THE IMPORTANCE OF MODERN TEACHING METHODS IN THE SUBJECT OF DEVELOPMENTAL PHYSIOLOGY AND HYGIENE

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Abstract. This article explores the significance of applying modern pedagogical methods in teaching Developmental Physiology and Hygiene. Emphasis is placed on the growing importance of the subject in the face of current health challenges among youth, such as poor lifestyle choices, stress, and lack of awareness. The article presents a comprehensive overview of effective interactive, digital, interdisciplinary, and research-based strategies. It further highlights how these innovations can enhance conceptual understanding, critical thinking, and professional competence among students pursuing medical and pedagogical sciences.

Keywords: Developmental Physiology, Hygiene, interactive learning, digital tools, medical education, health promotion, active teaching methods.

Introduction. Developmental Physiology and Hygiene is a vital subject within the curriculum of medical, pedagogical, and biological education. It focuses on the physiological growth and development of children and adolescents, examining the interaction of internal biological processes with environmental, psychological, and behavioral factors. This discipline is particularly significant in forming early preventive health strategies and promoting long-term wellness habits among future health professionals [1].

Given the increasing prevalence of non-communicable diseases, obesity, and mental health issues in young populations, the effective teaching of this subject has become even more critical. Therefore, traditional methods must be complemented—and in some cases replaced—by modern instructional strategies that prioritize interactivity, critical inquiry, and the use of digital technologies.

1. Significance and Scope of Developmental Physiology and Hygiene The scope of the subject covers a wide range of physiological and hygienic knowledge essential for recognizing and supporting age-appropriate development. Key focus areas include:

- Anatomical and physiological changes during infancy, childhood, and adolescence.
- The development of key organ systems including cardiovascular, respiratory, endocrine, and nervous systems.
- Principles of hygiene and its practical applications in school and community settings.
- Preventive health practices tailored to different developmental stages.
- The role of environmental, dietary, and social influences on health outcomes.

Understanding these principles enables future specialists to recognize deviations from normative development and advise on early interventions, contributing to holistic child and adolescent health [2].

2. Challenges in Traditional Pedagogy Despite the subject's critical importance, the effectiveness of its delivery is often hindered by the dominance of traditional lecture-based instruction. This mode of teaching may not cater to students with diverse learning preferences and backgrounds. Key challenges include:

- Abstract and complex physiological content being difficult to visualize or contextualize.

- Limited student engagement and passive learning environments.
- Insufficient integration of practical, real-world scenarios.
- Gaps in resource availability, especially in institutions with limited access to modern infrastructure.

Addressing these limitations necessitates the implementation of learner-centered and adaptive teaching models.

3. Integration of Modern Teaching Strategies. 3.1. Interactive and Experiential Learning Modern education emphasizes the role of active learning in fostering critical thinking and long-term retention [3]. In the context of physiology and hygiene, the following interactive approaches are particularly beneficial:

- **Case-Based Learning (CBL):** Students analyze real or simulated clinical cases related to developmental disorders.
- **Role-Playing and Simulation:** Scenarios such as health assessments in a school setting help students apply theoretical knowledge.
- **Peer Teaching and Group Discussions:** These methods promote collaborative learning and knowledge consolidation.
- **Learning Stations and Lab Rotations:** Hands-on experiences increase engagement, especially in topics like respiratory function or growth monitoring. 3.2. Utilization of Digital Tools and Information Technology Digital technologies play an indispensable role in enhancing both in-class and remote learning experiences [8]. Effective applications include:
- **3D Animations and Augmented Reality (AR):** These tools vividly depict the development of organ systems across age groups.
- **Virtual Labs and Simulations:** Provide safe, cost-effective environments for practicing experiments and observing physiological processes.
- **Gamified Platforms (e.g., Kahoot, Quizizz):** Foster competition and motivation through interactive quizzes.

• **Learning Management Systems (LMS):** Platforms like Moodle, Edmodo, or Google Classroom offer structured content delivery, resource sharing, and learner progress tracking. 3.3. Research and Project-Based Learning To cultivate scientific inquiry and problem-solving skills, students should be encouraged to:

• Design surveys evaluating hygiene habits among peers.

• Track developmental indicators such as height, weight, or motor skills over time.

• Create public health campaigns addressing adolescent health.

• Conduct literature reviews or mini-thesis projects linking physiology and social determinants of health

• Such projects develop analytical thinking, teamwork, and communication competencies.

4. Interdisciplinary and Practical Orientation Linking developmental physiology to subjects such as psychology, sociology, nutrition, and physical education enhances understanding and practical relevance. Examples of interdisciplinary modules include:

The relationship between emotional wellbeing and hormonal regulation.

Socioeconomic factors affecting access to hygiene resources.

Nutritional science and its impact on physical development [5].

Gender-specific developmental health concerns.

Through interdisciplinary perspectives, students gain a holistic view of child health.

5. Assessment and Evaluation Approaches. Modern assessment strategies must reflect the diverse learning styles and competencies developed through innovative methods. Recommended tools include:

Formative Assessments: Short quizzes, interactive polls, and classroom feedback.

Summative Assessments: Final exams, presentations, and practical demonstrations [6].

Portfolio Assessment: Students compile reflections, assignments, and project outcomes.

Peer Review and Self-Evaluation: Foster responsibility and critical appraisal of one's own learning.

A combination of traditional and alternative assessments ensures a fair and comprehensive evaluation of learner performance.

Conclusion.The inclusion of modern teaching methods in the instruction of Developmental Physiology and Hygiene is not just a pedagogical innovation but a necessity in contemporary education. These methods, which prioritize active learning, technological integration, and interdisciplinary thinking, help students better understand physiological concepts and apply them in real-world contexts. Moreover, they contribute to shaping responsible, knowledgeable, and health-conscious professionals. As educational environments continue to evolve, so too must the methods we use to prepare the next generation of educators and health specialists [9].

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