

## **An Interdisciplinary Approach to Science Popularization: Integrating Psychological, Pedagogical, and Digital Methods**

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### **Abstract:**

As digital transformation reshapes education and communication, the question of how to spark and sustain young people's interest in science becomes increasingly urgent. This paper explores how an interdisciplinary methodology – linking psychology, pedagogy, sociology, and digital media–can foster deeper scientific engagement among diverse youth groups. Drawing on a multi-year empirical study conducted in Kazakhstan from 2022 to 2024, the authors outline a model that accounts for different audience needs, motivational triggers, and technological habits, particularly among Generations Z and Alpha. The model emphasizes the combined use of AI-powered tools, visual storytelling, and interactive media formats, supported by pedagogical guidance, to strengthen science communication. The results suggest that integrating digital resources with educational strategies not only improves engagement but also lays the foundation for broader scientific literacy. Recommendations are offered for embedding this model into school and university curricula, as well as for the development of national-scale media platforms promoting a culture of science.

### **Keywords:**

Science communication, youth engagement, scientific literacy, interdisciplinary approach, digital tools, education, AI in education, pedagogy, critical thinking, Generation Z.