

Informal STEM Learning Professional Framework

A Guide to Using the Framework

This Framework is a tool for professionals and informal science learning (ISL) institutions to understand, plan, and advance their professional capacity. It can be used in several ways:

- Individuals can assess their professional competencies and plan their professional development,
- ISL institutions can identify competencies desired by staff for job announcements,
- ISL institutions can plan, provide and assess staff development,
- Professional organizations and academic programs can plan training and learning opportunities they provide.



How is the Framework Organized? The Framework is structured into four domains of competencies:

Institutional Operations – individual competencies related to the policies, operations, and functions of ISL organizations such as creating and maintaining budgets or advancing mission and vision

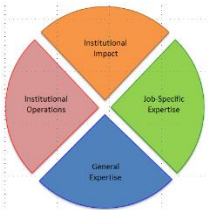
Institutional Impact – individual competencies related to understanding, advancing, and assessing the impact of the institution on audiences, communities, and society

Job-specific Expertise – individual competencies related to specific functions or areas of work within ISL institutions. These competencies are sometimes referred to as ‘technical skills’ or ‘hard skills’

General Expertise – individual competencies that are useful in any position such as intrapersonal skills or the ability to communicate effectively. Those competencies are sometimes referred to as ‘soft skills’.

The first two domains focus on understanding the ways individual staff members support the institution’s work within its community. The other two domains focus on the ways individuals work within the institution. The competencies within each domain were identified through empirical research that involved ISL professionals across the US.

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Levels of Involvement Within Each Competency

Each competency is divided into three Levels. “Levels”, however, are not equivalent to particular positions. Rather, they indicate competencies one would expect from individuals with increasing depth of experience within ISE:

Level 1 - These are basic capabilities such as understanding and implementing the policies and procedures of your institution; understanding intended outcomes of your work and how to measure them; demonstrating effective and efficient knowledge and skills in your area of work; and demonstrating interpersonal and intrapersonal skills in your area of work.

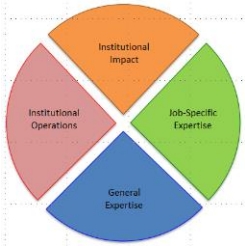
Level 2 - These are more advanced capabilities such as influencing and implementing the policies and procedures of your institution; identifying and contributing to the impact of your institution on its intended audiences; developing or managing effective and efficient practices and products in your area of work; and demonstrating interpersonal and intrapersonal skills with increasingly complex or different areas of work.

Level 3 - These are the most advanced capabilities such as creating or influencing policies and procedures within the ISL field; understanding and contributing to the impact of the ISL field on society; advancing the skills and knowledge base of your area of work in the ISL field; and supporting and nurturing exemplary interpersonal and intrapersonal skills across your institution and the ISL field.

How can I use the Framework?

Most careers and most positions are a mix of competencies and levels of involvement. Thus, it is likely that you will find yourself in a supporting role in some domains/levels and in a leadership or management role in other domains/levels. The Framework spells out expectations for competencies across a variety of tasks or domains in ISE, and therefore provides you with guidance as to the degree to which your current set of competencies align with expectations.

Specifically, the Framework can be used to identify competencies and levels that could improve your success in your current role, or that might prepare you to move into a different role. For example, you might be in a “support” role regarding policies and practices in the “Institutional Operations” domain, and be interested in moving into a ‘management’ or ‘leadership’ role. The Framework, can help you determine where you are and where you want to be, so that you can systematically and thoughtfully manage your career through professional development. The Framework can also help supervisors to determine the competencies they desire in a given staff position for developing a job announcement, or to identify professional development experiences for staff members.



Domains and Competency Levels

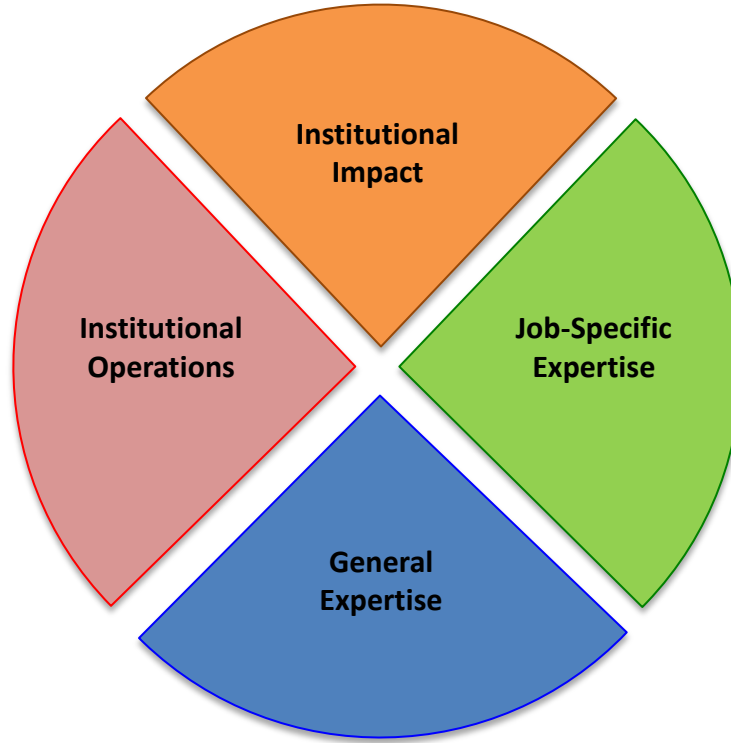
	Level 1	Level 2	Level 3
Institutional Operations	Understand and implement the policies and procedures of my institution.	Influence and implement the policies and procedures of my institution.	Create or influence policies and procedures within the ISL field.
Institutional Impact	Understand the intended outcomes of my work and recognize or measure the outcomes achieved.	Identify and contribute to the impact of my institution on its intended audiences.	Understand and contribute to the impact of the ISL field on society.
Job Specific Expertise	Demonstrate effective and efficient knowledge and skills in my area of work.	Develop or manage effective and efficient practices and products in my area of work.	Advance the skills and knowledge base of my area of work in the ISL field.
General Expertise	Demonstrate interpersonal and intrapersonal skills in my area of work.	Demonstrate interpersonal and intrapersonal skills with increasingly complex or difficult areas of work.	Support and nurture exemplary interpersonal and intrapersonal skills across my institution and ISL field.

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Each Domain represents four competencies over three levels of expertise

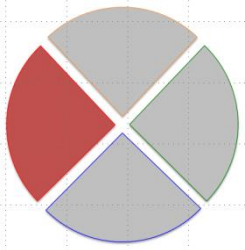
	Level 1	Level 2	Level 3
Audiences			
Role			
Equity and Diversity			
Research Evaluation			

	Level 1	Level 2	Level 3
Mission, Vision, Goals			
Structure			
Policies			
Finances			



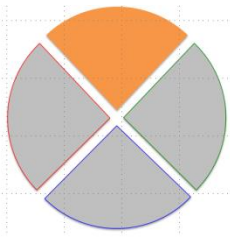
	Level 1	Level 2	Level 3
Effective Practice			
Efficient Practice			
Evidence			
Professional Learning			

	Level 1	Level 2	Level 3
Intrapersonal knowledge			
Interpersonal			
Communication			
Creative			



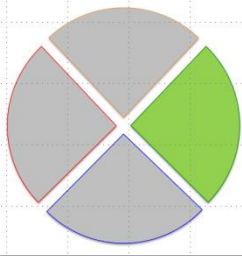
Institutional Operations Domain

	Level 1	Level 2	Level 3
Institutional Operations	Understand and implement the policies and procedures of my institution.	Influence and implement the policies and procedures of my institution.	Create or influence policies and procedures within the ISL field.
Mission, Vision, and Goals	Understand and articulate the mission, vision, and goals of my institution.	Influence and shape the mission, vision, and goals of my institution.	Create or contribute to the mission, vision, and goals of the ISL field.
Structure	Understand and navigate the organizational structure of my institution.	Influence and shape the structure and operation of my institution.	Create or contribute to organizational structures that are effective within the ISL field.
Policies	Understand the policies and expectations within my institution.	Influence and contribute to effective and equitable policies within my institution.	Create or contribute to effective and equitable policies and processes within the ISL field.
Finances	Understand budgets that relate to my area of work and use resources efficiently.	Identify, monitor, and manage sources of income and expenditures to align with available resources and goals of my institution.	Provide financial leadership for projects, programs, and products within the ISL field.



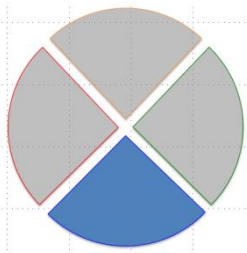
Institutional Impact Domain

	Level 1	Level 2	Level 3
Institutional Impact	Understand the intended outcomes of my work and recognize or measure the outcomes achieved.	Identify and contribute to the impact of my institution on its intended audiences.	Understand and contribute to the impact of the ISL field on society.
Audiences	Identify intended and achieved outcomes for my area of work that align with an understanding of visitors.	Identify intended and achieved outcomes for my institution that align with an understanding of my community and of the ISL field.	Advance the aspirations of outcomes that align with an understanding of society and the ISL field.
Role	Understand the role of ISL institutions in society and the history of my institution in my community.	Influence and contribute to the impact, reputation, and value of my institution.	Advance the aspirations and capacity of the ISL field to impact society.
Equity & Diversity	Understand and support the characteristics of an equitable and culturally-responsive work environment.	Influence and contribute to equitable and responsive actions with my institution, my community, and the ISL field.	Advance the role of ISL institutions in building an equitable and vibrant society.
Evaluation & Research	Understand the processes, purpose, and general results of research and evaluation in ISL.	Influence and contribute to the identification and measurement of intended outcomes in the processes, products, and programs of my institution.	Advance the identification and measurement of intended outcomes in the work of the ISL field.



Job Specific Expertise Domain

	Level 1	Level 2	Level 3
Job Specific Expertise	Demonstrate effective and efficient knowledge and skills in my area of work.	Develop or manage effective and efficient practices and products in my area of work.	Advance the skills and knowledge base of my area of work in the ISL field.
Effective Practice	Provide effective programs, services, and products.	Develop or manage, effective programs, services, and products.	Create or contribute to practices that address increasingly complex goals of the ISL field.
Efficient Practice	Use tools and strategies that increase my efficiency without compromising effectiveness.	Implement or share processes and procedures to increase efficiency of my institution without compromising effectiveness.	Develop or manage efficient practices that address increasingly complex goals of the ISL field.
Evidence-based practice	Make decisions about my area of work based on evidence about effectiveness and/or efficiency in meeting intended outcomes.	Influence or contribute to the use of evidence in the decisions, plans, and actions of my institution.	Advocate for and contribute to evidence for effective and efficient practices in the ISL field.
Professional Learning	Participate in professional learning that advances my professional and personal goals.	Influence or contribute to development of professional development opportunities for myself and others.	Create and advocate for a professional culture within the field of ISL that is robust and sustainable.



General Expertise Domain

	Level 1	Level 2	Level 3
General Expertise	Demonstrate interpersonal and intrapersonal skills in my area of work.	Demonstrate interpersonal and intrapersonal skills with increasingly complex or difficult areas of work.	Support and nurture exemplary interpersonal and intrapersonal skills across my institution and ISL field.
Intrapersonal knowledge & skills	Demonstrate initiative, self-reflection, and perseverance in my area of work.	Understand how my intrapersonal knowledge, skills, and aspirations influence the work of those around me.	Create and sustain practices that recognize and reward intrapersonal reflection, knowledge, and skills.
Interpersonal knowledge & skills	Acknowledge and respect the values, attitudes, and behaviors of myself and of others in my institution.	Support and influence collaborative and mutually-beneficial relationships within my institution.	Create and sustain collaborative and mutually-beneficial relationships with stakeholders and colleagues across the ISL field.
Communication	Demonstrate effective and ethical communication skills in my work.	Support and influence effective and ethical communication skills with a range of audiences and using a range of media.	Create and sustain strategic communication skills that advance the work of the ISL field in society.
Creative and analytical thinking	Demonstrate creative and analytical thinking skills in my area of work.	Identify and address increasingly complex problems and opportunities with creative and analytical thinking skills.	Influence and support the capacity of my institution and the ISL field to address societal goals and problems through creative and analytical thinking.

Note regarding the current version of the Framework - The current version had funding to only develop the Framework to the Competency and Levels of Involvement stage. The authors know that additional skills and knowledge need to be added for the Framework to be most useful. The current goal for the Framework development is to assess if the identified Domains, Competencies, and Levels of Involvement are the appropriate set of descriptors. After getting feedback on the current version, refinements will be made to the Domains, Competencies, and Levels of Involvement, and then additional skills and knowledge will be added.



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