

## Advancing Research and Innovations in Preservice Education Programs

### **The goal of the advancement is to:**

- Improve teacher candidate learning – content and/or pedagogy
- Improve teacher candidate preparation to enter the field (induction)
- Improve the clinical experiences of preservice teachers
- Improve the retention rates of STEM teachers in high needs school districts

### **We are seeking examples of innovation in the following areas:**

- Culture competency of teachers including culturally relevant pedagogy
- Early Clinical Experiences
- Rotations – student exposure to multiple school environments or types of students
- Supporting *each and every* student
- Induction and mentoring
- Leadership Development
- Partnerships between teacher prep programs and entities such as local K-12 districts/schools, campus learning centers, and centers for STEM Education
- Technology-based solutions
- Online, or Virtual, teacher education
- Non-university partnerships

### **Innovations can be:**

- Incremental – Work that builds upon or reinforces existing efforts
- Structural – Work that leads to changes in culture, programs, relationships, e.g. partnerships between institutions of higher education (IHE) and K-12 entities
- Radical - Disruptive. Work that leads to an entirely new way of doing things or a change in the preservice education of STEM teachers?
- Exemplary Models that continue to evolve

	Unaware	Not Yet Started	Aware	Developing	Mature
<b>Implementation</b> Has this been implemented in the classroom or field?	A problem has been identified but the innovation has not been conceived	The innovation is in the idea stage	There is a plan to enact the innovation though it has not yet been implemented or put into practice	The innovation has been implemented for less than two years or two iterations	The innovation has been implemented for more than two years or two iterations
<b>Data</b> Is there data related to outcomes, student learning, or efficacy of the innovation?	Data for the innovation has not been articulated	Data for the innovation has not been collected	Data for this innovative practice has been collected but not analyzed Data is benchmarked	Data analysis has been conducted but yields inconclusive results <b>or</b> Data has not been used as a tool for feedback or improvements	Data analysis reveals positive results <b>and</b> Data is used as a tool for feedback and improvements <b>or</b> There is a data sharing agreement between researchers and practitioners
<b>Replication/Repeatability</b> Has the innovation been replicated with similar results? Can the innovation be replicated in other contexts with adaptations with fidelity?	It is not clear if the innovation can be repeated or replicated.	This innovation has not been enacted more than once	The innovation has been repeated by the same organization one time or by one other organization, e.g. course, program, institution <b>or</b> has been repeated with differing outcomes	The innovation has been repeated by the same organization at least twice or by more than two organizations with similar outcomes	The innovation has been implemented by more than three organizations or repeated more than four times <b>OR</b> this has been repeated four times with similar outcomes
<b>Sustainability</b> Can the innovation (activity, program) be sustained for multiple courses, years, etc.?	The innovation has not been implemented	The innovation has not been formally documented	The innovation is informally implemented or informally documented via organizational documents, e.g. syllabi, course description, departmental material, etc.	The innovation is a formally documented practice with minimal organizational support	Senior leadership has committed to enacting the innovation regularly, e.g. each semester, annually, etc.
<b>Scalability</b> Can the innovation be implemented across boundaries, e.g. course, department, or university?	The innovation has not been implemented	The innovation has not been used across organizational boundaries, e.g. course, department, institution, etc.	The innovation has been used across one organizational boundary, e.g. course, department, institution, etc.	The innovation has been used across two organizational boundaries, e.g. course, department, institution, etc.	The innovation has been implemented across at least three organizational boundaries, e.g. course, department, institution.
<b>Policy/Long-term Impact</b> How does the innovation impact an organization, e.g. course, program, institution? Does the innovation have the potential to lead to long-term or transformative culture change in the preservice education of STEM teachers?	The short- and/or long- term impact of the innovation is unclear	There is no potential for the innovation to have a long-term impact or effect policy	The innovation is positioned to impact policy, learning, or curricular, or have long-term impact, but needs additional time	The innovation is used to inform the organization's policy, learning, curricular, or practices	The innovation has been embedded in the institution, program, department, etc. and informs policy or transformed learning, curricula, or practices
<b>Basis for Innovation</b> Is the innovation grounded in evidence-based research?	There is no discernable evidence base to support the innovation	There is no little evidence to support the innovation	This is a weak relationship between the innovation and an evidence base	There is a clear relationship between an evidence base and the innovation	There is a strong evidence-base to support the innovation

