



Interpersonal interactions in the mobile-game environment of physical education

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Abstract

Objective of the study is to model a mobile gaming environment for physical education based on interpersonal interaction between participants in the process of communication.

Methods and structure of the study. 88 students majoring in education, aged 19.2 ± 0.5 years, were involved in the scientific experiment as part of an experimental and control group in the process of physical education based on the modelling of team game situations involving the need for interaction to achieve a team result.

Results and conclusions. It has been established that the formation of students' communication competence for its subsequent implementation in the social sphere is possible through the means of a mobile game environment of physical education. Constant communication between players in a mobile game environment plays a central role in coordinating game actions.

Keywords: *physical education, game environment, game situation, communication, social skills.*

Introduction. The issue of researching the active play environment in physical education is quite complex and multifaceted. Among the main categories of the active play environment, we can distinguish the concepts of player, role play, team, game actions, and final result.

From the point of view of functional structure, game action is considered as a unit of functioning and analysis of the mobile-game environment, while social interaction fills it with the meaning of interactive communicative construction. Thus, the analysis of the mobile-game structure is based not simply on action, but on the interpersonal interaction of participants in the process of communicative communication.

In the case of passive observation, the structure of communication actions remains latent. A participant in active play activities on the playground simultaneously becomes a reflective subject of events, gaining a dual experience – motor and reflective. Therefore, the game roles of observers and participants in physical education classes can be combined and varied in

various possible combinations. The visible structure of communication links manifests itself in team motor actions performed on the basis of mental operations.

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Communication in the process of active play-based physical education was viewed as the integration of information comprehension, message transmission, and understanding of the purpose of motor actions.

The main focus of developing students' communication skills was that participants in active play activities, based on an internal model of actions in accord-



ance with real game situations developing on the field, sought to make predictions and organise interactions aimed at effectively achieving the team's game results.

The factors of modelling team game situations that formed communicative competence were:

- diversity and non-standard nature of game interaction;
- integrated manifestation of game, thinking and communication components;
- variability of team interaction methods depending on changes in the tactical situation;
- diversity of player roles in group and team interaction.

Based on the results of an analytical study of the communication skills of students majoring in education, the following were identified:

- the ability to perceive the game actions of teammates;
- the ability to adjust one's own game tactics depending on the mistakes and miscalculations of teammates;
- knowledge of methods of pair, group and team interaction and mastery of the skills to implement them on the playing field;
- mastery of various playing roles, mobility in the implementation of playing functions;
- the ability to set playing goals aimed at achieving a team result, choosing the methods and means to achieve them;
- willingness to take charge of the game as a coordinating and connecting player;
- mastery of the skills of organization, coordination and objective assessment of the activities of teammates;
- ability to predict and plan tactical game situations.

The effectiveness of communication skills acquisition was assessed based on evaluation indicators set by physical education experts based on the results of students' physical and gaming activities.

The data obtained was processed using statistical analysis methods in the STATISTICA 10.0 program.

Results of the study and discussion. For sports games with increasing complexity and unpredictability of the outcome, the concept of conscious activity of their participants, who should be considered from the point of view of both the individual and the team, is fundamental.

Related to immersion in physical and gaming activities that require comprehension and communication of information, students' communication skills are formed on the basis of using and capitalizing on the

forms and resources of the physical and gaming environment of physical education (Table 1).

Due to the unpredictability of game situations, participation in active play activities had unequal educational potential for students participating in classes. Since each participating player acted according to their own skills in solving game situations, the temporary distribution of game events was determined by the sequence of development of local game situations.

The dynamics and interactivity of the game are characterized by the fact that the emerging game situation cannot be completely stabilized in time and space, and the initiative passes from one team to another. It follows that the game is not just a set of observable tactical situations, but is determined by systemic actions and combinations that determine the course of game events.

The actions of players in tactical game situations are interrelated until the objectives and target result of the game are achieved. For players, tactical game situations are defined as actions, and for the mobile game environment, as communication.

The closed-type model described implies the possibility of reflection. In the current game situation, players perceive it and then update their actions to change the emerging situation. When information is not only received but also played out in practice by a participant, it acquires meaning and can be retransmitted to teammates. In this case, the mobile game environment has an additional function, which is distributed meaning.

Since a game, as a set of game situations, contains a certain degree of uncertainty, it can only be identified by adopting a certain goal. While in biological systems a signal performs the function of transferring information, in communication systems in the process of mobile-game activity there is not only the function of transmitting information, but also of endowing it with meaning. As a result, communication takes place on two levels simultaneously – content and meaning – which are not automatically linked, but are constantly reconstructed and thus contain uncertainty.

The communication system and game actions were mutually supported through structural pairing. Game events have two levels. At each moment of the game, there are both game events and the individual perception of the same events by different players. These levels are in constant interaction.

Simultaneous communication on two levels is only possible when a person is a conscious participant in



Table 1. Assessment of students' communication skills

Name of competencies	Average score		p
	ЭГ	КГ	
Ability to perceive the actions of teammates	4,2±0,6	3,8±0,1	<0,05
Ability to adjust one's own playing tactics depending on the mistakes and miscalculations of teammates	4,5±0,2	4,2±0,2	<0,05
Knowledge of methods of pair, group, and team interaction and mastery of the skills to implement them on the playing field	4,0±0,5	3,4±0,1	<0,05
Mastery of various playing positions, mobility in performing playing functions	4,6±0,3	3,8±0,2	<0,05
Ability to set game goals aimed at achieving team results, choosing ways and means to achieve them	4,0±0,3	3,7±0,4	<0,05
Willingness to take charge of the game as a coordinating and connecting player	4,1±0,3	3,5±0,6	<0,05
Mastery of skills for organizing, coordinating, and objectively evaluating the activities of teammates	4,3±0,8	3,6±0,2	<0,05
Ability to predict and plan tactical game situations	4,3±0,5	3,8±0,4	<0,05

the event, and only then can they interact. The result of the interaction can be viewed as an event in which each participant communicates meaningfully.

Unlike a formalized description, the mobile gaming environment is limitless due to its complexity.

Conclusions. The development of students' communication skills for subsequent application in the social sphere is possible through the use of a mobile game environment in physical education.

Regardless of the level of functioning, the mobile game environment is a product of the interactions between players in a team. The game system is built on the technical actions of the player and the corresponding reactions of teammates, which is determined by the dynamics of the mobile-game environment. To achieve coordination of actions, players must be relatively independent in their decision-making. Constant communication between players in the mobile-game environment plays a central role in coordinating game actions.

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