anticipated a greater role for artificial intelligence-supported applications and video analysis systems in training and competition processes.
Conclusion: Within this study, participants perceived sports technologies as supportive resources for performance analysis, training planning, talent identification, competition processes, and individualized training. Their experiences suggest that technology use may vary according to economic conditions, institutional opportunities, coaches' education, and sport-specific characteristics. Participants also viewed technology as a resource for supporting coaches' decisions and anticipated that artificial intelligence-supported applications and video analysis systems may play a greater role in future sports environments.

Keywords: Artificial İntelligence, Coach, Performance Analysis, Sports Technologies.

ÖZET

Amaç: Bu çalışma, farklı spor dallarında spor teknolojilerinin kullanımına ilişkin antrenörlerin deneyimlerini ve değerlendirmelerini araştırmayı amaçlamıştır.
Materyal ve Metot: Bu nitel çalışma, betimleyici fenomenoloji deseni kullanılarak yürütülmüştür. Katılımcılar amaçlı örnekleme yöntemlerinden maksimum çeşitlilik örneklemesiyle belirlenmiş ve farklı bireysel ve takım sporlarında aktif olarak görev yapan dokuz antrenörden (6 erkek, 3 kadın) oluşmuştur. Veriler yarı yapılandırılmış bireysel görüşmeler yoluyla toplanmış ve betimleyici fenomenolojik çerçevede içerik analizi kullanılarak tek araştırmacı tarafından manuel olarak analiz edilmiştir.
Bulgular: Katılımcılar; özellikle performans değerlendirme, antrenman planlama ve müsabaka süreçlerinde video analiz sistemleri, performans analiz yazılımları, fizyolojik ve fiziksel performans ölçüm araçları ile antropometrik değerlendirme yöntemleri gibi çeşitli spor teknolojilerini kullandıklarını belirtmiştir. Katılımcılar bu teknolojileri yetenek seçimi, bireyselleştirilmiş antrenman, antrenman yükünün düzenlenmesi ve performans takibi açısından yararlı olarak değerlendirmiştir. Teknoloji kullanımının ekonomik koşullar, kurumsal olanaklar, eğitim durumu ve branşa özgü özelliklere göre farklılık gösterdiği; bazı katılımcıların ise maliyet ve erişilebilirliği sınırlayıcı unsurlar olarak değerlendirdiği görülmüştür. Katılımcılar ayrıca teknolojinin antrenörlerin kararlarını desteklemesi gerektiğini vurgulamıştır. Geleceğe ilişkin olarak, yapay zekâ destekli uygulamaların ve video analiz sistemlerinin antrenman ve müsabaka süreçlerinde daha fazla rol üstlenebileceğini öngörmüşlerdir.
Sonuç: Bu çalışma kapsamında katılımcılar, spor teknolojilerini performans analizi, antrenman planlaması, yetenek seçimi, müsabaka süreçleri ve bireyselleştirilmiş antrenmanda destekleyici araçlar olarak değerlendirmiştir. Katılımcı deneyimleri, teknoloji kullanımının ekonomik koşullar, kurumsal olanaklar, antrenörlerin eğitimi ve branşa özgü özelliklere göre farklılık gösterebileceğine işaret etmektedir. Katılımcılar ayrıca teknolojiyi antrenör kararlarını destekleyen bir araç olarak değerlendirmiş ve yapay zekâ destekli uygulamalar ile video analiz sistemlerinin gelecekte spor ortamlarında daha fazla rol üstlenebileceğini öngörmüştür.

Anahtar Kelimeler: Antrenör, Performans Analizi, Spor Teknolojileri, Yapay Zekâ

INTRODUCTION

Technology has become one of the determining elements in the development of today's societies. Applications that facilitate human life and ensure a more efficient use of time emerge through the transfer of knowledge into daily life. Technology is not a structure consisting only of mechanical or digital tools. At the same time, it includes theoretical, organizational, and social dimensions. For this reason, technology is evaluated as an integrated concept with science, production processes, organization, culture, and society (İşman, 2001). This situation shows that technology is not only an instrumental but also a systemic structure.

Technological developments also directly affect the field of sports. While sports contributes to the emergence of many technological innovations, it has also become one of the fields that benefits from these innovations. Advances in the fields of science and engineering have increased the level of competition at different levels of sports and changed performance expectations. In line with these developments, the use of technology has become widespread in many areas from organizations to equipment. Thus, technological applications contribute to the improvement of athlete performance and to the more systematic execution of sports organizations (Can et al., 2011). In this respect, sports and technology can be evaluated as two dynamic structures that affect each other.

The use of technology in sports sciences is constantly developing and its scope is gradually expanding. Especially the developments experienced in the last century have increased the desire to reach high-level performance in a short time and contributed to the widespread use of technology-based applications (Haake, 2009; Camkıran et al., 2021). Technology-supported facilities and laboratories offer important opportunities in terms of evaluating performance, monitoring athlete characteristics, and planning training processes. Thanks to analysis systems, multi-camera applications, advanced network structures, and various software, performance and tactical evaluations can be carried out in a more systematic way (Yıldız & Algül Doğu, 2022). This situation contributes to training processes becoming more measurable and plannable.

Technological applications are used not only in performance analysis but also in organization and competition management. While network and broadcasting technologies facilitate organizational processes, optical tracking and image analysis systems support coaches' decision-making processes. Recording and analyzing competitions and making tactical adjustments accordingly can be shown as examples of these applications (Andreassen, 2018). These developments suggest that coaching is changing from an experience-based structure towards a more data-informed structure. Especially in team sports, technological measurements are utilized in determining performance variables such as running distance, speed changes, and tactical positioning (Ünlü et al., 2018).

Feedback obtained from technological devices provides important data for improving performance and evaluating injury risk. These data contribute to coaches making more objective evaluations (Adesida et al., 2019). Thus, performance analysis can complement subjective observations with measurable data. The dynamic structure of sports makes it necessary to adapt to changing conditions. Digitalization, which is one of these changes, accelerates information access and data transfer processes (Akgöl, 2019). The integration of technology into the sports environment has created changes in many areas, from training methods to competition management (Ak, 2021). While wearable technologies support performance tracking, applications such as VAR contribute to decision-making processes in competition management. At the same time, the integration of technology into sports practice is not without limitations. Recent evidence on wearable technologies has highlighted issues such as cost, measurement

accuracy, privacy, and technical requirements, indicating that the availability of technological tools alone does not necessarily guarantee their effective use in practice (Seçkin et al., 2023).

Recent research has shown that sports technologies are increasingly being investigated in relation to athlete performance, training optimization, injury prevention, physiological monitoring, and performance analysis (Camomilla et al., 2018; van der Kruk & Reijne, 2018; Seçkin et al., 2023). However, the growing evidence on the performance-related benefits of technology has not been accompanied by an equally comprehensive understanding of how coaches adopt, interpret, and integrate these technologies into their everyday professional practice. Research involving coaches has shown that technology adoption is associated with factors such as technological self-efficacy, perceived complexity, and perceived relative advantage; importantly, sport-specific implementation challenges and barriers to acquiring and using new technologies have been identified as areas requiring further investigation (Jaswal et al., 2019). Similarly, research on specific technologies has demonstrated that implementation may be constrained by practical considerations, software quality, the strength of available evidence, and the demands placed on users, suggesting that successful technological integration depends on more than technological availability alone (Thatcher et al., 2020).

More recent qualitative evidence further indicates that sports technologies are becoming embedded in coaching workflows and decision-making processes, including athlete assessment, practice planning, individualized athlete management, and injury management. Nevertheless, there remains a need to better understand how coaching staff select technologies, integrate technology-generated information into professional decisions, and manage the practical demands associated with their use (Brewer et al., 2025). Moreover, existing studies often focus on particular technologies, specific competitive environments, or selected groups of coaches. Consequently, further investigation across different sporting contexts is warranted to understand how the role and perceived usefulness of technology may vary according to sport-specific demands and institutional opportunities. In addition to perceived benefits, issues such as cost, accessibility, technological competence, data interpretation, and the reliability and practical usefulness of technology-generated information require consideration from the perspective of coaches who use, evaluate, or make decisions based on these systems. Coaches' expectations regarding emerging technologies, particularly artificial intelligence-supported applications, advanced data analysis, and digital performance systems, also constitute an important area for understanding the future direction of technology-supported coaching.

Accordingly, this study aimed to examine coaches' experiences and evaluations of sports technologies across different sports branches, with particular focus on the technological tools they use; their perceived contributions to athlete performance and talent identification; their effects on training and competition processes; coaches' education and competencies related to technology use; economic, institutional, and accessibility-related challenges encountered in their implementation; perceived differences in the role of technology across sports branches; and coaches' expectations regarding the future development of sports technologies, including artificial intelligence-supported applications.

The main purpose of this research is to examine the opinions, attitudes, and experiences of coaches working in different sports branches and at different expertise levels regarding the technologies used in the sports environment. Within the scope of the research, the effects of technology on training processes, performance analysis, and talent identification were evaluated from the coach's perspective. In addition, it was aimed to determine the access levels of coaches to technological opportunities, the financial and institutional limitations they encounter during the usage process, and their expectations towards future technological developments.

MATERIAL AND METHOD

Ethical Approval

Ethical approval for the study was obtained from the İnönü University Social and Human Sciences Scientific Research and Publication Ethics Committee prior to data collection (Session No. 9, Decision No. 38, dated May 22, 2026). Participation was voluntary, and informed consent was obtained from all participants. Confidentiality and anonymity were maintained throughout the research process, and participants were identified using codes (P1–P9) in the presentation of the findings.

Research Design

The present study was conducted using a descriptive phenomenological design within the qualitative research approach (Gill, 2014). Descriptive phenomenology seeks to explore and describe individuals' lived experiences of a particular phenomenon and to identify the common meanings underlying these experiences. This approach was considered appropriate for the present study because the primary aim was to understand how coaches experience, perceive, and evaluate sports technologies in their professional practice rather than to test predetermined assumptions or establish causal relationships. Accordingly, the phenomenon under investigation was defined as coaches' lived experience of using and engaging with sports technologies in coaching practice. The analysis focused on identifying recurring meanings and shared experiential themes across participants' accounts while remaining grounded in their descriptions. Thus, the descriptive phenomenological approach enabled an in-depth examination of both the opportunities associated with sports technologies and the practical conditions shaping coaches' experiences of their use.

Data Collection Tool

Data were collected using a semi-structured interview form developed in accordance with the purpose of the study. The interview form consisted of open-ended questions designed to explore coaches' experiences, opinions, and evaluations regarding sports technologies. Prior to data collection, the interview questions were reviewed by two experts, one in Sports Management and one in Coaching Education. The experts evaluated the questions in terms of their relevance to the research purpose, clarity, comprehensibility, and applicability across different sports branches. Based on their feedback, the wording of some questions was refined to improve clarity and reduce potential ambiguity, and conceptually similar expressions were reviewed to avoid unnecessary repetition. The final version of the interview form was prepared following these revisions.

Data Collection Procedure

Data collection was conducted between 23 and 31 May 2026 through individual semi-structured interviews. Depending on the participants' availability and preferences, the interviews were conducted either face-to-face or remotely. Face-to-face interviews were conducted in the coaches' rooms at the sports facilities, which provided a quiet and appropriate setting for individual interviews, whereas remote interviews were conducted via Zoom or GSM-based voice/video calls. All interviews were conducted by the corresponding author, and there was no prior professional relationship between the interviewer and the participants.

Before each interview, participants were informed about the purpose and procedure of the study, and their consent for participation and recording was obtained. With the participants' permission, the interviews were audio or video-recorded and subsequently transcribed verbatim for analysis. Each interview lasted approximately 18–20 minutes. The semi-structured interview format allowed the interviewer to use follow-up and probing questions when clarification or further elaboration was needed.

Data adequacy was evaluated progressively throughout the data collection process by considering the informational contribution of each subsequent interview and the recurrence of meanings and patterns relevant to the research questions. In the later interviews, participants' accounts largely reinforced the meanings and patterns identified in earlier interviews, and no substantially new codes or thematic areas emerged. Accordingly, data collection was concluded after the ninth interview because the dataset was considered sufficiently rich to address the purpose of the study. Rather than relying solely on a predetermined numerical threshold, this decision was based on the informational contribution of the interviews, consistent with the information power perspective, which emphasizes the study aim, sample specificity, quality of dialogue, and analysis strategy when assessing sample adequacy in qualitative interview studies (Malterud et al., 2016). This approach is also consistent with recent methodological evidence indicating that sample adequacy and thematic saturation in qualitative research should be considered in relation to the type of analysis and the extent to which additional interviews contribute new thematic information (Wutich et al., 2024).

Data Analysis

The collected data were analyzed using content analysis within the descriptive phenomenological framework of the study. The analysis and coding were conducted manually by a single researcher without the use of qualitative data analysis software. First, the interview transcripts were read repeatedly to obtain a holistic understanding of the data. Meaningful statements related to coaches' experiences and perceptions of sports technologies were identified and coded. Conceptually similar codes were grouped into categories, which were subsequently organized into broader themes representing recurring and shared meanings across participants' accounts. Throughout the analysis, the researcher continuously compared the codes, categories, and emerging themes with the original interview transcripts to ensure that the interpretations remained grounded in the data and reflected participants' experiences. As all coding was conducted by a single researcher, no independent second-coder comparison or inter-coder agreement assessment was performed. Analytical consistency was supported through repeated examination of the transcripts and iterative comparison between the original data and the developing coding structure.

Sample of the Research

A purposive sampling strategy based on the principle of maximum variation sampling was employed in this study. Since the aim of phenomenological research is to explore the shared meanings and lived experiences related to a common phenomenon rather than to compare specific groups, coaches from different sports branches who had direct experience with sports technologies were intentionally selected. The inclusion of participants from diverse sporting contexts was intended to capture a broad range of experiences while identifying common perceptions, evaluations, and meanings attributed to sports technologies across coaching practice. The study group consisted of a total of nine coaches aged between 32 and 44 years. Of the participants, six were male and three were female. All participants were actively employed and their coaching experience ranged from 6 to 23 years. The participants represented

both team sports (football, volleyball, and handball) and individual sports (judo, wrestling, swimming, court tennis, table tennis, and badminton). Their coaching certifications were predominantly at Level II and Level III. Although the participants differed in terms of sports branch, age, and professional experience, they all shared direct experience in the use, evaluation, or decision-making processes related to sports technologies within their coaching practices. Therefore, the focus of the analysis was not on branch-specific differences but on identifying common experiential themes concerning the phenomenon of sports technology use. During the coding process, no systematic differences in the major themes were observed according to participants' age or coaching experience, and the findings were interpreted based on shared experiences rather than demographic characteristics. Data collection continued until sufficient thematic richness was achieved. As the later interviews did not generate substantially new codes or themes beyond those already identified, the interview process was concluded after nine participants. The resulting data were considered adequate to address the research purpose by providing rich descriptions of coaches' experiences with sports technologies.

Table 1. *Participants' Demographic İnformation*

Participant Code	Gender	Age	Coaching Experience (Years)	Branch and Level
P1	Male	36	11	UEFA B Licence (Football)
P2	Male	39	13	III. Level (Judo)
P3	Female	38	14	III. Level (Court Tennis)
P4	Male	34	6	III. Level (Handball)
P5	Male	34	9	III. Level (Table Tennis)
P6	Female	35	12	II. Level (Swimming)
P7	Male	32	10	III. Level (Volleyball)
P8	Female	44	23	III. Level (Badminton)
P9	Male	36	14	II. Level (Wrestling)

Development of the Semi-Structured Interview Form

The semi-structured interview form was developed in line with the purpose of the study and the relevant literature on sports technologies, coaching practices, and qualitative interviewing. The questions were designed to explore coaches' experiences, perceptions, and evaluations regarding the use of sports technologies in training, competition, talent identification, and performance monitoring. Particular attention was paid to ensuring that each question addressed the research objectives while allowing participants to describe their experiences in their own words.

During the interviews, participants were encouraged to express both positive and negative experiences related to sports technologies. When necessary, follow-up and probing questions were asked to clarify participants' responses and to obtain richer descriptions of their experiences. This flexible interview process helped minimize response bias and supported a comprehensive exploration of the phenomenon under investigation.

Interview Questions

- ✓ Do you use any technological device or software in training and competition processes in order to collect performance, physiological, or technical data from athletes? If you use them, could you explain their types and purposes of use?
- ✓ Do you think technological measurement and analysis tools are effective in talent identification processes in sports? What are your opinions about the contributions of these tools to the processes of athlete selection and orientation to branches?

- ✓ Have developments in sports technologies (for example, heart rate tracking systems, GPS applications, video analysis tools, etc.) had any effect on your training or competition planning processes? If they have, could you explain these changes?
- ✓ Have you received any training, seminar, or course regarding the use of sports technologies? If you have, could you give information about the content of these trainings and their contributions to your professional practices?
- ✓ Would you evaluate the costs of equipments and softwares used in sports technologies in terms of the economic opportunities of your club or institution? What are the situations you encounter regarding access to these technologies?
- ✓ Do you think the effect of technological applications on sporting success is at a similar level in all sports branches? If you think it shows differences according to branches, could you explain with reasons?
- ✓ What kind of an effect do you think the use of sports technologies has on the nature of sports, the structure of competition, or the coach-athlete relationship? What are your positive or negative evaluations on this matter?
- ✓ Do you think developing sports technologies are effective in the performances of athletes or clubs that are successful in high-level sports organizations? Would you evaluate in which areas these technologies provide contributions?
- ✓ When evaluated specifically to your own branch, what kind of a development do you think sports technologies will show in the future? Especially, what are your opinions about the possible effects of applications such as artificial intelligence, data analysis, and digital performance systems on the sports environment?

RESULTS

Table 2. *Coaches' Status of Technological Device Use in Collecting Data from Athletes*

Theme	Sub-Theme	Codes	Examples from Participant Expressions	Description
Technology Use in Sports Training	Coaches Using Technology	Video analysis systems	"Video recorder, analysis program…" (P1, P5, P8, P9)	Evaluation of performance from a technical and tactical perspective
		Physical performance measurement devices	"Distance measurer, strength measurement equipments…" (P1, P9)	Monitoring the physical capacity of the athlete
		Physiological measurement tools	"Lactate and hemoglobin measurement…" (P6)	Tracking the biological effects of the training load
		Anthropometric measurement tools	"Height, weight, flexibility device, Tanita…" (P3, P6)	Evaluation of body structure and development
		Performance analysis software	"Statistics programs, conditioning tracking applications…" (P6, P9)	Numerical and graphical analysis of data
	Coaches Not Using Technology	Not using technology	"No, I do not use." (P2, P7)	Lack of access to or preference for technology
		Insufficiency of club opportunities	"Our club does not possess any device." (P4)	Lack of institutional support

When Table 2 is examined, it is seen that coaches utilize various technological tools and softwares in performance tracking, technical analysis, and physiological evaluation processes. Especially, it draws attention that video analysis systems and performance tracking applications are widely used in different branches. In contrast, it has been determined that some coaches do not use technology, and they show the insufficiency of club opportunities and access limitations among the main reasons for this.

Table 3. *Coaches' Opinions Regarding the Effectiveness of Technological Devices in Talent Identification in Sports*

Theme	Sub-Theme	Codes	Examples from Participant Expressions	Description
Effectiveness of Technology in Talent Identification in Sports	Contribution of Technology to Talent Identification	Accurate and reliable data	"More accurate and reliable data are obtained." (P1, P6)	Objective and scientific evaluation
		Measurement of physical characteristics	"Strength, speed, agility and endurance…" (P9)	Clear determination of performance
	Orientation to Branch and Athlete Selection	Appropriate orientation to branch	"Orientation to the most appropriate branch is made." (P3, P7, P8)	Accurate branch selection
		Identification of talented athletes	"Talented athletes are reached." (P3)	Early talent discovery
		Long-term athlete development	"Important in terms of long-term athlete development." (P9)	Sustainable success
	Efficiency and Time Saving	Saving of time and space	"Saving from time and space." (P5)	Ease of application

When Table 3 is examined, it is seen that coaches think technological tools provide important contributions in talent identification processes in sports. Participants especially emphasized the more systematic evaluation of physical and performance characteristics. In addition, it has been expressed that technological applications are beneficial in terms of orienting athletes to appropriate branches, determining talented individuals, and planning long-term development processes. Along with this, some participants stated that technological applications provide convenience of time and application.

Table 4. *Coaches' Opinions Regarding the Effect of Developing Sports Technologies on Training and Competition Methodology*

Theme	Sub-Theme	Codes	Examples from Participant Expressions	Description
Effect of Sports Technologies on Training and Competition Methodology	Regulation of Training Load and Intensity	Adjusting training load	"I can adjust the training load." (P1, P7, P9)	Controlled loading
		Intensity and duration control	"We adjust the duration and intensity of the training." (P6, P8)	Effective planning
		Prevention of overloading	"Prevention of overloading…" (P9)	Reduction of injury risk
	Performance Tracking and Feedback	Video analysis	"We determine the mistakes after the video recording." (P1, P3)	Technical development
	Scientific and Individualized Training	Data-driven planning	"Scientific training programs." (P6, P9)	Scientific approach
		Individual differences	"By taking individual differences into consideration Adi..." (P9)	Personalization
	Limitations of Technology Use	Not using technology	"I do not use." (P2)	Lack of equipment
		Believing in potential benefit	"If used, it will provide development." (P4, P5)	Positive attitude

When Table 4 is examined, it is seen that coaches think sports technologies provide various contributions in training and competition processes. Participants especially expressed that technological tools are utilized in training load, intensity, and duration planning. In addition, it has been stated that video analysis systems are used in technical evaluation and feedback processes. Some coaches emphasized that data-driven planning contributes to taking individual differences into consideration. On the other hand, participants who do not use technology expressed that if appropriate opportunities are provided, these applications can contribute to performance development.

Table 5. *Coaches' Opinions Regarding the Trainings They Received on Technology Use in Sports*

Theme	Sub-Theme	Codes	Examples from Participant Expressions	Description
Education Status Towards Technology Use in Sports	Those Who Received Training	Statistics and data analysis training	"I received statistics training." (P7)	Scientific analysis of performance data
		Talent scanning and performance tests training	"I received training on talent scanning in sports." (P3, P8)	Knowledge on physical and physiological tests
		Video analysis training	"Use of video analysis programs…" (P9)	Evaluation of technical-tactical mistakes
		Anthropometric measurements training	"I received training on anthropometric measurements during university education." (P3)	Measurement of athlete body structure
		In-service seminars and personal tracking	"With in-service trainings and seminars…" (P9)	Continuous development and technology tracking
	Those Who Did Not Receive Training	Not receiving training	"I did not receive any training." (P1, P2)	Lack of formal education
		Wanting to receive training	"I would like to receive training." (P4, P5)	Motivation and desire exist
		Acquiring indirect knowledge through club support	"The statistician of the club is available." (P1)	Acquiring knowledge but no individual training

When Table 5 is examined, it is seen that some coaches received various trainings towards technology use in sports, while some participants do not have a formal education background on this matter. It draws attention that coaches who received training especially focused on subjects of statistics, performance analysis, video analysis, anthropometric measurements, and talent scanning. On the other hand, participants who did not receive training expressed that they try to acquire knowledge regarding technology through club support, individual interest, or personal tracking. Along with this, it has been determined that some coaches are willing to receive training towards technology use.

Table 6. *Coaches' Opinions Regarding the Accessibility of Sports Technological Equipments According to Club Opportunities*

Theme	Sub-Theme	Codes	Examples from Participant Expressions	Description
Accessibility of Sports Technological Equipments and Club Opportunities	High Cost of equipments	High cost	"Equipments are quite expensive." (P1, P2, P3, P4, P7, P8)	Club budget is limited, access to all equipments is restricted
		Financial barriers	"Many clubs are insufficient to buy." (P2, P7)	Difficulty of access
	Partial or Alternative Access	Access to basic equipments	"Access to some equipments can be provided." (P1, P9)	Basic systems are available
		Rental method	"We can reach through rental method." (P6)	Alternative solution
		Initiative of club management	"At the initiative of the club management." (P5)	Management decision is important
	Need for Financial Support	Support for infrastructure and amateur clubs	"Financial support is necessary for infrastructure and amateur clubs." (P9)	Financial support for the widespread use of equipments

When Table 6 is examined, it is seen that coaches bring economic limitations to the forefront regarding access to sports technological equipments. Participants especially expressed that due to the high cost of equipments, many clubs cannot reach technological tools at a sufficient level. Along with this, some coaches stated that access to basic level equipments can be provided or alternative solutions

such as the rental method are utilized. In addition, opinions have been expressed in the direction that financial supports towards infrastructure and amateur clubs can contribute to the widespread use of technology.

Table 7. *Coaches' Opinions Regarding the Effect of Technology According to Sports Branches*

Theme	Sub-Theme	Codes	Examples from Participant Expressions	Description
Effect of Technology According to Sports Branches	Different Effect According to Branch	Changing effect according to branch structure	"Its effect is not the same for every sports branch." (P1, P2, P4, P9)	The structure of the branch determines the contribution of technology
		Individual and team sports difference	"There are differences within the scope of individual and team sports." (P3, P7)	Purpose of use and effect change according to the branch
		Change according to performance determinants	"It changes according to the needs and performance determinants of the branch." (P9)	The role of technology changes according to the characteristics of the branch
	Advantage of Popular Branches	More use in popular branches	"Popular branches use it more." (P5)	Access and opportunity advantage
	Applicability of Technology to All Branches	Equal use possible	"Every sports branch can benefit at an equal level." (P8)	Benefit can be provided in all branches with planning

When Table 7 is examined, it is seen that coaches think technology can create effects at different levels according to sports branches. Participants especially expressed that characteristics such as the structure of the branch, performance requirements, and being an individual or team sport affect the use of technology. In addition, in some opinions, it has been stated that popular branches are more advantageous in terms of access to technological opportunities. Along with this, there are also opinions expressing that technology can be used in different branches with appropriate planning.

Table 8. *Coaches' Opinions Regarding the Effect of Technology on the Nature of Sports*

Theme	Sub-Theme	Codes	Examples from Participant Expressions	Description
Effect of Technology on the Nature of Sports	Positive Effects	Contribution to performance and athlete development	"Athlete performance parameters can be maximized with technology." (P3, P6, P7, P8, P9)	Technology is performance-enhancing and development-providing
		Fair evaluation	"On the contrary, it provides protecting athlete health and fair evaluation." (P9)	Contribution to decisions being objective
		Minimizing mistakes	"It minimizes the mistakes." (P2)	Minimization of mistakes
		Branch-specific development	"Both the performance of the athlete and development specific to the branch become continuous." (P4)	It provides contributions specific to the branch
Effect of Technology on the Nature of Sports	Necessity of Controlled Use	Supporting coaches' decisions	"It should support coaches' decisions, it should not replace the athlete." (P9)	Technology should be decision-supporting
		Preservation of chance and mistake factors in the nature of sports	"I believe that the factors of chance and mistake should exist in the nature of sports." (P1)	Technology should not completely replace them

When Table 8 is examined, it is seen that coaches think the use of technology can provide various contributions to the sports environment. Participants especially emphasized performance development, reduction of mistake rates, and supporting the evaluation processes. Along with this, it has also been stressed that technology should be used in a controlled manner. Some coaches expressed that technology should be a tool supporting coaches' decisions and that the elements of mistake and uncertainty located in the nature of sports should not be completely eliminated.

Table 9. *Coaches' Opinions Regarding the Role of Technology in High-Level Sports Success*

Theme	Sub-Theme	Codes	Examples from Participant Expressions	Description
Role of Technology in High-Level Sports Success	Role of Technology in Providing Performance and Advantage	Increasing performance	"Performance analysis and data-driven decisions directly affect success." (P9)	Technology increases athlete and club performance
		Opponent analysis and strategic superiority	"Opponents' superior and deficient sides can be analyzed." (P3, P4, P7, P8)	Providing strategic advantage
		Minimizing mistakes	"By knowing their own mistakes and doing their practices, they minimize their mistakes." (P8)	Reduction of mistakes and improvement
		Increasing training quality	"Training quality increases." (P9)	Efficiency of training processes increases
	Effect of Club Opportunities	Use of technology with club opportunities	"Clubs that have opportunities provide advantage by using technology more effectively." (P1, P2, P4)	Technology use is related to club resources
		Statistician and analyst support	"Clubs use private statisticians and analysts." (P8)	Support personnel play a role in success
		Person-specific equipment and applications	"In football, person-specific shin guard socks are produced, the performance of the athlete is increased." (P5)	Individual performance-enhancing applications

When Table 9 is examined, it is seen that coaches think sports technologies can provide various contributions to high-level performance processes. Participants especially expressed that technology undertakes a supportive role in performance analysis, opponent evaluation, and training planning processes. In addition, in some opinions, it has been stated that the economic opportunities of clubs and personnel providing analysis support can affect the use of technology. Along with this, evaluations towards the fact that person-specific equipment and applications can contribute to individual performance processes have also taken place.

Table 10. *Coaches' Opinions Regarding the Branch-Specific and Future Development of Sports Technologies*

Theme	Sub-Theme	Codes	Examples from Participant Expressions	Description
Branch-Specific and Future Development of Sports Technologies	Branch-Specific Use of Technology	Minimizing referee mistakes	"Referee mistakes will be minimized with the VAR system." (P4, P8)	Accuracy increases in referee decisions, sports become fairer
		Opponent and performance analyses	"We will have the opportunity to analyze the data of both our own team and the opponent team." (P7)	Opponent analysis and performance tracking are provided

		Branch-specific equipment and applications	"Rackets can be produced according to person-specific technique." (P5, P8)	Performance-enhancing applications specific to the branch
	Future Technological Developments	Artificial intelligence-supported systems	"Artificial intelligence-supported technical evaluation systems will gain importance." (P1, P9)	Technical analysis and planning become more scientific
		Video analysis and technical evaluation	"Mistakes of athletes can be determined and corrected with video analysis." (P3, P4, P9)	Technical development is supported
		Reduction of coach workload	"With the development of technology, the workload of the coach will decrease." (P8)	Training management becomes more efficient
		Increasing international success	"If technology use becomes widespread, success at the international level will increase." (P6)	Direct contribution to performance and success

When Table 10 is examined, it is seen that coaches think sports technologies will be used more widely and in a branch-specific manner in the future. Participants especially expressed that video analysis systems, opponent evaluation, and artificial intelligence-supported applications can take place more in training and competition processes. In addition, in some opinions, it has been stated that technological developments can reduce the workload of coaches and support performance processes. Along with this, evaluations towards the fact that branch-specific equipment and applications can gain more importance in the future have also taken place.

Across all themes, coaches consistently described sports technologies as tools that support decision-making, performance monitoring, athlete development, and training planning. At the same time, participants emphasized that the effective use of these technologies depends largely on institutional resources, financial support, and educational opportunities. These findings suggest that coaches' lived experiences are characterized by balancing the opportunities offered by technology with the practical challenges encountered during its implementation.

DISCUSSION AND CONCLUSION

The findings of this study suggest that the relevance of sports technology to coaching may extend beyond the availability of technological tools to the ways in which technology-generated information is interpreted and incorporated into professional decision-making. Video analysis, performance monitoring, and physiological measurement may make certain aspects of athlete performance more visible and measurable, particularly those that can be difficult to assess consistently through observation alone. In this respect, technology may complement coaches' experiential knowledge by providing additional and longitudinal information that can inform training and performance evaluation. Previous research has similarly highlighted the role of digital and wearable technologies in performance monitoring and data collection (Yılmaz et al., 2025; Özer & Şentürk, 2022), while artificial intelligence-supported applications have been discussed in relation to biometric monitoring and performance assessment (Esmer, 2024; Sarıkabak & Vural, 2025). Within the context of the present study, these findings suggest that the practical value of technology may be associated not only with the capabilities of a particular device or system but also with coaches' ability to interpret and incorporate the resulting information into their practice.

A similar interpretation may be considered in relation to talent identification. Coaches' perceptions of technological assessments of strength, speed, endurance, and agility suggest that measurable performance indicators may provide additional information alongside observational evaluation. This interpretation is broadly consistent with the increasing use of data-driven systems in sports management and performance analysis (Ersöz & Gökmen, 2023) and with research considering physiological and genetic characteristics in relation to elite performance (İlgün et al., 2020). However, the present findings do not imply that technological measurements can independently identify athletic talent. Rather, such measurements may provide supplementary information that coaches can consider together with their professional observations. This distinction is relevant because talent identification involves multiple dimensions, and an exclusive emphasis on measurable performance variables may not fully account for contextual, psychological, developmental, and sport-specific characteristics.

The findings concerning training practices also point to a distinction between recognizing the potential usefulness of technology and incorporating it into routine practice. Technologies such as heart rate monitoring, GPS, sensors, mobile applications, and video analysis have been associated with individualized load management and performance monitoring (Öniz & Göçer, 2024; Esmer, 2024). In the present study, however, awareness of potential benefits did not always correspond to active technology use. This pattern suggests a possible gap between perceived usefulness and practical implementation. Such a gap may indicate that adoption is shaped not only by coaches' attitudes toward technology but also by factors such as accessibility, infrastructure, institutional resources, and organizational support. Consequently, initiatives aimed solely at increasing awareness of sports technologies may have limited effects if the practical conditions required for their implementation are not also considered.

Differences in coaches' educational experiences provide another perspective on this implementation issue. Existing literature has emphasized the increasing relevance of digital competence and technological literacy in sports settings (Yılmaz et al., 2025; Esmer, 2024). The present findings suggest that access to technological information and the capacity to use that information may represent related but distinct aspects of technology integration. Access to performance data does not necessarily ensure that such data will be interpreted appropriately or translated into suitable training decisions. Professional development in this area may therefore benefit from addressing not only the technical operation of devices and software but also data literacy, critical interpretation, and awareness of technological limitations. These competencies may become particularly relevant as AI-supported systems increasingly provide automated analyses and recommendations that still require interpretation within athlete-specific and coaching contexts.

Economic accessibility appears to represent another condition that may shape technology use. The significance of cost may extend beyond the ability to purchase individual devices, as differences in financial resources could also influence opportunities to benefit from technology-supported monitoring, training planning, and athlete development. This interpretation is consistent with evidence identifying cost constraints and limited access as barriers to sports technology implementation (Dameria & Yudhistira, 2025). The use of basic equipment or alternative approaches reported in the present study suggests that coaches may adapt their practices when access to advanced technologies is limited. Nevertheless, such adaptations may not provide equivalent technological opportunities across sporting environments. The findings therefore raise the possibility that unequal access to sports technologies could contribute to differences in technology-supported training opportunities between better-resourced and resource-limited settings. From this perspective, broader adoption of sports technologies may be

facilitated by institutional and financial strategies that consider accessibility alongside technological development.

The variation identified across sports branches further suggests that technological integration may need to be interpreted in relation to the characteristics of individual sports. The relevance of particular technologies may differ according to performance demands, organizational structures, available resources, and the types of information considered useful within a specific branch (Camkıran et al., 2021). Rather than indicating that one technological model is appropriate across sports, the findings support consideration of a needs-oriented approach to technology adoption. In practical terms, this may involve evaluating whether a technology addresses a meaningful sport-specific performance or coaching need before investing in it. Differences in resources between more and less commercially prominent sports may also influence access to technological opportunities, although further research across a broader range of sports and organizational contexts may be needed to better understand the extent and implications of such differences.

One of the more notable findings of the study concerns the distinction coaches made between technological support and professional decision-making. Participants generally positioned technology as a resource that should inform rather than replace coaches' decisions. This may indicate that coaches perceive technology-generated information as one component of a broader professional judgment process rather than as an autonomous basis for decision-making. Technological systems may provide quantitative information and help identify patterns that may not be readily apparent through observation alone; however, the interpretation and practical relevance of such information may still depend on contextual factors considered by the coach. Within this perspective, technology may extend the informational resources available to coaches while professional judgment remains important in determining how that information is applied.

This interpretation may become particularly relevant with the increasing integration of artificial intelligence into sports settings. Research involving elite coaches suggests that AI-based decision-support systems may assist with some cognitive and environmental constraints associated with coaching decisions, while coaches' acceptance of these systems may also depend on their expectations, concerns, and perceptions of the appropriate role of technology (Aarons et al., 2024). More recent qualitative evidence indicates that technologies aligned with coaching objectives can support decision-making, individualized athlete management, and coach-athlete communication (Brewer et al., 2025). Considered alongside these studies, the present findings suggest that technology integration may be conceptualized in terms of human–technology complementarity rather than technological substitution. Under such an interpretation, technological systems may contribute analytical information, whereas coaches contribute contextual interpretation, experiential knowledge, and athlete-specific understanding. Further research may be needed to better understand how this relationship evolves as AI-supported systems become increasingly autonomous and influential in coaching environments. This interpretation also has potential implications for coach education. As technological systems become more analytically complex, operational knowledge alone may not fully prepare coaches to interpret technology-generated information appropriately. Competencies related to evaluating data quality, recognizing uncertainty, understanding technological limitations, and integrating technological outputs with athlete-specific knowledge may therefore warrant greater attention in coach development programs. Future research could also examine how such competencies interact with professional judgment across different sports and competitive settings.

The increasing use of sports technologies also raises considerations related to responsible use. Data security, privacy, and the interpretation and sharing of technology-generated information have been discussed as relevant issues accompanying technological development in sport (Esmer, 2024; Sarıkabak & Vural, 2025). Öztürk (2025), for example, draws attention to the sharing of wearable-technology data through social media and exercise-tracking platforms and its potential influence on exercise behavior. In this context, technological literacy may involve not only the interpretation of performance information but also awareness of how athlete data are stored, communicated, and used. This suggests that ethical and data-related competencies may represent an additional dimension of technology education for coaches.

Taken together, the findings suggest that coaches' engagement with sports technologies may be shaped by the interaction of perceived usefulness, accessibility, institutional conditions, professional competence, and coaching judgment. Participants' expectations regarding artificial intelligence, video analysis, and branch-specific technologies further suggest that technology may assume a more prominent role in future coaching practice. However, increasing technological sophistication may not necessarily translate into more effective practice unless accessibility, coach competence, sport-specific relevance, and professional interpretation are also considered. Within the limits of this qualitative study, the contribution of sports technology therefore appears to depend not simply on technological advancement, but also on how technology is integrated with coaching expertise and the conditions of specific sporting environments. Given the qualitative design and the relatively small, purposively selected group of coaches included in this study, these interpretations should be considered context-specific and explored further across different sports, competitive levels, and organizational settings.

In this research, the opinions and experiences of coaches working in different branches towards sports technologies were examined. Findings show that coaches evaluate technological applications as a supportive tool in performance analysis, training planning, talent identification, and competition processes. Especially, it has been determined that video analysis systems, performance tracking applications, and physiological measurement tools are widely used in training processes. Overall, the findings indicate that coaches perceive sports technologies not only as tools for monitoring performance but also as resources that support decision-making, individualized training practices, and athlete development.

Research results show that technology use can be affected by factors such as club opportunities, economic conditions, and education level. Especially, some participants expressed that cost and access problems can limit technology use. Along with this, it was seen that coaches who received training towards technology feel themselves more competent in application processes. These findings suggest that the successful integration of sports technologies depends not only on the availability of technological tools but also on the interaction between institutional resources, financial opportunities, and coaches' competencies. From a theoretical perspective, this study contributes to the qualitative sports technology literature by demonstrating that coaches experience sports technologies as an integral component of contemporary coaching practice rather than merely as instruments for performance measurement.

Participants think that in the future, artificial intelligence-supported applications and video analysis systems can be used more in the sports environment. However, it has been stressed that technology use should be evaluated as a supportive tool rather than a structure that replaces coach experience and decision processes. From a practical perspective, the findings suggest that increasing institutional

investments in sports technologies, improving coaches' access to technological equipment, and providing continuous professional development opportunities may facilitate the effective integration of technology into coaching practice. Furthermore, future studies are recommended to include larger samples representing similar sports branches, compare team and individual sports separately, and examine the influence of coaching experience, digital literacy, and organizational context on the adoption and effective use of sports technologies.

Strengths and Limitations

This study focuses on an up-to-date subject that can provide contributions to the literature in terms of examining the opinions and experiences of coaches working in different sports branches towards sports technologies with a qualitative research approach. While including coaches from different branches in the research increases data diversity, presenting the theme and code structure in a systematic way supports the comprehensibility of the findings. Along with this, the fact that the research was conducted with only 9 coaches can limit the generalizability dimension of the findings. Although data collection continued until thematic richness was achieved, the relatively small number of participants and the heterogeneous structure of the sample require that the findings be interpreted within the specific context of the study. Furthermore, each sports branch was represented by only one participant, which limited the opportunity to explore branch-specific experiences of sports technology use in greater depth. Therefore, the findings primarily reflect shared experiences across participants rather than comprehensive evaluations specific to individual sports disciplines. In addition, due to the data being based on participant opinions, the findings must be interpreted within the framework of subjective evaluations.

REFERENCES

Aarons, M. F., Vickery, W., Bruce, L., Young, C. M., & Dwyer, D. B. (2024). Barriers to coach decision-making during Australian football matches and how it can be supported by artificial intelligence. International Journal of Sports Science & Coaching, 19(1), 41-52. https://doi.org/10.1177/17479541231206682

Adesida, Y., Papi, E., & Mcgregor, A. H. (2019). Exploring the role of wearable technology in sport kinematics and kinetics: A systematic review. Sensors, 19(7), 1597. https://doi.org/10.3390/s19071597

Ak, M. O. (2021). Spor yönetimi açısından teknolojinin spora entegresi Cybathlon örneği. Pearson Journal, 6(16), 413-427. https://doi.org/10.46872/pj.445

Akgöl, O. (2019). Spor endüstrisi ve dijitalleşme: Türkiye'deki espor yapılanması üzerine bir inceleme. TRT Akademi, 4(8), 206-224. https://izlik.org/JA62YB22CN

Andreassen, K. H. (2018). Metrix: Real-time analysis of physical performance parameters in elite soccer. Master's Thesis, UiT Norges Arktiske Universitet, Norway.

Brewer, M., Childs, K., Wilkins, C., Smith, Z. R., Thomas, S., Boyer, K. E., ... & Ferris, D. P. (2025). A qualitative examination of the evolving role of sports technology in collegiate coaching. Frontiers in Sports and Active Living, 7, 1644099. https://doi.org/10.3389/fspor.2025.1644099

Camkıran, N., Sersan, V., & Yıldız, K. (2021). Spor ortamında teknoloji kullanımına yönelik bir derleme çalışma. Gaziantep Üniversitesi Spor Bilimleri Dergisi, 6(2), 162-177. https://doi.org/10.31680/gaunjss.913352

Camomilla, V., Bergamini, E., Fantozzi, S., & Vannozzi, G. (2018). Trends supporting the in-field use of wearable inertial sensors for sport performance evaluation: A systematic review. Sensors, 18(3), 873. https://doi.org/10.3390/s18030873

Can, H., Lu, M., & Gan, L. (2011). The research on application of information technology in sports stadiums. Physics Procedia, 22, 604-609. https://doi.org/10.1016/j.phpro.2011.11.093

Dameria, F. D., & Yudhistira, D. (2025). Peran Teknologi untuk Analisis Performa Atlet Bulutangkis Disabilitas Intelektual: Special Olympic Indonesia, DKI Jakarta. JPI: Jurnal Pemuda Indonesia, 2(1), 75. https://doi.org/10.65125/ef4rnt63

Ersöz, G., & Gökmen, A. M. (2023). Spor yönetiminde dijital dönüşüm. İnönü Üniversitesi Uluslararası Sosyal Bilimler Dergisi, 12(2), 398-420. https://doi.org/10.54282/inijoss.1368879

Esmer, O. (2024). Sporda yapay zeka teknolojisi kullanımı ve sportif performans. İçinde Hareket, Sağlık ve Teknoloji: Modern Yaşamda Sporun Evrimi (ss. 87-96). https://doi.org/10.58830/ozgur.pub614.c2632

Gill, M. J. (2014). The possibilities of phenomenology for organizational research. Organizational Research Methods, 17(2), 118-137. https://doi.org/10.1177/1094428113518348

Haake, S. J. (2009). The impact of technology on sporting performance in Olympic sports. Journal of Sports Sciences, 27(13), 1421-1431. https://doi.org/10.1080/02640410903062019

İlgün, F., Günay, V., Yıldırım, D. S., & Cerit, M., (2020). Atletik performans genleri ve atletik yeteneğin belirlenmesine ilişkin yaklaşımlar. TURAN-SAM, vol.12, no.48, 166-174. Doı:http://dx.doi.org/10.15189/1308-8041

İşman, A. (2001). Teknolojinin felsefi temelleri. Sakarya Üniversitesi Eğitim Fakültesi Dergisi, (1), 1-19.

Jaswal, R., Stergiou, P., & Katz, L. (2019). Attitudes and behaviours of Canadian National Team coaches regarding the use of technology in their coaching practice. Journal of Human Sport and Exercise, 14(5 Suppl 1), S2445-S2454. https://doi.org/10.14198/JHSE.2019.14.PROC5.61

Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample size in qualitative interview studies: guided by information power. Qualitative health research, 26(13), 1753-1760. https://doi.org/10.1177/1049732315617444

Öniz, M., & Göçer, İ. (2024). Yapay zekâ destekli mobil uygulamaların spor sakatlanmalarının önlenmesinde etkisi. Egzersiz ve Spor Bilimleri Araştırmaları Dergisi, 4(2), 74-92. https://izlik.org/JA36FF54LL

Özer, Ö., & Şentürk, H. E. (2022). Spor bilimlerinde teknoloji kullanımı ve dijitalleşme. İçinde Spor Bilimleri Alanında Akademik Çalışmalar (ss. 1-22).

ÖZTÜRK, O. (2025). Sporcularda giyilebilir spor teknolojilerine karşı tutum ile egzersiz bağımlılığı arasındaki ilişkinin incelenmesi (Tez No. 921448) [Doktora tezi, İNÖNÜ ÜNİVERSİTESİ]. Ulusal Tez Merkezi.

Sarıkabak, M., & Vural, E. (2025). Yapay zekâ ile spor bilimlerinde veri odaklı dönüşüm. Spor ve Bilim Dergisi, 3(2), 182-197. https://izlik.org/JA79EE42RJ

Seçkin, A. Ç., Ateş, B., & Seçkin, M. (2023). Review on wearable technology in sports: concepts, challenges and opportunities. Applied sciences, 13(18), 10399. https://doi.org/10.3390/app131810399

Thatcher, B., Ivanov, G., Szerovay, M., & Mills, G. (2020). Virtual reality technology in football coaching: barriers and opportunities. International Sport Coaching Journal, 8(2), 234-243. https://doi.org/10.1123/ISCJ.2020-0011

Ünlü, G., Polat, B., Güler, A. H., & Işık, A. (2018). Futbolda oyuncu performans takıplerımde kullanılan küresel konum belırleme (GPS) ve çoklu kamera sıstemlerının incelenmesı. Sportif Bakış: Spor ve Eğitim Bilimleri Dergisi, 38-45. https://izlik.org/JA48RM34ST

- Van der Kruk, E., & Reijne, M. M. (2018). Accuracy of human motion capture systems for sport applications; state-of-the-art review. European journal of sport science, 18(6), 806-819. https://doi.org/10.1080/17461391.2018.1463397

Wutich, A., Beresford, M., & Bernard, H. R. (2024). Sample sizes for 10 types of qualitative data analysis: an integrative review, empirical guidance, and next steps. International Journal of Qualitative Methods, 23, 16094069241296206. https://doi.org/10.1177/16094069241296206

Yıldız, A. B., & Doğu, G. A. (2022). Sporda teknoloji kullanımı: Bir metafor çalışması. Ahi Evran Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 8(1), 67-80. https://doi.org/10.31592/aeusbed.980957

Yılmaz, B., Hacıcaferoğlu, S., & Hacıcaferoğlu, B. (2025). Teknoloji Destekli Spor Eğitimi ve Yönetimi; Dijital Dönüşüm. 8(3), 126-143. https://izlik.org/JA75JS29BS