



A GUIDE TO USING THE BETA CREDENTIALS FRAMEWORK

A UNIVERSAL CREDENTIALS TRANSLATOR

Connecting
Credentials

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SECTION ONE

INTRODUCTION

WHAT IS THE BETA CREDENTIALS FRAMEWORK?

The Framework uses competencies – what the learner knows and is able to do – as common reference points to help understand and compare the levels and categories of knowledge and skills that underlie degrees, certificates, industry certifications, licenses, apprenticeships, badges and other credentials. The Framework is intended to connect the dots among diverse credentials by using a common language to describe what recipients of each credential should know and be able to do. The Framework covers every type of credential including industry certifications, micro-credentials and badges, college certificates, and apprenticeships, as well as post-secondary and doctoral degrees.

WHAT IS THE FRAMEWORK'S VALUE?

Use of the Framework is intended to make it easier to compare credentials, and make it possible to translate the learning gained from one credential toward securing another. By connecting credentials on a common platform, the Framework is designed to help create clear and multiple pathways for students and employers. By illustrating the connections between and across multiple credentials, use of the Framework is intended to help make it easier to understand the competencies associated with any credential and help stakeholders compare various credentials.

THE PURPOSE OF THIS BETA GUIDEBOOK

Program developers, educators, workforce development professionals, credential providers, human resource managers and professional organizations, as well as others, can use this *Guidebook* to identify applications for the Beta Connecting Credentials Framework. The *Guidebook* provides step-by-step processes and tools to use the Framework to:







- Translate credentialing program expectations into competencies;
- Identify competencies within existing credentials;
- Develop credentials;
- Compare credentials -- course to course, program to program, within and across professions;
- Align credentials with work functions and tasks;
- Produce related formative assessments;
- Improve quality and value of credentials by identifying strengths and gaps.

THE BETA CREDENTIALS FRAMEWORK

The Framework is a structured tool that helps the user make judgments about underlying competencies (existing or in development) represented in a credential.

The Framework is organized around two learning domains and eight levels. The two learning domains are 1) Knowledge and 2) Skills (specialized, personal, and social). The eight levels indicate relative knowledge and skill complexity, breadth, and/or depth. This structure provides the ability to translate any credential and to place it on a common reference platform for analysis.

FIGURE 1 – SNAPSHOT OF THE CREDENTIALS FRAMEWORK MATRIX

LEVELS	The level requirements in study and work are described in terms of the degree of adaptability, range, complexity, and selectivity.	 LEVELS 1-8
KNOWLEDGE	Knowledge describes what a learner knows, understands, and can demonstrate. The requirements are described in terms of depth, breadth and dimension.	 LEVELS 1-8
SKILLS	Skills describe what an individual can do in applying knowledge completing tasks, and solving problems (involving the use of logical, intuitive and creative thinking).	 LEVELS 1-8
SPECIALIZED SKILLS	The requirements are described in terms of: <ul style="list-style-type: none"> • Critical Thinking and Judgment; • Integrative Applications • Systems Thinking 	 LEVELS 1-8
PERSONAL SKILLS	The requirements are described in terms of: <ul style="list-style-type: none"> • Autonomy • Responsibility • Self-Awareness and Reflection 	 LEVELS 1-8
SOCIAL SKILLS	The requirements are described in terms of: <ul style="list-style-type: none"> • Communication • Involvement • Teamwork & Leadership 	 LEVELS 1-8



IMPORTANT TERMS

WHAT'S A CREDENTIAL?

A credential signals a defined and expected set of competencies for multiple purposes – employment, progression in educational attainment, the right to practice a profession, and others. The Beta Credentials Framework can help profile educational degrees and certificates, licenses, professional and industry certifications, apprenticeship certificates, digital badges and other micro-credentials.

A COMPETENCY?

A "competency" is defined here by what a person knows and is able to do. Some other terms for "competency" in the credentialing world are "learning or student outcomes", "instructional objectives or terminal/enabling objectives," and "performance objectives". Regardless of the terminology, knowledge and skills are the components of competencies that can be identified, measured and applied within educational and business and industry settings.

A PROFILE?

The Beta Credentials Framework can be used in multiple applications. Whether comparing or aligning existing credentials or developing new ones, each application begins with the profiling process. A *profile is a summary of competency levels within the credential across knowledge, and learning and skill domains*. The Beta Connecting Credentials Framework is content-agnostic and not dependent on any specific type of existing content framework. Therefore, **any credential** can be profiled using the Framework. **Profiles are the foundation for all Framework applications.**

SECTION 2

USING THE FRAMEWORK - EXAMPLES OF APPLICATIONS

The Beta Connecting Credentials Framework applications can be used by business, industry and education to:

PROFILE AN INSTRUCTIONAL MODULE, COURSE, EDUCATIONAL OR TRAINING PROGRAM

The Profiling Application can be used to define and design an instructional module, course, or program of study. It provides an explicit statement **of learner outcomes**. A profile provides **insights** to determine whether or not modules or courses are in the optimum sequence or learning pathway to achieve intended learning outcomes.

PROFILE CREDENTIALS

A Credential Profile **articulates the actual proficiency levels** represented by a specific credential. Understanding the proficiency level helps define and validate the competencies in the credential. This process can be used to describe individual knowledge and skills and align them to a desired level of proficiency attainment.

COMPARE COURSES, PROGRAMS AND/OR CREDENTIALS

Comparing profiles of multiple credentials provides an understanding of competency related **differences between courses and/or credentials**. It helps differentiate the content and outcomes between similar courses and credentials and provides the basis for a comparative analysis.

CREATE AN AGGREGATE CREDENTIAL PROFILE

Aggregate profiling provides a **descriptive summary** of a credential and can be used when an exact representation of all related competencies might not be necessary; for instance, when developing policy or creating a searchable database.

STACK CREDENTIALS OR SEQUENCE COURSES

The Stacking Credentials Application uses comparative profiling to understand an array of credentials or potential credentials **in a career or learning pathway**. It identifies overlaps in related courses and credentials and helps show relationships in order to establish, link and optimize learning and career pathways.



DEFINE COURSE COMPETENCIES

The Credentials Framework Profile helps **developers** think through what a learner needs to know and how to assess achievement. It helps turn broad outcomes into more granular competencies. The profile helps determine the design of the course, the desired level of proficiency, and content sequence.

DEVELOP A NEW COURSE OR CREDENTIAL

A Profile can be used to develop explicit statements about what people need to know or be able to do. Using the Connecting Credentials Profiling process provides an informed framework for designing an assessment strategy and identifying learning activities and resources that can lead to the intended outcomes and provide evidence of learning attainment.

ALIGNING JOB DESCRIPTIONS (TASKS) TO CREDENTIALS

Competencies associated with some degrees, certifications, short-term certificates, licenses, and many micro-credentials focus on their relationship to actual work tasks and professional applications. This type of profile helps align a credential with workplace requirements.

SECTION 3

USING THE FRAMEWORK APPLICATIONS

GETTING STARTED

BEFORE BEGINNING AN APPLICATION, THERE ARE THREE THINGS TO DO:

- Define goals and objectives.

Review the purpose of all applications and choose the appropriate application or combination of applications to meet your goals and objectives. *Completing a Competency Profile or profiles is required for all applications.*

- Determine who will implement the process.

Application processes can be conducted by an **individual** with sufficient knowledge of the actual subject matter represented in the course or credential being profiled. Or the process can be conducted by a **team**. The team approach can be valuable to increase stakeholder engagement and reduce individual bias. Having multiple scorers that have normed their understanding of competencies increases the validity of the outcome(s). Compiling and comparing profile results from three or more individuals will increase confidence in information. The more important the profiling purpose, the more the team process should be considered.

EXAMPLES OF PROFILING APPLICATION TEAMS:

A **higher education team** might include instructional designers, subject matter experts, faculty members, competency-based educational specialists and employers.

A **professional association** team might include professionals in the association, job developers, employers, human resource specialists, instructional designers, and trainers.

A **credentials development** team might include instructional designers, industrial psychologists, subject matter experts, and others.

- **Review and become familiar with the Beta Connecting Credentials Framework.** [Beta Credentials Framework](#)

PROFILING APPLICATION 1

PROFILING AN INSTRUCTIONAL MODULE, COURSE, EDUCATIONAL OR TRAINING PROGRAM OR CREDENTIAL (BY AN INDIVIDUAL)

In order to complete all applications in the Guidebook, profiles must be created. Profiling provides an understanding and a delineation of learner outcomes/competencies. A profile provides insights that can be used to determine whether or not modules or courses are in the right sequence for a learning pathway to achieve intended learning outcomes or that occupational credentials are measuring the right level of proficiency for its intended purpose.

Tools Required:

- [Beta Credentials Framework](#)
- [Competency Profiling Form](#) (Appendix A)
- [Analysis Form](#) (Appendix C)

FIGURE 2:

STEPS TO PRODUCE A PROFILE (BY AN INDIVIDUAL)

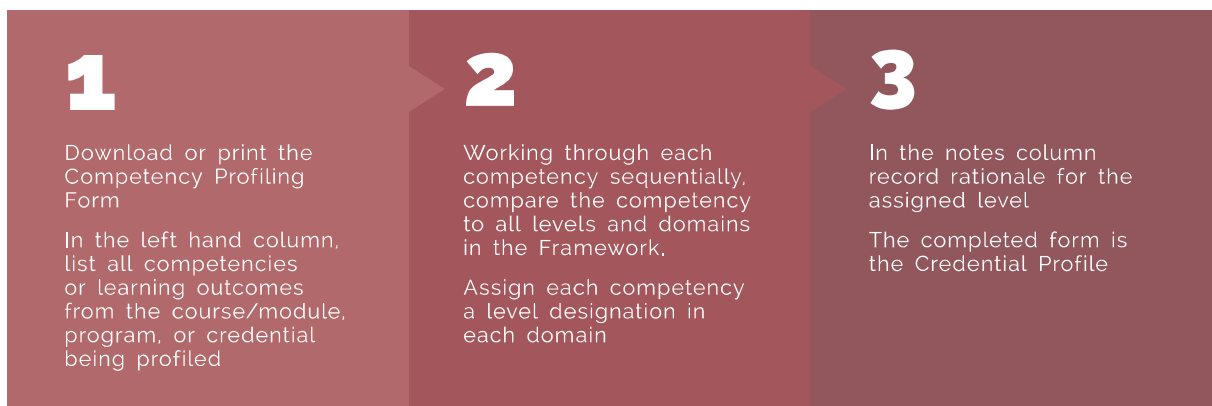


FIGURE 3:

EXAMPLE OF A COMPETENCY PROFILE FORM

LIST CREDENTIAL COMPETENCIES OR LEARNING OUTCOMES	KNOWLEDGE	SPECIALIZED SKILLS	PERSONAL SKILLS	SOCIAL SKILLS	CAPTURE RATIONALE FOR CHOICES
Read, analyze and utilize the technical documents such as data sheets, timing diagrams, operation manuals, schematics, etc. for a mechatronic system.	Level 3	Level 3	Level 2	Level 2	XXXXXXXXXX

PROFILING AN INSTRUCTIONAL MODULE, COURSE, PROGRAM OR CREDENTIAL (BY A TEAM)

Tools Required:

- [Beta Credentials Framework](#)
- [Competency Profiling Form](#) (Appendix A)
- [Team Profiling Integration Form](#) (Appendix B)
- [Analysis Form](#) (Appendix C)

FIGURE 4:

STEPS TO PRODUCE A TEAM PROFILE

STEP 1	STEP 2	STEP 3
<ul style="list-style-type: none">• Download or print the Competency Profiling Form• Download or print the the Team Profiling Integration Form• Select the domain being reviewed• Assign a Profile Number to each member of the team	<ul style="list-style-type: none">• Working through each competency, each team member compares the competency to all levels and selected domains in the Framework.• Each individual assigns a level to each competency as it corresponds to the Framework• Each team member records rationale for the assigned level in the "notes" column.	<ul style="list-style-type: none">• Download the Analysis Form• Enter profile scores and calculate Consensus or Mean scores

PROFILING APPLICATION 2

COMPARE COURSES AND CREDENTIALS

Comparing profiles provides a better understanding of differences between courses and/or credentials. The differences may be in actual subject matter or in the competency levels or both. These differences become evident through this application. Profile comparisons help differentiate similar courses and credentials and are the basis for comparative analysis.

Tools Required:

- [Beta Credentials Framework](#)
- [Competency Profiling Form](#) (Appendix A)
- [Competency Crosswalk Form](#) (Appendix D)

FIGURE 4:
STEPS TO COMPARE PROFILES

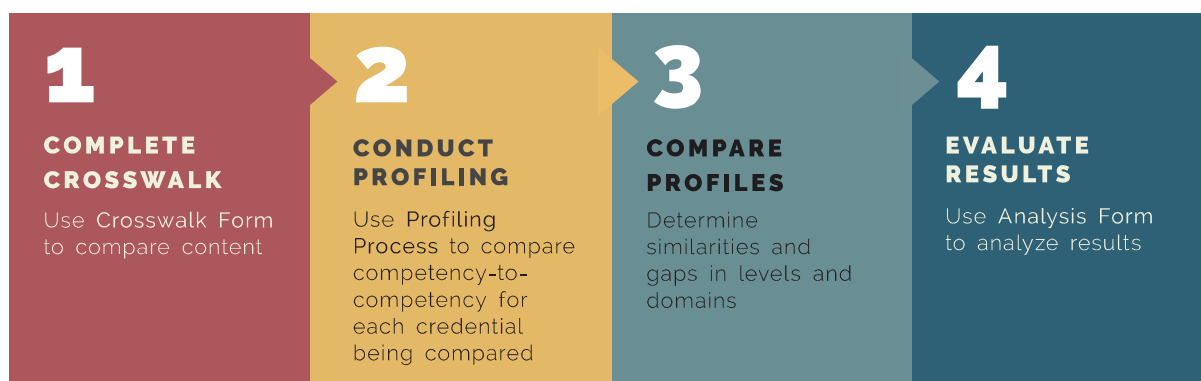


FIGURE 5:
EXAMPLE OF CROSSWALK FORM

COMPETENCIES REPRESENTED BY CREDENTIAL A, COURSE, OR CLUSTER OF COMPETENCIES	COMPETENCIES REPRESENTED BY CREDENTIAL B, COURSE, OR CLUSTER OF COMPETENCIES	NOTES
Competency #1	Competency #a	
Competency #2		No competency in Credential B maps against Credential A
Competency #3	Competency #b	
Competency #4		No competency in Credential B maps against Credential A
Competency #5	Competency #c	
Competency #6	Competency #d Competency #a	Because of granularity differences two competencies in Credential B map against one in Credential A

PROFILING APPLICATION 3

AGGREGATE CREDENTIAL PROFILE

The Aggregate Credential Profile application provides a descriptive summary of a credential profile. Use the Aggregate Credential Profiling application when the full credential profile may not be necessary for some descriptions or analyses. The summary aggregate profile does not describe the detailed competency information unique to each particular credential however broad comparisons or uses for organizing functions across a wide range of credentials may be supported by use of the Aggregate Credential Profile.

Tools Required:

- [Beta Credentials Framework](#)
- [Competency Profiling Form](#) (Appendix A)
- [Aggregate Profile Form](#) (Appendix E)

FIGURE 6:

STEPS TO DEVELOP AN AGGERGATE CREDENTIAL PROFILE



FIGURE 7:

EXAMPLE OF AGGERGATE PROFILE FORM

	KNOWLEDGE	SPECIALIZED SKILLS COLUMN	PERSONAL SKILLS COLUMN	SPECIALIZED SKILLS COLUMN
AVERAGE LEVELS	2	2	2	2
AGGREGATE PROFILE	2.75 (2-4)			

PROFILING APPLICATION 4

SEQUENCE COURSES OR STACK CREDENTIALS

The Stacking Credentials Application uses comparative profiling to lead to a better **understanding of all the credentials in a career or learning pathway**. It reduces overlap in related courses and credentials, and helps show relationships in order to establish, link and optimize learning and career pathways.

Tools Required:

- [Beta Credentials Framework](#)
- [Competency Profiling Form](#) (Appendix A)
- [Competency Crosswalk Form](#) (Appendix D)

FIGURE 8:

STEPS TO BUILD LEARNING PATHWAYS OR STACK CREDENTIALS



FIGURE 9:

EXAMPLE OF CROSSWALK FORM

COMPETENCIES REPRESENTED BY CREDENTIAL A, COURSE, OR CLUSTER OF COMPETENCIES	COMPETENCIES REPRESENTED BY CREDENTIAL B, COURSE, OR CLUSTER OF COMPETENCIES	NOTES
Competency #1	Competency #a	
Competency #2		No competency in Credential B maps against Credential A
Competency #3	Competency #b	
Competency #4		No competency in Credential B maps against Credential A
Competency #5	Competency #c	
Competency #6	Competency #d Competency #a	Because of granularity differences two competencies in Credential B map against one in Credential A

PROFILING APPLICATION 5

DEFINE COURSE COMPETENCIES

If a course, program, or certificate is defined by broad outcomes statements, the Beta Credentials Framework can function as a reference point to better articulate more explicit and detailed competencies. It helps developers and faculty think through what a student needs to learn and demonstrate and define course competencies. It also helps turn broad outcomes into more granular competencies, which in turn helps prioritize objectives and define the scope and sequence of instruction.

Tools Required:

- [Beta Credentials Framework](#)
- [Competency Profiling Form](#) (Appendix A)
- [How to Write a Competency](#) (Appendix F)

FIGURE 10:

STEPS TO DEFINE COURSE COMPETENCIES

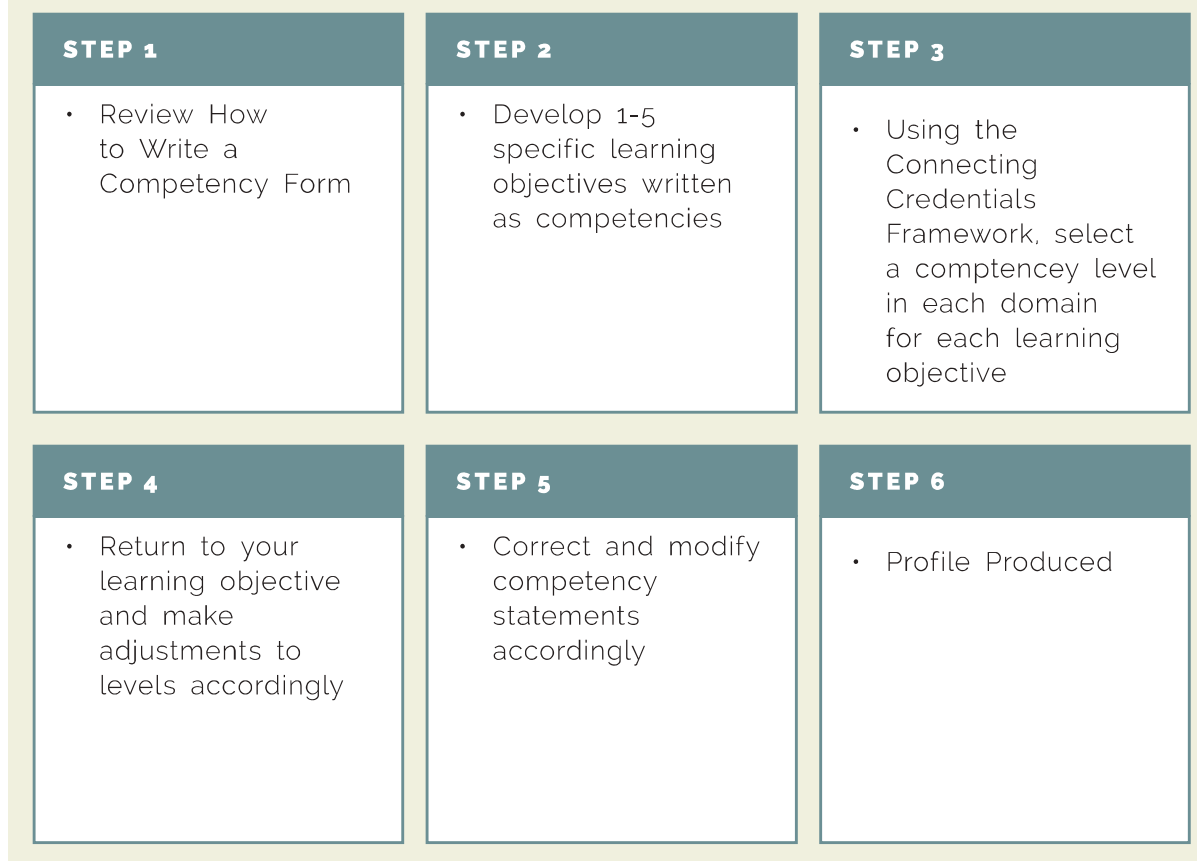




FIGURE 12:
EXAMPLE HOW TO WRITE A COMPETENCY FORM

Knowledge describes what a learner knows, understands and can demonstrate in terms of the body of facts, principles, theories and practices related to fields of application (study and work). The requirements and competencies are described in terms of: • Depth • Breadth • Dimension using active verbs to show competency attainment.

COMPETENCY PROMPTS FOR DOMAINS	EXAMPLES OF VERBS
What general knowledge is demonstrated?	Demonstrate, Categorize, Classify, Define, Describe, Determine, Frame, Identify, Prioritize, Specify, List, State, Label, Name
How is the general knowledge used? What principles and practices are known?	Use, Apply, Build, Compose, Construct, Craft, Create, Design, Develop, Generate, Model, Shape, Simulate
What extended knowledge is demonstrated and applied (including technical & theoretical concepts)? What procedures can be demonstrated? Which solutions are used for predictable problems?	Solve, Access, Acquire, Collect, Accumulate, Extract, Gather, Obtain

PROFILING APPLICATION 6

DEVELOP NEW COURSE(S) OR LEARNING-BASED CREDENTIAL(S)

Use an existing profile or complete application 5 to **articulate competencies before developing or organizing selected learning content and instructional strategies.**

Having clear learning objectives helps guide the selection of essential student resources and learning activities to support both attainment of competencies and outcomes with related verifiable demonstrations of attainment.

Tools Required:

- Complete Application 5 or Use an Existing Profile
- [Beta Credentials Framework](#)
- [Team Profiling Integration Form](#) (Appendix B)
- [How to Write a Competency Guide](#) (Appendix F)

FIGURE 11:

STEPS TO DEVELOP A NEW COURSE OR CREDENTIAL



PROFILING APPLICATION 7

ALIGN JOB DESCRIPTIONS (WORK TASKS) TO CREDENTIALS

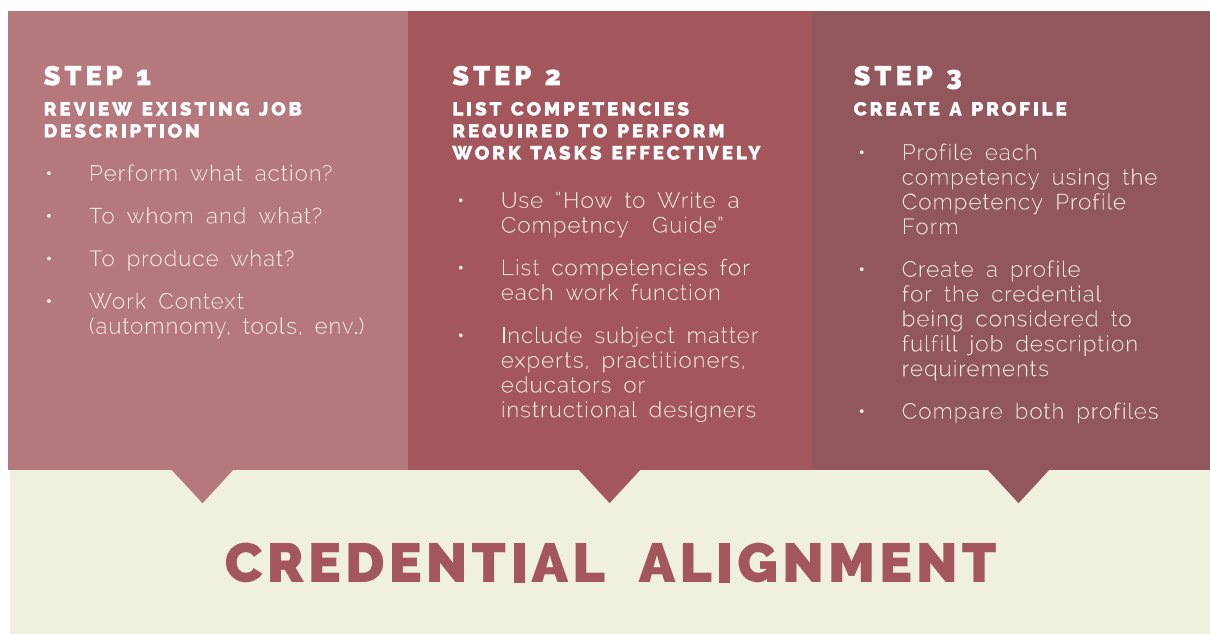
Competencies associated with certain degrees, certifications, short-term certificates, licenses, and many micro-credentials are often more granular and focus on the relationship to actual work tasks as opposed to only a body of knowledge. Other degrees may associate competencies with a body of knowledge, making a direct alignment of workplace tasks more difficult (many applied degrees are focused on professional and work functions—e.g., engineering). The intent of application 7 is to translate tasks defined in jobs and relate these tasks to competencies in order to align potential credentials to work functions and tasks.

Tools Required:

- [Beta Credentials Framework](#)
- [Competency Profiling Form](#) (Appendix A)
- [How to Write a Competency Guide](#) (Appendix F)

FIGURE 13:

STEPS TO ALIGN JOB DESCRIPTIONS (TASKS) TO CREDENTIALS



SECTION 4

IMPROVING THE FRAMEWORK

The beta version of the Credentials Framework was developed by a team from Corporation for a Skilled Workforce (CSW) and the Center for Law and Social Policy (CLASP), with input from dozens of experts from colleges, industry, certification/ accreditation agencies and policy organizations. Credential developers and users from colleges and industry profiled dozens of specific educational certificates, degrees and industry certifications against a prior draft of the Framework to test its workability.

Framework developers closely examined many other frameworks being developed and used in the U.S. and internationally. The Framework is designed to align with key U.S.-based tools including Lumina Foundation's Degree Qualifications Profile and Tuning initiative.

The Beta Connecting Credentials Framework is intended to be a tool that will be improved regularly based on input from users engaged in experimentation using applications described in the Guidebook and others to refine Framework design choices. This fieldwork will help identify ways in which the Framework can be made most useful, and will provide the means to identify and address technical and logistical issues with the Framework and with this Guidebook.

FEEDBACK PROCESS

The CSW, CLASP and Lumina team appreciate your willingness to use this Guidebook to apply and test the Framework. Your experience and feedback will help us improve the Framework and its supporting tools. Please take the time to complete and submit the Beta Credentials Feedback Form found on the following page. Please return your completed Feedback Form to:

Susan Lupo

Corporation for a Skilled Workforce

slupo@skilledwork.org

Thank you.

THE BETA CREDENTIALS FRAMEWORK AND GUIDEBOOK FEEDBACK FORM

FRAMEWORK FEEDBACK

1. Please provide information about you and your project.

NAME: _____

ORGANIZATION: _____

PROJECT NAME: _____

PRIMARY PARTNERS: _____

KEY CONTACT EMAIL ADDRESS: _____

2. How did you use the Beta Credentials Framework?

3. On a scale from **1** (*not usable*) to **4** (*very usable*), please circle the appropriate rating for the Framework:

	NOT USABLE		VERY USABLE	
CLARITY OF LANGUAGE AND TERMS	1	2	3	4
ORGANIZATION OF LEVELS AND DOMAINS	1	2	3	4
CONCEPTUAL FLOW	1	2	3	4
EASE OF USE	1	2	3	4

4. Please share any comments you have on the usability of the Framework.

GUIDEBOOK FEEDBACK

1. On a scale from **1** (*not usable*) to **4** (*very usable*), please circle the appropriate rating for this guidebook:

	NOT USABLE		VERY USABLE	
CLARITY OF LANGUAGE	1	2	3	4
ORGANIZATION OF GUIDEBOOK	1	2	3	4
CONCEPTUAL FLOW	1	2	3	4
SUPPORTING FORMS	1	2	3	4

2. Please share any comments you have on the usability of the guidebook.

3. Did the guidebook provide enough information to help you reach your goals?

YES **NO**

If no, what additional information would be helpful?

4. Are there other ways that you are using the Beta Credentials Framework than indicated in the guidebook?

YES **NO**

If yes, in what other ways are you using the Framework?

5. What additional recommendations do you have for improving the guidebook?

APPENDIX A

COMPETENCY PROFILING FORM

Name of Credential _____

Individual's Name _____ Date Completed _____

Directions:

1. List the competency statements in the far left column.
2. Use the Beta Credentials Framework descriptors to make a level judgment for each competency for each domain. Use n/a if there's not enough information for a judgment.
3. Make a note in the far right column about rationale for judgment.
4. The completed form (may require more than one) is the actual profile. Summary scores can be recorded by averaging scores in each column where that is useful.

LIST CREDENTIAL COMPETENCIES OR LEARNING OUTCOMES	KNOWLEDGE	SPECIALIZED SKILLS	PERSONAL SKILLS	SOCIAL SKILLS	CAPTURE RATIONALE OR JUDGMENT
Example: xxxxxx					
Average Scores					

APPENDIX B

TEAM PROFILING INTEGRATION FORM

Name of Credential _____

Individual's Name _____ Date Completed _____

Directions:

1. Every team member should complete a Competency Profile Form (Appendix A) for the credential, course or competencies being addressed.
2. Compute the average (consensus) scores from all individual Competency Profiling Forms for each domain and record on the Team Profiling Integration Form.
3. This completed form represents the Team Credential Profile.

COMPETENCY	KNOWLEDGE	SPECIALIZED SKILLS	PERSONAL SKILLS	SOCIAL SKILLS	NOTES
Competency #1	2	2	4	3	
Competency #2					
...					
...					
...					
...					
Average Scores					

	KNOWLEDGE	SPECIALIZED SKILLS	PERSONAL SKILLS	SOCIAL SKILLS
AVERAGE LEVELS	2	2	4	3

APPENDIX C

ANALYSIS FORM

Name of Credential _____

Individual's Name _____ Date Completed _____

This form is intended to identify what has been learned from profiling a credential or comparing courses and credentials. The following questions are intended to help you or your group/team capture reflections about potential discoveries, and to determine the "next steps" you might take.

REFLECTIVE QUESTION	WHAT WAS LEARNED	NEXT STEPS
Were the competency statements for the course, module or credential described in a clear and explicit manner? Does the proficiency level reflective of the intentions of the program developer? What does this mean and how will you use this information?		
How will you respond to information that tells you what the course or credential really means? Will you revise or rewrite competencies to meet the intent of the course or credential? Will you add or eliminate competencies?		
Were the competencies in the course or module being profiled validated? Are intended proficiencies present? If not, how will you address gaps?		
Is the progression of mastery, proficiency or scope reasonable in relationship to the program or credential sequence?		
Is there useful information that can inform stacking or sequencing of the program or credential?		
Do the credential or program pre-requisites need to be changed? Is the prior learning or competency attainment provided in the prerequisites sufficient or redundant? If so, what steps need to be taken?		

APPENDIX D

COMPETENCY CROSSWALK FORM

Name of Credential _____

Individual's Name _____ Date Completed _____

Directions:

1. List competencies from a specific credential (Credential A).
2. Match competencies to the other credential (Credential B).
3. Identify differences in the scope of content of the credentials or course .
4. Identify differences in the granularity of competency strength.

COMPETENCIES REPRESENTED BY CREDENTIAL A, COURSE, OR CLUSTER OF COMPETENCIES	COMPETENCIES REPRESENTED BY CREDENTIAL B, COURSE, OR CLUSTER OF COMPETENCIES	COMPETENCIES REPRESENTED BY CREDENTIAL C, COURSE, OR CLUSTER OF COMPETENCIES	NOTES

APPENDIX E

AGGREGATE PROFILING FORM

Name of Credential _____

Individual's Name _____ Date Completed _____

Directions:

1. Transfer the average scores for each of the domains from either the Individual Competency Profiling Form or the Team Profiling Summary Form.
2. Define the range of scores for each domain by computing the high and low score in each domain column.
3. The Aggregate Profile can be established by defining averages and the range across all domains.

(EXAMPLE-A) AGGREGATE PROFILE—CREDENTIAL X

	KNOWLEDGE	SPECIALIZED SKILLS	PERSONAL SKILLS	SOCIAL SKILLS
Average scores plus range	2 (1-4)	2 (1-3)	4 (2-6)	3 (3-5)

(EXAMPLE-B) AGGREGATE PROFILE—CREDENTIAL X

	KNOWLEDGE	SPECIALIZED SKILLS	PERSONAL SKILLS	SOCIAL SKILLS
Average scores plus range	2 (1-4)	2 (1-3)	4 (2-6)	3 (3-5)

CREDENTIAL AVERAGE—2.75

PROFILE RANGE (1-6)

AGGREGATE PROFILE FORM

	KNOWLEDGE	SPECIALIZED SKILLS	PERSONAL SKILLS	SOCIAL SKILLS
Average scores plus range				

CREDENTIAL AVERAGE

PROFILE RANGE

APPENDIX F

HOW TO WRITE A COMPETENCY FORM

When writing a competency, use verbs to describe what a learner knows and is able to do. A competency statement is a declarative statement with an active verb and concrete nouns. The goal is to assure that competency statements are as clear and specific as possible and are measurable to:

- Guide the instructional design process;
- Select the method of learning assessment;
- Select and organize learning resources;
- Communicate to stakeholders a clear expectation of outcomes.

FRAMEWORK DOMAINS	PROMPTS	COMPETENCY
Knowledge	What general knowledge is demonstrated?	Articulate the fundamental principles of safety.

The following tables provide prompts to help develop competency statements using the Beta Credentials Framework. Included are examples of possible verbs for use.

Competency Prompts and Verbs for Developing Competency Statements

KNOWLEDGE

Knowledge describes what a learner knows, understands and can demonstrate in terms of the body of facts, principles, theories and practices related to fields of application (study and work). The requirements and competencies are described in terms of: • Depth • Breadth • Dimension

LEVEL	COMPETENCY PROMPTS FOR DOMAINS	EXAMPLES OF VERBS
1	What general knowledge is demonstrated?	Demonstrate, Categorize, Classify, Define, Describe, Determine, Frame, Identify, Prioritize, Specify, List, State, Label, Name
2	How is the general knowledge used? What principles and practices are known?	Use, Apply, Build, Compose, Construct, Craft, Create, Design, Develop, Generate, Model, Shape, Simulate
3	What extended knowledge is demonstrated and applied (including technical & theoretical concepts)? What procedures can be demonstrated? Which solutions are used for predictable problems?	Solve, Access, Acquire, Collect, Accumulate, Extract, Gather, Obtain
4	What comprehensive theoretical and technical knowledge is demonstrated and applied? How is this knowledge used to solve unfamiliar problems?	Conduct, Employ, Implement, Perform, Produce
5	What specialized knowledge (theoretical and professional) is demonstrated? How is comprehensive knowledge integrated?	Integrate, Assimilate, Consolidate, Merge, Connect, Integrate, Link, Synthesize, Summarize
6	What is the specialized knowledge demonstrated from a scientific perspective of the field? What critical understanding of the specialized knowledge and range of methodologies is demonstrated? How is this knowledge applied to solve complex problems? How are complexities of knowledge and applications further developed?	Analyze, Compare, Contrast, Differentiate, Distinguish, Formulate, Map, Match, Equate
7	What state-of-the-art knowledge is demonstrated? How is this knowledge applied strategically? How is this knowledge extended to other applications?	Produce, Activate, Assess, Evaluate, Combine, Consolidate, Coordinate, Initiate, Design, Revise
8	How is state-of-the-art knowledge used to innovate and/or expand the field? How is other knowledge integrated and synthesized into this field? How is this knowledge used to influence other fields?	Change, Create, Disseminate, Forecast, Plan, promote, Stimulate, Predict

COMPETENCY PROMPTS AND VERBS FOR DEVELOPING COMPETENCY STATEMENTS (CONTINUED)

SPECIALIZED SKILLS

Specialized Skills include occupational and discipline-specific skills. The requirements and competencies are described in terms of: • Critical Thinking and Judgment • Integrative Application • Systems Thinking

LEVEL	COMPETENCY PROMPTS FOR DOMAINS	EXAMPLES OF VERBS
1	What skills are demonstrated to carry out well-known tasks? How are elementary relationships between assignments and tasks demonstrated?	Apply, Compute, Complete, Illustrate, Observe, Follow, Attend, Build, Operate, Demonstrate, Maintain, Observe, Produce, Select, Assemble
2	Which basic cognitive and practical skills are demonstrated? Using a pre-stipulated criteria, how are results evaluated? What correlations are established among functions and tasks?	Interpret, Connect, Conclude, Confirm, Measure, Investigate, Achieve, Address, Apply, Calculate, Assess, Define, Establish, Extract, Gather
3	Which broad range of cognitive and practical skills are demonstrated? How are these skills used to identify and perform tasks autonomously? How are these skills used to identify, address and solve well-defined problems with a measure of complexity? Using a pre-stipulated criteria, how are results evaluated? How are simple reporting of methods and results provided?	Plan, Organize, Adapt, Adjust, Aid, Clarify, Conceive, Conclude, Validate, Update, Broaden,
4	Which broad range of cognitive and practical skills are demonstrated? How are these skills used to plan and design appropriate approaches and processes to solve problems and/or complete tasks? How are the results (work and learning) evaluated? How are alternative actions or practice determined? In what ways are observations of reciprocal effects on other functional areas or tasks brought into these determinations?	Compare, Contrast, Allocate, Advocate, Advise, Ascertain, Augment, Develop, Benchmark, Canvass, Plan, Design
5	Which extended, broad range of specialized cognitive and practical skills are demonstrated? How are complex problems identified and framed? How are ideas, concepts, theories or practical approaches distinguished to solve complex problems? How are plans developed for learning and work? How are the results evaluated for each process? What alternatives and potential impacts considered?	Evaluate, Identify, Differentiate, Frame, Approve, Address, Administer, Advise, Audit, Augment, Clarify, Compare, Contrast, Expand, Instruct

6	<p>Which comprehensive cognitive and practical skills are demonstrated?</p> <p>Which comprehensive methods are demonstrated and applied to process complex tasks and solve problems?</p> <p>How are theories and approaches to selected complex problems differentiated and evaluated?</p> <p>Which new solutions are developed? How are they evaluated using various criteria and considerations on the effect even in circumstances where requirements are subject to frequent changes?</p>	<p>Change, Allocate, Customize, Convert, Facilitate, Forecast, Formulate, Generate, Influence, Interpret, Introduce, Leverage, Manage, Orchestrate, Preside</p>
7	<p>Which specialized technical and conceptual skills are demonstrated?</p> <p>How are these skills used to analyze, consolidate and synthesize knowledge to identify and provide solutions to strategic problems?</p> <p>How are varied specialized technical and/or creative functions initiated, planned, and evaluated?</p> <p>How are the limits of theory, knowledge and practice explored? How are alternatives considered?</p> <p>How are high-level, independent judgments in a range of technical and/or management functions demonstrated? How are significant challenges identified and strategies developed to solve?</p>	<p>Synthesize, Invent, Transform, Systemize, Substantiate, Spearhead, Revitalize, Restructure, Orient, Promote, Moderate, Leverage, Disseminate</p>
8	<p>Which comprehensively developed skills are demonstrated?</p> <p>How are these skills applied in making high-level, independent judgments in a range of technical and/or management functions in varied contexts?</p> <p>How are broad specialized technical and/or creative functions comprising of cross-activity areas initiated, planned, and evaluated? How are alternatives considered?</p> <p>How are the areas of research, development and innovation integrated into the learning and work?</p> <p>How are novel problems identified and solved?</p>	<p>Create, Discriminate, Initiate, Predict, Research, Diagnose, Formulate, Accommodate, Analyze, Plan</p>

COMPETENCY PROMPTS AND VERBS FOR DEVELOPING COMPETENCY STATEMENTS (CONTINUED)

PERSONAL SKILLS

Personal Skills describe the competency required to act in an independent and responsible manner in various situations, to exercise judgment and demonstrate critical thinking and problem solving. The requirements and competencies are described in terms of: • Autonomy • Responsibility • Self-Awareness and Reflectiveness

LEVEL	COMPETENCY PROMPTS FOR DOMAINS	EXAMPLES OF VERBS
1	In what ways are actions acknowledged by individuals? How is responsibility for learning and outcomes of structured activities within familiar and stable environments demonstrated?	Complete, Listen, Respond, Aware, Responsibility
2	How is responsibility taken for completing tasks and procedures within a limited range of contexts? In what ways is autonomy exercised with overall direction and guidance? What type of guidance is needed? How is guidance requested?	Audit, Appraise, Evaluate, Judge, Rank, Autonomy, Commit, Self-respect
3	How is responsibility and autonomy taken to perform tasks, employ procedures and attain a quality output within less familiar and stable contexts? How is overall guidance provided? What different perspectives and approaches within the work needs to be acknowledged? How does an individual set and take responsibility for learning and work objectives?	Accomplish, Achieve, Act, Adjust, Acknowledge, Balance, Assess
4	How is initiative in planning and designing technical, management or learning functions demonstrated? How are learning and work objectives set by the individual? How is responsibility for learning and work objectives demonstrated? Are they reflected upon and assessed? How is persistence and flexibility demonstrated in attaining these objectives?	Reflect, Self-reliant, Distinguish, Motivate, Monitor
5	How is responsibility for overall actions and results demonstrated? How is autonomy exercised? How is understanding of different perspectives or approaches within an area reflected upon and assessed? How is responsibility and self-direction taken to pursue objectives? How do individuals reflect and assess their own work and set learning objectives?	Initiate, Advise, Formulate, Modify, Develop, Plan, Critique, Advise, Improve, Prioritize, Propose

6	<p>How is responsibility for planning and developing of work processes that are capable of underpinning substantial changes or developments demonstrated? How are these exercised with broad autonomy? How are they structured?</p> <p>How are the objectives and work processes defined, reflected upon, and assessed autonomously? How are these processes sustained?</p> <p>How are the strengths and weaknesses of these processes evaluated? How are the results described?</p>	<p>Defines, Evaluate, Appraise, Question, Mediate, Negotiate, Synthesize</p>
7	<p>How is responsibility for planning and developing actions that initiate complex tasks or underpin substantial change or developments demonstrated? How is broad autonomy exercised with this responsibility?</p> <p>How are objectives for new applications or research-oriented tasks defined? How are possible implications for societal, economic, and cultural determined?</p>	<p>Integrates, Administer, Guide, influence, Interpret, Involve, Lobby, Moderate, Predict, Tailor, Target, Translate, Validate</p>
8	<p>How is responsibility for planning and developing actions in the advancement and impact on the field of work or knowledge? How is autonomy as a leader exercised? How do these actions result in substantial organizational or professional changes?</p> <p>How are objectives or new complex applications or research-oriented tasks defined?</p> <p>How are new ideas and processes selected and evaluated and appropriateness determined?</p>	<p>Reconstructs, Reorganizes, Solves, Improves, Impacts, Lead, Envision, Strategize</p>

COMPETENCY PROMPTS AND VERBS FOR DEVELOPING COMPETENCY STATEMENTS (CONTINUED)

SOCIAL SKILLS

Social Skills describe the individual's ability to demonstrate respect for the behavior of others and differing viewpoints, to communicate with others effectively, and to work effectively with people from diverse backgrounds and points of view. The requirements and competencies are described in terms of: • Communication • Involvement • Teamwork and Leadership

LEVEL	COMPETENCY PROMPTS FOR DOMAINS	EXAMPLES OF VERBS
1	<p>How is respect for the actions of others demonstrated?</p> <p>How is general feedback and critique expressed and accepted?</p> <p>Which basic interpersonal and communication abilities are required to learn and exchange knowledge with others?</p> <p>How are listening and following brief highly structured directions that require limited attention demonstrated?</p>	Respect, Listen, Respond, Acknowledge, Follow
2	<p>Which intermediate interpersonal skills are required?</p> <p>How are communication abilities used to transfer some knowledge and specialized skills to others?</p> <p>How are effective listening and comprehension skills used to receive direction and information from others?</p>	Share, Provide, Explain, Adapt, Participate
3	<p>How are strong interpersonal abilities used to articulate processes and results? Share and receive specialized knowledge? Demonstrate and explain skills to others?</p> <p>How is learning and work performed in complex and heterogeneous groups?</p> <p>How is work shaped within a group?</p> <p>How is relevant information presented clearly and timely on processes and results to the appropriate recipients?</p>	Argue, Challenge, Debate, Defend, Justify, Resolve, Dispute, Communicate, Compromise, Adjust, Advocate
4	<p>How are advanced interpersonal skills demonstrated? How is the ability to communicate effectively about solutions to complex problems, especially when the subject matter may be moderately sensitive, controversial, or likely to be challenged demonstrated?</p> <p>How is the shaping of the work in a group assisted? How is the ongoing work of the group supported?</p>	Amend, Augment, Appraise, Benchmark, Consult, Convince,

5	<p>How are work processes planned and structured in a collaborative manner, including within heterogeneous groups?</p> <p>How are actions performed in an anticipatory manner while considering the interests and requirements of others?</p> <p>How are the potential consequences for work processes in teams evaluated? How are others instructed and provided with guidance?</p> <p>How are advanced interpersonal abilities required and demonstrated?</p> <p>How are circumstances and solutions communicated in a manner that is contextually appropriate to cross-disciplinary audiences?</p>	<p>Collaborate, Correct, Critique, Distribute, Encourage, Enlist, Exhibit</p>
6	<p>How is responsibility taken when working in expert teams? How is responsibility taken to lead these teams, groups or organizations?</p> <p>How is the professional development of others instructed?</p> <p>How are problems in teams addressed in an anticipatory manner?</p> <p>How are advanced interpersonal abilities required and demonstrated?</p> <p>How are methods, technology, knowledge and ideas communicated clearly and comprehensively to others? How are arguments and solutions to complex problems, even when highly complex, unfamiliar or technical presented and communicated to others?</p>	<p>Counsel, Cultivate, Customize, Delegate, Disseminate, Facilitate, Influence</p>
7	<p>How is responsibility for leading groups, organizations and/or the work and roles of others within the scope of complex tasks demonstrated?</p> <p>How is the professional development of others supported and targeted?</p> <p>How are appropriate communication abilities to lead expert debates on new ideas and problems within in and across disciplines demonstrated?</p> <p>How is the ability to build consensus and apply negotiating practiced in a group or interactive environment demonstrated?</p>	<p>Incorporate, Leverage, Lobby, Moderate, Motivate, Negotiate,</p>
8	<p>How is the leadership of groups or organizations in complex or interdisciplinary tasks demonstrated? How are areas of potential within groups or organizations activated?</p> <p>How are deep levels of interpersonal abilities demonstrated?</p> <p>How are communication abilities to transfer knowledge and specialized skills to others demonstrated?</p> <p>How are targeted and sustainable cross-specialty debates lead? How are innovative contributions to specialized discussions introduced and sustained and moved to results?</p>	<p>Spearhead, Substantiate, Systemize, Validate</p>