



# Identification of Effective Strategies for Blended Learning in Physical Education at Islamic Azad University

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## ABSTRACT

This study aims to identify effective strategies for utilizing blended learning in the Physical Education course at Islamic Azad University. The present research was conducted qualitatively using thematic analysis. To this end, semi-structured interviews were conducted with 14 faculty members from the Islamic Azad University of Razavi Khorasan Province, who were selected purposefully and judgmentally. The thematic network method was employed in this research. The validity and reliability of the study were examined and confirmed using the method of Guba and Lincoln (1985). After completing the interview and coding process, 47 basic themes, 11 organizing themes, and 3 global themes (individual capabilities, educational processes, and organizational policy) were identified. Based on the findings, it can be concluded that educational planners and designers at the university can use the results obtained to develop, design, implement, and evaluate based on the needs of the university and its audience. The findings of this research can help Islamic Azad University achieve its macro goals and policies based on the university's statute and facilitate blended learning in the Physical Education course.

**Keywords:** *Blended Learning, Physical Education, University.*

## 1. Introduction

One of the most significant challenges in 21st-century education is how to prepare learners to effectively engage with a rapidly changing society and the complexities of the information explosion era (1). Currently, technology has created a new educational landscape, reconfiguring the ways students learn (2). Observing the failures of initial e-learning experiences and the weaknesses in traditional face-

to-face education has led universities to adopt a blended learning approach. As the evolution of information technology impacts all societal sectors, including education, a notable option to fill curriculum and instructional gaps is to consider a new approach to developing and designing blended learning (2, 3).

The blended learning approach became the most prevalent educational approach in the early 20th century (4). Blended learning is a type of educational approach that

combines various instructional techniques and technologies. Today, blended learning models are primarily formed by integrating face-to-face instruction with online learning activities. In this model, instructors can leverage the benefits of both in-person and online learning (5). Designing blended learning provides a framework within which instructors conduct teaching and lesson delivery, involving the effective and efficient planning, development, implementation, and evaluation of instruction in diverse educational environments. Additionally, blended learning curriculum design integrates various elements, including offline and online learning, self-paced learning, live and collaborative learning, structured and unstructured learning, traditional and accessible content, and individual and group activities. In other words, blended learning is an effective educational model and a popular learning method for students (6).

Garrison and Anderson assert that blended learning is not merely the integration of technology with education to increase access to learning but fundamentally involves rethinking and redesigning the teaching and learning relationship for better learning outcomes (Dang, 2020). In blended learning, both learners and instructors are more motivated to learn and seek information, resulting in deeper and better learning. Combining multimedia instruction with face-to-face classroom teaching enhances student motivation and learning, allowing students with different learning styles to benefit the most from educational programs. In fact, using the blended learning model enriches education, providing an active learning experience, increasing accessibility and flexibility, familiarizing students with self-study and web-based learning in in-person systems, and utilizing social and interpersonal interactions in face-to-face components (4, 6). The effects of blended learning are primarily reflected in improved academic performance, increased learner satisfaction, and enhanced teaching efficiency.

Physical education, as one of the essential and influential curriculum programs, holds a unique identity and status in the educational system (7). Teaching physical education with distinct characteristics from other subjects in the context of new educational media faces different challenges. Recognizing these issues and challenges paves the way for addressing them and improving the quality of future education. Identifying appropriate educational models for

this subject, considering conditions, is crucial. Given the changing and diverse new educational media in the technology era, it is necessary to use various platforms and formats to operationalize the specific objectives of physical education (2, 6-9). Thus, considering the challenges and opportunities of virtual education for physical education and sports and the weaknesses and deficiencies of face-to-face education for this subject, using blended methods in teaching seems to be a new step in teaching approaches. Undoubtedly, the best and most appropriate model in this area would be one that considers the opportunities and capacities of virtual education on one hand, and the needs and necessities of in-person education at the university on the other, maximizing the attainment of specific goals of physical education.

In some other countries, especially Western countries such as the United States, China, Indonesia, and the United Kingdom, the blended learning model is used for teaching subjects like physical education and sports (8, 10). However, Iran's educational system needs to adopt scientific methods to identify teaching models suitable for the cultural, social, economic, and political conditions of society for teaching physical education and sports at the university. Another important point regarding the necessity of identifying the requirements and strategies of blended learning for physical education should not be limited to epidemic periods and school closures during such times. Iran, depending on different regions and climates, faces issues like heavy snowfall, gas pressure drops, floods, earthquakes, extreme heat or cold, air pollution, and so forth, resulting in class cancellations and non-attendance, including physical education classes. Hence, this study aims to identify effective strategies for utilizing blended learning in the Physical Education course at Islamic Azad University.

## 2. Methods and Materials

### 2.1. Study Design and Participants

This study was conducted qualitatively using thematic analysis. Participants in this study were 14 faculty members from the Physical Education department of Islamic Azad University, Razavi Khorasan Province, selected through purposeful and judgmental sampling. The sample size was determined by the theoretical saturation level. Theoretical saturation occurs when the researcher reaches a stage where

similar concepts and responses are found, and no new concepts emerge. Criteria for participation included over ten years of work experience, willingness to participate in the study, and the ability to articulate opinions. The exclusion criterion was unwillingness to continue participating in the research process.

## 2.2. Measures

### 2.2.1. Semi-Structured Interview

Data collection continued through semi-structured interviews until data saturation, meaning no new views emerged, and the opinions of subsequent interviewees were similar to previous ones. Interviews lasted between 30 to 60 minutes, starting with casual conversation to create a friendly environment and obtain informed consent. The interviews began with a broad, central question: "What is your perspective on the use and development of blended learning in the Physical Education course?" Follow-up questions were asked to clarify ambiguous or incomplete responses.

### 2.3. Data Analysis

Thematic analysis is a method for identifying, analyzing, and reporting patterns within qualitative data. Thematic analysis can be executed and used in various ways. The four common methods in thematic analysis are as follows: a) theme templates, b) theme matrices, c) theme networks, and d) comparative analysis. This study employed the theme network method, which Attride-Stirling developed. The theme network method systematically extracts the lowest level propositions of the phenomenon from the text (basic themes); then, by categorizing and summarizing these basic themes, it reaches more abstract principles (organizing themes); finally, these high-level themes are included in fundamental metaphors, forming the themes governing the entire text (global themes). These themes are then mapped as web networks, showing the prominent themes at each of these three levels and the relationships among them.

To examine validity and reliability, Guba and Lincoln's (1985) method was used. Guba and Lincoln introduced four criteria for assessing trustworthiness: credibility, dependability, confirmability, and transferability. Credibility relates to the believability or persuasiveness of

the research. Credibility reflects the necessary arguments and processes to trust the research results. This study employed four methods for credibility: external audit, member checking, triangulation, and prolonged engagement.

**Triangulation:** In this study, data source triangulation was used. Thus, perspectives from three data sources were collected: faculty members and instructors, ensuring comprehensive and in-depth data. Specialized texts, articles, and research works were also used.

**External Audit:** In this method, the researcher presents part of the findings to the study group to review the analysis and answer questions such as: Has the researcher correctly interpreted their statements? Do they find the analysis logical, or has the researcher misunderstood the data? In this study, the researcher asked some interviewees to review the initial report, including the analysis process and the derived categories, and provide feedback. According to these participants, the research findings largely reflected the existing reality of blended learning in the Physical Education course, indicating acceptable validity.

**Member Checking:** To verify the accuracy of the obtained information and prevent misunderstandings by the researcher, the information was shown again to the informants for confirmation.

**Prolonged Engagement:** The researcher was involved with the research topic for a long time (approximately nine months) and conducted interviews with many faculty members throughout the academic year.

## 3. Findings and Results

The three main steps of thematic network analysis include text deconstruction, text exploration, and then integrating discoveries, which are described as follows:

**Text Delivery:** In the first step, the recorded interviews were transcribed and then completed with notes taken during the interview sessions. Following this, by carefully studying the texts, all independent ideas were initially identified as basic themes for each prepared interview, and a code was assigned to each. This was done for each interview, and if sections with similar themes existed in previous interviews, the same codes were used as indicators. In this research, 47 basic themes were extracted.

Theme Conversion: After obtaining the basic themes, organizing themes and global themes were abstracted based on the basic themes. In this stage, efforts were made to reorganize the initial themes or basic themes into more abstract themes that lead us to more central, overarching, and global themes. In this stage, 11 organizing themes were extracted.

Theme Network Discovery and Description: By examining and analyzing the related themes, three global themes were extracted: a) Individual Capabilities, b)

Educational Processes, and c) Organizational Policy, which are presented below.

### 3.1. Individual Capabilities

This theme is considered within organizing themes such as knowledge and experience, creativity and innovation, and motivation. Among these themes, knowledge and experience have the highest priority in terms of frequency among other themes.

**Table 1**

*Themes Related to Individual Capabilities*

Global Theme	Organizing Themes	Basic Themes
Individual Capabilities	Knowledge and Experience	Extent of experience and ability of professors in performing sports skills-Professors' familiarity with blended learning-Professors' understanding of the concept of blended learning-Ability to use virtual conversation and live audio or video communication-Development of information and communication technology skills-Use of multimedia tools-Familiarity with the method of disseminating information and interactions of blended learning elements-Ability to process and store information-Considering individual differences and learning speeds of students
	Creativity and Innovation	Extent of creativity in implementing the teaching model-Use of creative methods in both face-to-face and virtual teaching
	Motivation	Creating a learning and motivational environment among students and professors-Developing a motivational atmosphere among students in using multimedia tools

Participant 1 mentioned that considering the nature of blended learning being both online and face-to-face, the experience of professors in performing movements and teaching methods is very important. Although online education has many advantages, executing certain movements and teaching some techniques in a virtual space can be challenging. If physical education professors lack sufficient knowledge and experience, performing these

movements can be difficult, and blended learning will lose its effectiveness.

### 3.2. Educational Processes

In this research, this theme includes organizing themes of content, learning activities, time and place of learning, and evaluation, with the category of learning activities having higher priority compared to other categories.

**Table 2**

*Themes Related to Educational Processes*

Global Theme	Organizing Themes	Basic Themes
Educational Processes	Content	Aligning educational content with blended learning standards-Preparing multimedia content based on the syllabus and objectives of the Physical Education course-Sending educational books, pamphlets, and CDs at appropriate intervals-Availability of diverse educational content-Using modern tools to present necessary content in a blended learning environment-Producing up-to-date electronic content-Purposeful content production in different platforms
	Learning Activities	Extent of implementing motor literacy programs and fundamental movements for quality control-Explanation of lesson content by the professor in face-to-face classes and its expansion in the online learning environment-Facilitation of self-directed learning in face-to-face classes by the professor and continuing learning in online classes-Access to professors in online educational environments-Acquisition of independent learning skills for lifelong education-Holding problem-solving classes by the professor offline and online-Personalizing education based on each individual's learning capacity
	Time and Place of Learning	Conducting training courses at appropriate times-Flexibility in class scheduling-Not being limited to specific time and place

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Evaluation	Availability of necessary indicators and standards for assessing educational quality-Evaluating the quality of Physical Education based on schools' facilities (hardware and software)-Evaluating the quality of Physical Education considering access to facilities-Considering the process in educational evaluation
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Participants indicated that attention to teaching-learning activities is a fundamental aspect of the effectiveness of blended learning. Professors must enhance self-directed learning skills in students, and the way skills are explained and taught to students plays a crucial role. If teaching is merely providing information to students without offering opportunities for problem-solving, the education will not be effective. Hence, professors must allocate time for face-to-face meetings in the curriculum and dedicate sufficient time for problem-solving and review sessions.

### 3.3. Organizational Policy

In this research, this theme includes organizing themes such as quality enhancement of resources and facilities, development of information technology infrastructure, university policies, and support and backing, with the theme of support and backing having the highest priority based on the frequency of codes from the participants' perspectives.

**Table 3**

*Themes Related to Organizational Policy*

Global Theme	Organizing Themes	Basic Themes
Organizational Policy	Quality Enhancement of Resources and Facilities	Extent of using blended learning resources as a basis for educational quality-Existence of structured programs for enhancing educational facilities-Standardization, accreditation, and development of sports facilities aligned with the needs of the blended curriculum
	Development of Information Technology Infrastructure	Improving the necessary infrastructure for implementing the Physical Education course in a blended learning environment-Creating dedicated websites within educational groups for implementing blended learning
	University Policies	Reviewing educational objectives and course syllabi considering blended learning-Developing necessary university policies for planning and scheduling blended learning courses-Allocating sufficient budget for implementing blended learning
	Support and Backing	Improving managers' attitudes toward using blended learning-Supporting students and faculty members in blended learning and research-Enhancing the skills and capabilities of professors and students in blended learning-Providing students with access to all face-to-face and online learning facilities in curriculum design and implementation-Expanding the scope of students' learning activities and enabling activities in both web and face-to-face environments

Participant 10 stated that one factor contributing to the effectiveness of blended learning is the support and backing provided by university managers. The first step should be changing managers' attitudes toward considering blended learning as a new and useful education method, especially in Physical Education, and striving to promote this type of education within university units. Moreover, the capabilities of professors and students in benefiting from this type of education should be considered, and in-service training classes and educational courses should be developed.

## 4. Discussion and Conclusion

From the beginning of education, humans have utilized various management methods in teaching. However, new social transformations have brought about changes in various societal aspects, including information and

communication technologies. These changes have also created new needs, and to respond to these new needs, changes and transformations in classroom management methods and improving educational quality are essential. Scientific and research centers worldwide are constantly seeking to enhance the effectiveness of education and provide it to students. Using modern technologies and innovations has paved the way for creating new teaching and learning approaches in educational institutions, and a new approach called e-learning is under development. E-learning creates new possibilities and opportunities in the educational process by using modern technologies such as computers, the Internet, and educational software. This method allows students to access educational materials electronically anytime and anywhere they have Internet access and actively participate in the learning process using electronic devices.

E-learning enables students to improve their skills and knowledge in various fields by using interactive exercises, online tests, and diverse educational resources. On the other hand, this approach also allows professors to present educational content more attractively and interactively, making the learning process more engaging for students. Therefore, given the technological advancements and new societal needs, changes in classroom management methods and improving educational quality are necessary. Scientific and research centers worldwide constantly strive to enhance educational effectiveness and offer innovative methods to students. Using modern technologies and fostering innovation in teaching and learning gradually shapes new approaches, such as e-learning, which is under development. E-learning facilitates the electronic transmission of educational content using modern technologies such as computers, the Internet, and educational software. Using this method, students can access educational materials anytime and anywhere they have Internet access and actively participate in the learning process using electronic devices. Given the weaknesses of purely face-to-face and virtual education, especially for subjects like sports and Physical Education that require practical activities, the blended learning model can be one of the best methods. This model combines face-to-face and virtual education to effectively cover the practical components of the course. This research aims to identify and introduce effective methods for blended learning in the Physical Education course at Islamic Azad University. These methods allow students to experience the course face-to-face and perform practical activities and practice independently using virtual technologies at any time they wish. This teaching model can significantly improve the teaching and learning process of the Physical Education course.

According to Ibrahim et al. (2022), holding sports courses and classes in a blended manner is an effective way to improve students' skills and create motivation in education and learning. In the blended learning model, students, as the main stakeholders of the educational system, are considered one of the main factors. In any educational planning, especially in implementing the blended learning model for Physical Education, considering the various dimensions and characteristics of students is essential (11). Vahdani et al. (2021) also emphasized considering students' characteristics

(such as social and cultural aspects) to achieve the goals of Physical Education in schools. On the other hand, the teacher's role (instructor) is also crucial in effective blended learning. The instructor plays an important role in designing and developing the learning experience, guiding and supporting students, and evaluating learning outcomes (9). Mirmoghtadaie and Ahmadi (2019) also emphasized the important role of the instructor and student and the competencies of teachers in the effectiveness of the blended teaching model (12).

Based on the findings of this research, to better implement blended learning in the Physical Education course, infrastructural requirements or educational infrastructures for the Physical Education course should be reviewed and rethought by experts. In this regard, concepts related to changes in educational structures are divided into two categories: concepts related to the nature of change and concepts related to the process and stages of change. One of the concepts discussed in curriculum change is reform and revision. These reforms include reviewing the organization and structure of the educational system and major revisions in the curriculum and similar matters. Decisions made during the curriculum review process relate to curriculum objectives, educational materials, educational activities, evaluation, and similar items. In this context, Arasteh et al. (2021) emphasized the need for educational policy-making and redefining and adapting digital pedagogy in e-learning in their research, which aligns with the findings of the present study (3). Zaree Zavaraki (2019) also consider content design and production one of the important factors in the effectiveness of the blended learning model (13).

Supervision and evaluation are important elements in designing educational models, relating to both the learner and the course. Using comprehensive evaluation plans that include both process and output evaluations can be suitable for blended learning. During the course, process evaluation monitors the program's progress and provides feedback to adjust or correct the program as needed. Evaluation of the Physical Education course, which has a formative approach, should be based on developmental methods. Based on the findings of this research, it can be said that different methods and tools should be used according to the various educational content and objectives considered for teaching to evaluate students' learning in the Physical Education

course. This approach assesses both the students' learning and the effectiveness of the produced educational content. The findings of this research indicated that considering individual differences in evaluation, attention to the principle of repetition and variety in evaluation, the appropriateness of evaluation methods with the taught content, and the use of new evaluation methods can be key in accurately assessing students (6). In this regard, Vahdani et al. (2021) reported that evaluation methods play a decisive role in students' learning in the Physical Education course (9).

Overall, requirements are all the preparations and necessities that should be considered for effectively implementing an educational program. As the results showed, providing the necessary infrastructure for using blended learning, holding workshops, educational courses, seminars, and conferences to inform stakeholders about blended learning, communicating and contracting with educational and non-educational organizations outside the education system, attracting their material and spiritual support, holding workshops to develop and empower teachers in using applications, networks, and virtual education systems, and providing effective services to students are requirements that can be fruitful in achieving the goals of the Physical Education course both virtually and face-to-face.

Considering that this research was conducted qualitatively and quantitatively examining the opinions of all educational stakeholders was not possible, it seems that field research on the barriers and challenges to implementing the blended learning model in the Physical Education course and conducting extensive quantitative research in Iran to assess the knowledge and attitudes of Physical Education professors regarding the blended learning model and its dimensions can provide valuable insights for the development and use of blended learning for educational policymakers and authorities.

### Authors' Contributions

M.G. and L.H. collaborated on the conceptualization and design of the study. M.G. led the data collection process, conducting semi-structured interviews with faculty members and managing the thematic analysis. L.H. contributed to the analysis and interpretation of the data, ensuring the

reliability and validity of the findings through the method of Guba and Lincoln (1985). Both authors participated in the coding process and the identification of basic, organizing, and global themes. M.G. drafted the initial manuscript, and L.H. provided critical revisions and contributed to the finalization of the paper. All authors reviewed and approved the final manuscript, contributing to the study's development, design, implementation, and evaluation recommendations.

### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

### Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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### Declaration of Interest

The authors report no conflict of interest.

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### Ethics Considerations

The study adhered to the ethical guidelines for research with human subjects as outlined in the Declaration of Helsinki.

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