

Research on Innovative Technologies for Enhanced Learning (RITEL) Program Overview

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So what's the BIG IDEA:

What's the overarching concept here? We're acutely aware of the pressing issue of children aging out of foster care at an alarming rate. We're equally cognizant of the heightened risk of recidivism when there's no effective method in place to encourage rehabilitation and develop skills that pave the way for future opportunities. Furthermore, the daily growth in our homeless veteran population is a concern that cannot be ignored.

Let's embark on a journey that merges technology and education to create a pivotal intersection, offering a gateway to cutting-edge research. At its core, RITEL (Revolutionary Initiative for Technology-Enhanced Learning) is committed to delving into the profound transformations that emerging technologies bring to the domains of teaching and learning, with a particular focus on their applications in the realm of STEM education.

Allow me to introduce the Research on Innovative Technologies for Enhanced Learning (RITEL) program, a visionary endeavor supported by the National Science Foundation (NSF).

RITEL stands at the fascinating crossroads of technology and education, offering a gateway to pioneering research. At its core, RITEL is dedicated to exploring the profound transformation that emerging technologies bring to the realms of teaching and learning, with a particular emphasis on their applications in the field of STEM education.

This program is poised to confront the challenges and seize the opportunities presented by these innovative technologies, encompassing a broad spectrum of educational landscapes, from the formal education sector, spanning from K-12 to higher education, to the dynamic environments of informal learning.

The RITEL program promises to be a journey of discovery, innovation, and collaboration where technology and education merge to shape the future of learning.

Key Aspects of the RITEL Program:

Purpose and Scope:

- RITEL supports research in emerging technologies for teaching and learning.
- It delves into cutting-edge technologies such as Artificial Intelligence (AI), robotics, and immersive experiences.
- Research areas encompass teaching, learning, or a fusion of both, with a distinct emphasis on STEM education.

Award Information:

- The program provides funding for approximately 20-25 projects, with an estimated budget of \$25 million.
- Each project can receive up to 3 years of funding, with a maximum award amount of \$900,000.

Eligibility:

- Open to Institutions of Higher Education (IHEs), non-profit non-academic organizations, and tribal governments.
- No restrictions on principal investigators (PIs).
- Each PI can participate in one proposal per submission date.

Proposal Preparation:

- Adhere to NSF guidelines as outlined in the Proposal and Award Policies and Procedures Guide (PAPPG).
- Submit full proposals via Research.gov or Grants.gov.
- Include supplementary documents, such as lists of project personnel and partner organizations.

Collaboration and Interdisciplinarity:

- Encourages interdisciplinary collaboration.
- Teams should comprise experts from various fields, including learning sciences, computer science, and social and behavioral sciences.

Educational Equity and Ethical Use:

- Places emphasis on equity, ethics, bias, privacy, and security in the integration of educational technology.
- Collaboration with stakeholders is encouraged.

Authentic Learning Environments:

- Focuses on the real-world application of emerging technologies, including resource-constrained settings.

Teaching and Learning Research:

- Projects must advance both teaching and learning research.
- Supports proof-of-concept studies for innovative learning technologies.

Diverse Learner/Teacher Populations:

- Seeks projects that benefit diverse learners and educators while staying within budget constraints.

Technology Research:

- Explores a range of emerging technologies, from AI to robotics.
- Advances fields such as computer science, information science, and engineering.

Broad Learning Contexts:

- Supports projects in various formal and informal learning settings.

Annual PI Meetings:

- Budgets should include provisions for PI attendance at annual meetings in Washington, DC.

Submission Deadlines:

- Full proposals are accepted in January and November.

RITEL Program Timeline:

- January 24, 2024: Full Proposal Deadline (First deadline in 2024)

Key Roles:

Principal Investigator (PI):

- Role: Leads the research project and ensures its success.
- Education Level: Typically holds a Ph.D. in their field.

Senior Personnel:

- Role: Experienced researchers contributing significantly to the project.
- Education Level: Typically holds a Ph.D. or equivalent expertise.

Postdoctoral Researcher:

- Role: Early-career researchers working on specific project aspects.
- Education Level: Holds a Ph.D. or equivalent doctoral degree.

Paid Consultant:

- Role: Expert providing specialized advice or services.
- Education Level: Holds a relevant degree.

Unpaid Collaborator:

- Role: Voluntary contributors offering resources, expertise, or facilities.
- Education Level: Varies based on the nature of the contribution.

Subawardee:

- Role: Collaborating institutions or organizations receiving project funding.
- Education Level: Varied based on roles within the subawardee institution.

Proposed program objectives and requirements matrix:

#	Program Objective	Requirements	Assigned Person/Role
1	Program Scope and Purpose	Explore the impact of emerging technologies on teaching and learning. - Focus on STEM education applications. - Address challenges and opportunities in various educational settings.	Project Manager
2	Funding Allocation	<ul style="list-style-type: none">● Fund 20-25 projects.● Allocate an estimated budget of \$25 million.● Provide individual project funding of up to \$900,000.	Financial Officer

		<ul style="list-style-type: none"> We would fare much better if we could stay below the funding ceiling by 5-10%. This would make us a more attractive opportunity. 	
3	Eligibility and Applicant Types	- Open to Institutions of Higher Education (IHEs), non-profit non-academic organizations, and tribal governments. - No restrictions on Principal Investigators (PIs). - Each PI can participate in one proposal per submission date.	Grant Administrator
4	Proposal Preparation	- Adherence to NSF guidelines in the Proposal and Award Policies and Procedures Guide (PAPPG). - Submission of full proposals via Research.gov or Grants.gov. - Inclusion of supplementary documents, such as lists of project personnel and partner organizations.	Proposal Coordinator
5	Collaboration and Interdisciplinarity	- Encouragement of interdisciplinary collaboration. - Teams must include experts from various fields, including learning sciences, computer science, and social and behavioral sciences.	Collaboration Facilitator
6	Educational Equity and Ethical Use	- Emphasis on equity, ethics, bias, privacy, and security in educational technology integration. - Collaboration with stakeholders encouraged.	Equity and Ethics Officer

7	Authentic Learning Environments	- Focus on real-world use of emerging technologies, including resource-constrained settings.	Educational Technologist
8	Teaching and Learning Research	- Projects must advance both teaching and learning research. - Support proof-of-concept studies for innovative learning technologies.	Research Specialist
9	Diverse Learner/Teacher Populations	- Projects should benefit diverse learners and educators while adhering to budget constraints.	Diversity and Inclusion Officer
10	Technology Research	- Exploration of emerging technologies, from AI to robotics. - Advancement of fields such as computer science, information science, and engineering.	Technology Research Lead
11	Broad Learning Contexts	- Support for projects in various formal and informal learning settings.	Learning Environment Specialist

12	Annual PI Meetings	- Inclusion of provisions for PI attendance at annual meetings in Washington, DC in project budgets.	Meeting Coordinator
13	Submission Deadlines	- Full proposals accepted in January and November.	Submission Coordinator
14	Program Promotion and Outreach	- Dissemination of program information and outreach to potential applicants. - Engage with academic and non-academic communities.	Outreach Coordinator
15	Evaluation and Reporting	- Regular program evaluation to ensure objectives are met. - Periodic reporting to NSF.	Evaluation and Reporting Officer

BIG IDEA Expanded:

The overarching concept here is the convergence of technology and education to address pressing social issues. In this case, the concept is embodied by the "Revolutionary Initiative for Technology-Enhanced Learning" (RITEL), which seeks to leverage emerging technologies to address three significant challenges:

Foster Care Aging Out: RITEL aims to develop solutions that support children aging out of foster care, providing them with opportunities for rehabilitation, skill development, and a pathway to future opportunities. By utilizing technology and education, RITEL seeks to break the cycle of instability and vulnerability that often accompanies aging out of foster care.

Recidivism Prevention: RITEL acknowledges the risk of recidivism when effective rehabilitation methods are lacking. The initiative is committed to developing innovative approaches that help individuals involved in the criminal justice system acquire skills and knowledge that can lead to meaningful opportunities, reducing the likelihood of reoffending.

Homeless Veteran Population: The growing homeless veteran population is another concern that RITEL intends to address. By leveraging technology and educational tools, the initiative seeks to empower veterans who may be struggling with homelessness by providing them with opportunities for skill development and access to resources that can lead to stability and improved life prospects.

The central theme of RITEL is the transformative potential of emerging technologies in the field of education, particularly in STEM education. By harnessing the power of technology, RITEL aims to create innovative solutions that bridge the gap between societal challenges and educational opportunities, ultimately contributing to positive social change.