AI & Medical Sciences Education

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1. Radio: 50 million users in 38 years
2. Television: 50 million users in 13 years
3. The Internet: 50 million users in 5 years

Dr. Hassanzadeh

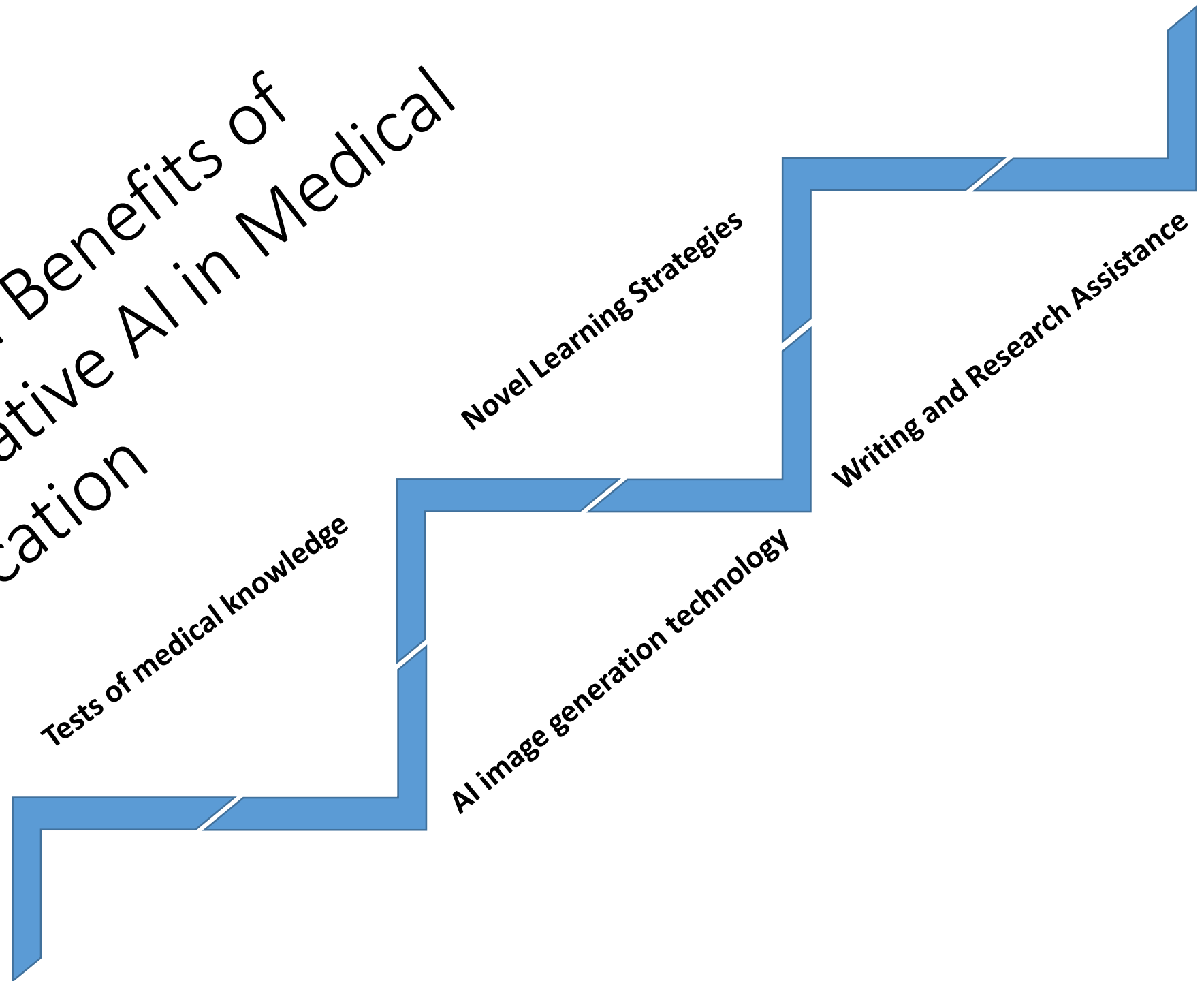انجمن آموزش علوم پزشکی
جمهوری اسلامی ایران

From Elite to Mass Higher Education

- In 1946, 8 Australian universities teaching about 26,000 students.

- In 2003, 37 Australian universities teaching about 888,000 students.

Dr. Hassanzadeh

From Elite to Mass Higher Education

- In 1978, 232 Iranian universities teaching about 175,600 students.

- In 2020, 2724 Iranian universities teaching about 3,600,000 students.

Potential Benefits of Generative AI in Medical Education

Tests of medical knowledge

AI image generation technology

Novel Learning Strategies

Writing and Research Assistance

Potential Benefits of Generative AI in Medical Education

- **Tests of medical knowledge**: These examinations ranged from general medical knowledge tests such as the United States Medical Licensing Exam to specialized examinations in fields like cardiology, neurology, and ophthalmology

- **Novel Learning Strategies**: The development of personalized learning plans and learning materials. Webb discussed the potential for generative AI to enhance communication skills for emergency medicine physicians, particularly for delivering difficult news.

Potential Benefits of Generative AI in Medical Education

- **AI image generation technology**: Case-based learning in plastic surgery, for which AI-produced photographs of conditions like skin tumors were used.

- **Writing and Research Assistance**: AI could assist non-native English speakers with improving their writing proficiency as well as provide more comprehensive translation of foreign language content.

Potential **Limitations** of Generative AI in Medical Education

Potential Detriments to Learning
From Generative AI

Accuracy and Dependability

Academic Integrity Concerns

Potential Limitations of Generative AI in Medical Education

- **Academic Integrity Concerns**: Generative AI could be used to dishonestly improve performance on examinations or assessments, misrepresent AI-generated text as written by a human, or circumvent traditional learning exercises designed for skill development.

- **Accuracy and Dependability**: The propensity of these systems to generate and propagate misinformation is a notable risk. Despite the remarkable performance of these models on standardized tests, they still commit significant errors, and their performance is often on par with that of novice learners.

Potential Limitations of Generative AI in Medical Education

- **Potential Detriments to Learning From Generative AI**: An overdependence on this technology could potentially curtail learners' capacities for critical thinking and intricate problem-solving.

- Furthermore, an overemphasis on AI-based learning opportunities could diminish human interaction and engagement, which are fundamental to learning and honing patient-interaction skills.
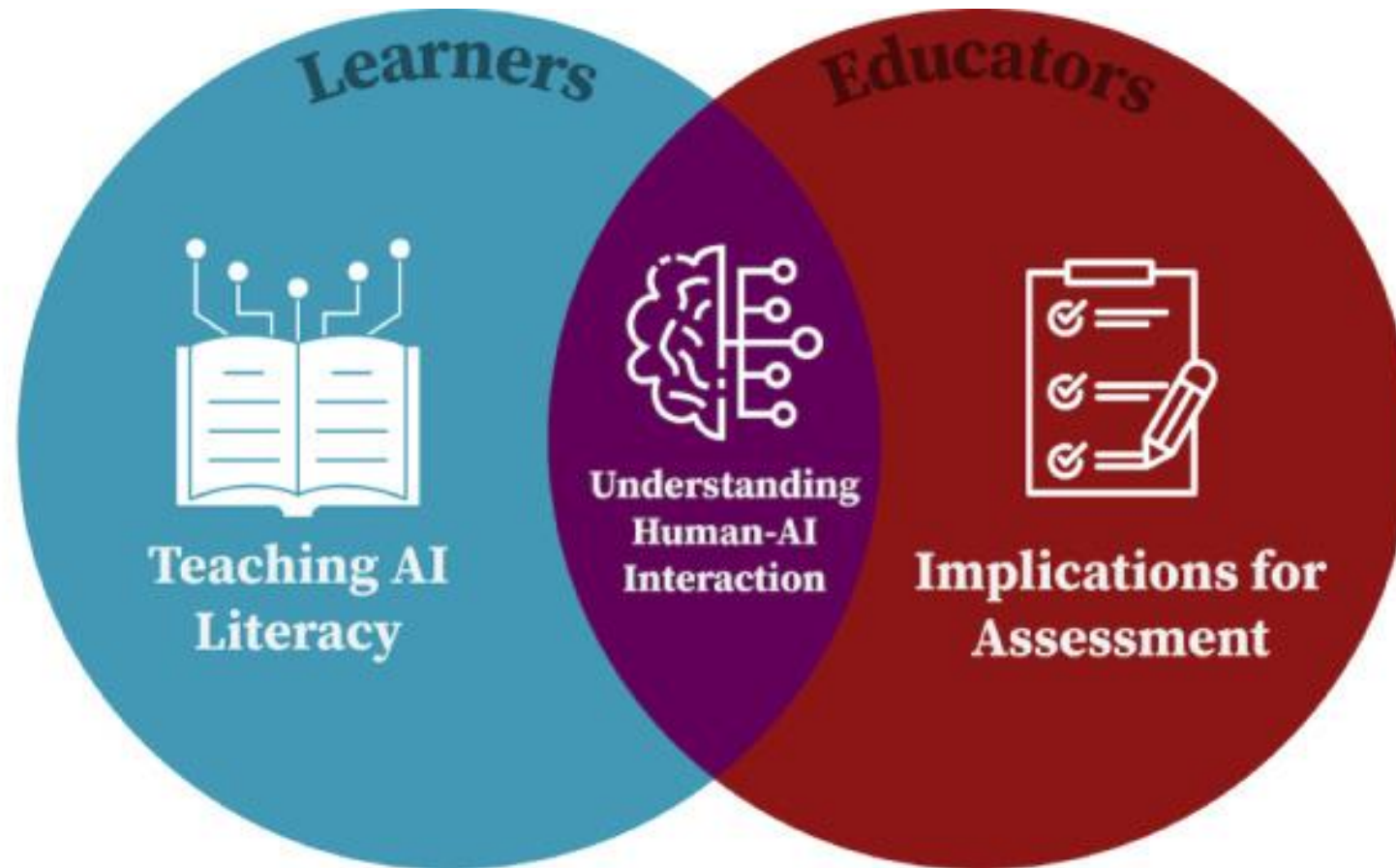
Opportunities, Challenges, and Future Directions of Generative Artificial Intelligence in Medical Education: Scoping Review

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