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Original article

Training of Djibouti's trainers in a virtual environment

Capacitación pedagógica en entorno virtual de los entrenadores de Djibouti

Treinamento pedagógico dos instrutores do Djibuti em um ambiente virtual

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ABSTRACT

The different forms of training of sports coaches are aimed at satisfying the needs of mobilizing knowledge, techniques and reflection aimed at solving problems in the preparation of athletes. Due to this, the research was set as an objective: to design the theoretical conception for the pedagogical training in a virtual environment of the Djiboutian coaches on the initiation of the child to soccer. From a materialist dialectical



approach to the interpretation of phenomena, document analysis, observation, survey, modeling and comparison were used as the main research methods. Thus, it was found that the theoretical-methodological knowledge related to the initiation of children to soccer and the organizational and methodological limitations in the forms of training were insufficient. The epistemological elements modeled were compared with other proposals, which demonstrated the argumentative theoretical novelty of the proposal.

Keywords: Conception; Training; Environment; Initiation; Soccer.

RESUMEN

Las diferentes formas de capacitación de los entrenadores deportivos están dirigidas a satisfacer las necesidades de movilizar los conocimientos, las técnicas y la reflexión dirigida a la resolución de problemas en la preparación de los atletas. Debido a esto, la investigación se trazó como objetivo diseñar la concepción teórica para la capacitación pedagógica en entorno virtual de los entrenadores de Djibouti sobre la iniciación del niño al fútbol. A partir de un enfoque dialéctico materialista de interpretación de los fenómenos, se emplearon como principales métodos de investigación el análisis de documentos, la observación, la encuesta la modelación y la comparación. Fue así, que se constató que eran insuficientes los conocimientos teórico-metodológicos relacionados con la iniciación de los niños al fútbol y las limitaciones organizativas y metodológicas en las formas de capacitación. Los elementos epistemológicos modelados fueron comparados con otras propuestas, que demostró la novedad teórica argumentativa de la propuesta.

Palabras clave: Concepción; Capacitación; Entorno; Iniciación; Fútbol.

RESUMO

As diferentes formas de treinamento de treinadores esportivos visam atender às necessidades de mobilização de conhecimentos, técnicas e reflexão voltadas para a solução de problemas na preparação dos atletas. Por isso, a pesquisa teve como objetivo elaborar a concepção teórica para a formação pedagógica dos treinadores djibutianos em um ambiente virtual sobre a iniciação das crianças no futebol. Com base em uma abordagem materialista dialética para a interpretação dos fenômenos, os principais métodos de pesquisa utilizados foram a análise, observação, levantamento, modelagem e comparação de documentos. Assim, verificou-se que os conhecimentos teóricos e metodológicos relacionados com a iniciação das crianças ao futebol e as limitações organizacionais e metodológicas nas formas de treinamento eram insuficientes. Os elementos epistemológicos modelados foram comparados com outras propostas, o que demonstrou a novidade teórica argumentativa da proposta.

Palavras-chave: Concepção; Treinamento; Meio ambiente; Iniciação; Futebol.

INTRODUCTION

Globalization, advances in science and technology, and the accelerated evolution of information and communication technologies are among the most important features that have marked the beginning of the 21st century. This dynamism leads to the need to learn how to efficiently manage knowledge, making it necessary to face one of the



main challenges of higher education in the 21st century: the training of human resources.

In the bibliographic search, it was found that there are several authors who have researched on the topic of soccer coaches' training. Thus, the following authors were found: Lanza, Sánchez (2012); Saja, López, Rodríguez (2014); Gambetta, (2015); Juca, (2016); Sucerquia, *et al.*, (2016); Pupo and Montenegro (2018); Martín-Rodríguez, Trejo-del-Pino, (2018) Lanza, Ramos, Manchuat and Domínguez (2019); Vergara, Garbey, Fuentes (2019).

The described reality contrasts with the situation that materializes in the context of Djibouti, where the training of soccer coaches is non-existent, due to the reduced space that this activity and subject occupies in the Soccer Federation of this country and the contemporary economic and geographical limitations.

In this sense, the research aims to design the theoretical conception for the pedagogical training in virtual environment of Djibouti coaches on the initiation of the child to soccer.

MATERIALS AND METHODS

The research involved 35 soccer coaches from Djibouti, with a D License from the African Confederation of Soccer, working with children between the ages of 8 and 12 years old.

The empirical methods used were survey, observation, document review and comparison: In the virtual interview, the variables of interest analyzed were the knowledge of pedagogical principles, type of tasks and parameters for selecting teaching methods. These elements were used to characterize the current state of knowledge that the coaches investigated had about the initiation of children to soccer.

In the observation, seven videos in MPEG format were analyzed, from soccer preparation classes developed in 2018. In this sense, the style, model, approach and teaching methods, as well as the teacher's behavior, were taken as variables to characterize the methodological strategy used by the coaches with the children who were in the soccer initiation stage. The review of documents allowed synthesizing the ontological elements related to distance education; these were: essence, historicity and models.

The modeling made it possible to support the epistemological aspects that energize the theoretical conception for the pedagogical training in a virtual environment of Djibouti coaches on the initiation of children to soccer. The most significant contents dealt with were: concepts, transdisciplinary foundations and significant variables.

The comparison was used to highlight how other authors have solved the problems of training, qualification and improvement of human resources with distance education, distinguishing the differences and similarities between them.



RESULTS AND DISCUSSION

The results of the survey are immediately discussed:

In the pedagogical principles aspect, 100 % of those investigated emphasized the leading role of the coach in the active and conscious participation of the soccer player; 42.85 % emphasized the relationship between theory and practice; 14.28 % emphasized that of enlightened teaching, and individualization. The 28.57% emphasized the instructive and educational character. None distinguished the principles of scientificity, systematization, planning, accessibility and affordability, instructional and educational character, and multidisciplinary. In relation to the type of tasks to be selected for the classes, 100% highlighted the execution tasks. None pointed out the perception and decision tasks.

Regarding the parameters for selecting the contents and teaching methods, 100% considered the chronological age, the socio-motor experience and the current state of sport motor skills. None emphasized the structural elements of the game and the features of the internal logic of the soccer game.

In summary, the results obtained showed the gaps in the knowledge of the coaches in the theoretical dimension.

The following is a discussion of the results achieved in the observation of teaching classes: In 100% of the classes observed, the prevailing teaching style was that of direct command, characterized by a total protagonism of the teacher, who made the decisions and the students obeyed and executed them; causing a passive posture in them, with little possibility of reflection and low levels of motivation. No activity related to the guided discovery style was observed.

Similarly, the traditional teaching model prevailed in 100% of the classes where the content was divided in part, repeating the technical gestures with a reduced learning time, without taking into account individual differences. Subsequently, technical gestures were controlled in simplified games. No activity related to alternative models was observed.

Likewise, in 100% of the classes, the teaching approach focused on receptive learning of technical skills and on the development of aerobic physical capacity. No action related to active or discovery, cooperative, collaborative and meaningful learning was observed.

The results of the document review are discussed below.

The pedagogical training of Djiboutian soccer coaches in a virtual environment, in general, is a complex task. At present, it requires a conduction that considers as an essential requirement its contextualized character, a systemic and dynamic approach, as well as work performance problems that must be solved effectively.

Thus, in this research, pedagogical training is understood as the instructional process of theoretical, methodological and practical improvement, which allows coaches to place themselves in concrete professional situations using, conveniently, the advances of sciences and technologies to articulate themselves in search of better sports results in the long term. From this point of view, distance education is seen as a real and effective possibility for soccer coaches in Djibouti.



Distance education is a solution for those people who are faced with the need to move from one place to another in order to acquire knowledge or develop new skills. It multiplies the opportunities for updating and deepening, in an autonomous way, that is to say, without the permanent intervention of the teacher and even without the need to attend a classroom course. Distance education systems have changed with the rise of digital telecommunications and information and communication technologies. This has enabled better and faster ways to disseminate knowledge.

In its historical development, distance education has accumulated a group of facilities that demonstrate its operational superiority with respect to the traditional forms, without denying it, with support in it to emerge as what it really is today: a qualitatively superior procedure for the appropriation of information and the construction of knowledge. Broadly speaking, it can be established that Distance Education has gone through the following main stages:

- 1960s: basically printed didactic materials are used. The distance university is formed.
- 1970s: television is used as a means of education together with other audiovisual media such as films, slides and retro transparencies.
- 1980s: systematic use of the computer.
- From the 1990s to the present: Networks, computers and telecommunications are used in teaching. When the Internet became accessible to everyone in the 1990s, telematic education became virtual education. From this moment on, a true distance interaction develops between the teacher and his students through videoconferences, chats and social networks.

Based on this historical synthesis, it is important to know the most used Distance Education models.

Didactic-printed model: developed in the 1960s. It conceives teaching on the basis of a printed text that is distributed to learners via postal mail. Although it can be effective for students, its reach is limited, feedback is difficult and it is often permeated by actions conditioned by the teaching habits of the teacher who does not necessarily take into consideration the more or less urgent needs of learning and education, of raising competence and performance. Costs, geographical distance and difficulties of access to the participants' places of residence can have a negative impact on this modality.

Modular-multimedia model: reached its peak in the 1970s and 1980s. With it, the resources that could be used in the teaching-learning process, in the appropriation of knowledge and in educational development were considerably expanded. In addition to printed text, it included audio, videocassettes, radio broadcasting, televised lectures and the use of computers. Learners then had the possibility of receiving face-to-face counseling, by mail or by telephone. This distance education model did not consider the use of computer networks. Despite the positive elements mentioned above, their use regularly generates high dropout rates, low performance levels, rapid obsolescence of the instructional materials used, and low interaction among students and between students and teachers. These disadvantages are attributed to the fact that the student must carry out his or her learning actions practically alone, with few opportunities for follow-up and tutoring because, if the aim was to increase interactive actions based on



face-to-face attendance, the distance education program or model would be very costly and, in the end, would differ very little from classic face-to-face teaching.

Telematic model (it is part of Virtual Education): It was developed in response to the inadequacies and problems inherent in the use of previous models. Its use considerably individualizes the process of information transfer, learning, acquisition and consolidation of new knowledge and, therefore, education. It is characterized by the constant interaction between the individuals who participate in the learning process, the support to the learner with the necessary information almost immediately; at the same time that it puts within reach of the teachers an almost unlimited amount of resources, and all this, with a significant reduction in the costs of studies.

The epistemological operators that energize the theoretical conception for the pedagogical training in virtual context of Djibouti coaches on the initiation of the child to soccer started with the definition of theoretical conception.

In the present research, theoretical conception is interpreted as a construct of science capable of providing, in an argued manner, new scientific interpretations of the theories of ontological existence related to the process of pedagogical training in a virtual environment, in addition to an internal conceptual system that characterizes it to help the qualitative transformation of the stated problematic fact.

Among the epistemological operators of the theoretical conception for pedagogical training in a virtual context, the following variables are modeled:

1. The first variable is occupational competence, seen as a complex structure of knowledge, skills, abilities and attitudes necessary for professional performance in specific situations and contexts.

Occupational competencies articulate intradisciplinary and interdisciplinary scientific knowledge with professional actions and with the objective reality, which allows structuring attributes and tasks specific to the profession. Namely, it contains the following qualities:

- Use information and communication technologies systematically, with a critical and reflective sense in academic and professional environments.
- Employs effective information search and management strategies.
- Master the technical and instrumental scientific fundamentals related to the tasks of the profession.
- Communicates the ideas and results of their work and projects in an appropriate manner.

2. The second variable is occupational autonomy, considered as the capacity to control one's own work performance and, therefore, an individual process.

Having occupational autonomy means being able to do what you think you should do, but not only that, it also means being able to analyze what you think you should do and consider whether you really should do it or whether you are deluding yourself. *"We are autonomous when we are reasonable and consider what should be done with all the facts at our disposal."* Occupational autonomy is considered as the ideal towards which the trainer should move according to his maturity, to transfer knowledge, to put into practice



an indeterminate number of procedural responses in order to accomplish complex tasks, allowing the formation of new skills on the basis of those already formed. Namely, it contains the following qualities:

- No demand for support for the detection and correction of problems and errors.
- It is able to choose between different problem-solving alternatives.
- Act rationally, creatively, originally and effectively.
- Applies data collection and processing procedures.

3. The third variable is that of occupational responsibility, seen in an exceptional way as a capacity that allows the trainer to reflect, manage, guide and value the consequences of his or her actions, always in favor of personal, occupational, social, cultural and natural improvement.

Namely, occupational responsibility is comprised of the following qualities:

- Sense of belonging and duty.
- Awareness of the importance of what is done, why it is done and what it is done for.
- Clear identification of the problems and difficulties in achieving what is desired.
- High spirit of competition, with others and with oneself.

In correspondence with the stated dimensions, it can be said that the relationships of mutual dependence and conditioning that are established between them will be mediated by the technique of communication and virtual approach that allows the trainer to contextualize himself in his environment, understand it and transform it.

This technique is characterized by the fact that it is not face-to-face, but representational; it is not proximal, but distal; it is not synchronous or asynchronous, but multi-chronic; and it is not based on spatial enclosures with interior, border and exterior, but relies on electronic networks whose best current exponent is the Internet. This technique has a specific perspective because it addresses the essential contents required by Djiboutian soccer coaches.

From the divergent point of view, it is stated that, although the pedagogical training in a virtual environment deals with general contents related to the specific sport; these can have a greater or lesser level of depth, depending on the specific needs of each trainer, in such a way that the correspondence between the diagnosis, the execution of the training and the evaluation of the results obtained from it is evidenced, which will be verified in the professional performance. Since we are in a virtual environment, it is necessary to have technological resources to work with the mentioned technique. For this purpose, e-mail and WhatsApp have been chosen, and the Digital Portfolio as didactic material.

Electronic mail is one of the technological resources of written and graphic communication, used for sending and receiving files, books, magazines, data, and images. It can be modified, reused, printed, among other things.



WhatsApp is another technological resource for written, graphic and oral communication used for sending and receiving messages, documents, images, videos, audio, among other things. Taking into account these technological resources, the Digital Portfolio is the ideal didactic material to send the content system and provide feedback to the improvement process. With it, tutors and trainers can exchange texts, power point, posters, and videos, photographs, among other resources, about what they are seeing or doing.

Therefore, the digital portfolio allows having more evidence of the trainer's work. That is, it is a multidimensional process with which you can collect evidence that shows the achievements, efforts and progress of the student. In addition, it is possible to know which activities have been more or less successful and to improve the process of improvement.

In addition, this didactic material supports the registration of all the information of a class, as well as the opinions of the trainers, exercises, and study materials, among others. It provides a good support for the organization of documentation and evidence of their educational practice. All this documentation allows the trainer to have a broad perspective of his practice and at the same time generates a feeling of satisfaction for the results evidenced.

Likewise, its use generates greater systematization in reflection because it allows a constant record of the work done and permanent communication with the development of the reflective practice on the professional work. It is considered a valuable resource to promote the reflective process during the improvement action.

It also serves as a support for the development of a cycle of updating and deepening of knowledge that contemplates the implementation of planned actions, reflection on the action itself and its results, and planning adjustments based on the defined improvements, which helps the tutor to identify more clearly the successes and failures present in their work of improvement, evaluate their impact and define adjustments and improvements.

In order to highlight the distinctive properties of the theoretical conception for the pedagogical training in a virtual environment of Djibouti coaches on the initiation of children to soccer, a comparison was made with other proposals using Distance Education. The following table shows, by way of discussion, the differences and similarities between these proposals (Table 1).



Table 1. - Differences and Similarities of the proposals chosen as models

DIFFERENCES BETWEEN THE FOUR PROPOSALS				
Arencibia <i>et al.</i> , (2018)	Vázquez, (2020)	Arencibia <i>et al.</i> , (2018)	Vázquez, (2020)	Arencibia <i>et al.</i> , (2018)
It basically takes place in the virtual environment	It takes place in a face-to-face environment with the help of virtual resources.	It basically takes place in the virtual environment	It takes place in a face-to-face environment with the help of virtual resources.	It basically takes place in the virtual environment
Aimed at scientific and technical training	Aimed at continuous improvement	Aimed at scientific and technical training	Aimed at continuous improvement	Aimed at scientific and technical training
The potential for technological developments become tools for self-management of knowledge	The potential for technological developments become resources to support teaching and learning.	The potential for technological developments become tools for self-management of knowledge	The potential for technological developments become resources to support teaching and learning.	The potential for technological developments become tools for self-management of knowledge
Theoretical conceptual systematization of the essential internal processes that typify the field of action that was investigated	Systematization of theories related to the object under study.	Theoretical conceptual systematization of the essential internal processes that typify the field of action that was investigated	Systematization of theories related to the object under study.	Theoretical conceptual systematization of the essential internal processes that typify the field of action that was investigated
Similarities among the four proposals The objectives include the transfer and appropriation of knowledge. We work with contextualized professional problems. Autonomy in learning Two-way communication Different roles for the protagonists Contextual distance between the protagonists Presence of virtual media				

Other research on virtual training for coaches has been taken into account for the development of this proposal. However, the existing ones present contents more inclined to other areas such as training for netball coaches in times of pandemic, training for American soccer coaches, training through information and communication technologies and training for specialists in sport psychology (Cohen *et al.*, 2020; Corral, 2021; Pacheco *et al.*, 2021; Barbosa-Granados, 2022).

CONCLUSIONS

The epistemological modeling carried out reveals the conceptual bases of the pedagogical training process in the virtual environment of Djibouti's trainers. The comparison made between the different theoretical-conceptual conceptions of educational proposals guarantees to extract the best characteristics of each one and to propose similar programs that guarantee the educational quality, especially in the object of study that is linked to the improvement, training and coaching for the sport of soccer in Djibouti.

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Conflict of interests:

The authors declare not to have any interest conflicts.

Authors' contribution:

The authors have participated in the writing of the work and analysis of the documents.



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