

## Evaluation of RevUp's Industry Recognized Credential Initiative

### I. Executive Summary

**What was the initiative?** During RevUp Montana aimed to integrate industry-recognized credentials (IRC) into technical training programs in eight fields across thirteen colleges.

**What were the results?** Across the state, 39 programs integrated Industry Recognized Credentials (IRCs) into their curriculum and at least 702 students earned at least one IRC during the project. RTI, Inc. RevUp's third-party evaluator, found that IRC had labor market value and obtaining IRCs early in a student's academic career seemed to boost student retention and completion rates. After initial success, certain colleges (Montana State University Northern (MSUN) and Helena College) began to integrate additional IRCs (National Association of Railroad Sciences (NARS, NC3, FANUC, Snap-On credentials etc.). Some colleges also began a more concerted effort to offer IRC modules to businesses looking to upskill their incumbent workers.

**What are the implications?** There are significant unexplored opportunities to utilize IRCs short modules as a useful common denominator of K-12, postsecondary and work-based learning training programs; Prior Learning Assessment (PLA), and competency-based programs (college and apprenticeship).

Most colleges seem intent on maintaining the IRCs integrated during RevUp; however, it is important to keep scaling the use of these credentials to build a critical mass of recognition and utility both in-state and nationally in order to ensure these credentials maintain labor market value. As a holistic Type 4 credentialing framework, considerable opportunities still exist with Canadian Welding Bureau (CBW) in particular.

### II. Background on the Initiative

Credentialing is becoming more complex. For our purposes "credential" is used as the umbrella term that describes a formal signifier of postsecondary achievement, including degrees, licenses, titles, registered apprenticeship credentials, and certificates. Industry recognized credentials are typically provided by national associations/organizations that have established frameworks to recognize individuals that have gained specific technical competencies.

There are typically significant learning outcome overlaps in technical skill training. In other words, the difference between a comparably good Associate of Applied Science (AAS) curriculum, a good union training program and a good IRC are negligible. The difference then become more on how learning is recognized, when (how often) it is demarcated, and what the credential signifies to potential employers.

IRCs or IRC framework tend to provide stackable short-term learning chunks, each tied to a or a specific bundle of competencies and each recognized by a unique credential (not-so-unlike a Boy Scout's Merit Badges). This credentialing approach is increasingly considered to have some advantages over traditional college degrees in technical fields, though IRCs vary greatly and have a wide spectrum of characteristics. They have been classified in the table below to give some perspective of the differences:



Less Useful		More Useful		
	Type 1	Type 2	Type 3	Type 4
Example	American Welding Society (AWS); Practical Nursing Certificate	Snap-On; Six Sigma Green Belt; Cisco Systems Operator	National Center for Construction Education and Research (NCCER)–Welding; National Institute for Metalworking Skills (NIMS)	Canadian Welding Bureau (CWB)
General Description of Type	Demonstrates that a worker is capable of performing a bundle of tasks at a required level of proficiency.	Demonstrates that a worker can perform a specific task or has obtained a specific skill-set (sometimes with a specific type of tool).	A comprehensive framework of stackable credentials whose postsecondary utility is limited by some factor.*	Essentially a sequence of Type 2 credentials that build upon one another to provide a more comprehensive skill set.
Descriptors	Longer-term credentials; workers often must be credentialed under their employer after hire; not supported by curriculum; often required within the industry.	Short-term; sometimes tied to a particular piece/type of equipment or company process.	* Curriculum incomplete or substandard; credentials are not granular enough to demark each competency.	Short term credentials that can be combined to illustrate more comprehensive competencies; credentials demark each competency.

Ideal characteristics of IRCs would include:

- Has curriculum/assessments associated with each credential (clear learning outcomes)
- Demonstrable value in the labor market
- Sequence of credentials can build upon one another (“stack”), but individual credential units can also be taught independently
- Benchmarks/assessments relate to specific competencies – credential offered at each level
- Assessments have utility for PLA
- Does not require separate assessment under employer - transferrable
- Useful for different training formats (work-based, college-based, apprenticeship)
- Has online components
- Limited costs
- Multiple off-ramps into labor market

IRC that have the most utility in the postsecondary training field are Type 4 credentials because their more comprehensive nature provides the maximum amount of flexibility. For instance, individual modules can be used to upskill incumbent workers in a Continuing Education environment, while an AAS curriculum can adopt the IRC learning outcomes (with or without using curriculum) and utilize assessments to provide credentials (and also provide standard benchmarks for PLA processes).

Due to the third-party nature of IRCs, these credentials also provide some reassurance to those administering training programs that instruction is meeting modern industry standards. In some cases, this can translate into important cultural changes for students. For instance, the practical assessments associated with NIMS credentials are Pass/Fail. Either a student’s manufactured pieces are 100% sufficient or they don’t pass, mimicking the realities of the manufacturing industry, and quite distinct from traditional academic grade ranges.

### III. Initial Goals

RevUp’s general approach was an “all of the above” approach. In other words, if traditional AAS programs and IRC learning outcomes are comparable – why not assess for and provide students all the credentials possible.



RevUp chose to align with the recommendations of the Manufacturing Institute (NAM)<sup>1</sup> with a few exceptions in which it was determined that alternative credentials had more of the desirable characteristics described above. For instance, most Montana institutions chose to align with NCCER-Welding credentials (Type 3) in addition to AWS (Type 1). While AWS has much more local industry recognition, the AWS framework lacks associated curriculum and AWS only provides credentials for longer-term bundled skill-sets.

## IV. Adjustments/Challenges/Road Blocks

Some faculty were resistant to the idea of a third-party credential being integrated into their curriculum, most often citing that IRCs were not currently recognized in the state and adding even the assessments would take time away from other important instructional time.

After being successfully integrated and used by eight colleges, the Montana Contractor’s Association (MCA), the loan entity approved to process NCCER credentials in Montana, stopped its policy of formally recognizing obtainment of individual NCCER credentials reducing its utility. NCCER had the advantage of an associated curriculum, but most Montana faculty (and MCA for that matter) felt the curriculum was rudimentary. While not widely adopted during RevUp many colleges saw advantages of aligning with the CWB, a Type 4 credentialing framework with direct cross-walks to AWS credentials.

After integration of IRCs into traditional AAS programs, it was recognized that IRCs could play a foundational role in providing standardized short-term “post-employment” training for incumbent workers (more information can be obtained in the Final Evaluation of RevUP’s Postemployment Initiative report). Because IRC-based training allows workers to obtain credentials, this type of training better aligns with Workforce Innovation and Opportunity Act (WIOA) funding streams requirements which emphasize obtainment of credentials. Further colleges gain the ability through IRC modules to

**Table 1:** IRCs integrated into programs by credential by college

College	Manufacturing Industry IRCs						Energy Industry IRCs		
	Welding	CDL/Heavy Ops	Machining	Industrial Electronics	Industrial Maintenance	Safety Training	Diesel Technology	Energy Technology	
Bitterroot College	NCCER/AWS	CDL							
City College	NCCER/AWS	CDL				*		NCCER	
Dawson Comm College	NCCER/AWS								
Flathead Valley Comm College	AWS	CDL	NIMS	ETA-I	NIMS/ETA-I				
Fort Peck Comm College	NCCER/AWS	CDL					Snap-On, NC3, NARS		
Gallatin College	AWS		NIMS						
Great Falls College MSU	NCCER/AWS	CDL	NIMS	ETA-I	NIMS/ETA-I				
Helena College	AWS	CDL	FANUC				SNAP-On		
Highlands College	NCCER/AWS	CDL	NIMS						
Little Big Horn College	AWS	CDL							
Miles City Comm College		CDL							
Missoula College	NCCER/AWS	CDL	NIMS						
MSU Northern	NCCER/AWS		NIMS	NARS			Snap-On, NC3, NARS		
<p>Compliance &amp; H2S Awareness (PEC); 10-hour PEC Basic and H2S Awareness (PEC); 8-hour Heartsaver CPR with AED &amp; Heartsaver First Aid (American heart Association); 4-hour Fall Protection; 4-hour Defensive Driving; 10-hour OSHA 10 (OSHA); 4-hour Pressures and Forces; 4-hour Spill Prevention and Reporting; 8-hour Aerial Work Platform/Rough Terrain Forklift (JLG); 8-hour Confined Space (OSHA); 8-hour Basic Rigging (NCCER); 16-hour Heavy Equipment Operation (NCCER); 8-hour Crane Operations (NCCO)</p>									
<p><b>*Safety Training (City College):</b>            Advanced Manufacturing (MMEC)            Lean Enterprise Certification, Lean for Office and Administration, Lean product Development, PCQI certification, HACCP training</p>									

<sup>1</sup> <http://www.themanufacturinginstitute.org/Skills-Certification/Certifications/NAM-Endorsed-Certifications.aspx>



offer consistent technical training to the private sector that aligns with instruction on the for-credit side of the college.

Some colleges taught to IRC outcomes but did not provide students an opportunity to earn IRCs as an integrated part of their academic program (e.g. Flathead Valley Community College’s (FVCC) machining program). Some challenges rose around increasing student’s fees to absorb the additional costs of IRCs (~\$50/semester), though many colleges were able to offer the IRC cost as instructional resources students bought out of their institution’s bookstores.

## V. Outcomes

Previous research and that conducted by RTI, RevUp’s third-party evaluators, found that IRCs have value in the labor market. Not surprisingly that value varies significantly by IRC, IRC field and IRC type. RTI’s Final Report may be able to isolate wage increases resulting from obtainment of specific IRCs. RTI also found that obtainment of credentials early in a student’s career seemed to increase student retention and student obtainment of higher-level educational degrees, perhaps due to increases in a student’s academic confidence after earning such signifiers of success.

Assuming there is some labor market value for IRCs, analysis of the 2015 cohort indicates that a significant percentage of students that did not obtain an educational degree did obtain an IRC (amounting to sixty-nine additional students in this ‘15 state-wide cohort that obtained a credential).

Table 1: Analysis of FT Fall ‘15 Student Cohort	Completion Rate (150% of time) in RevUp Tracks	% earning an AAS	% earning a Certificate	% earning a CTS	% earning an IRC	% of non-awardees that did earn an IRC	Time-to-completion for average AAS grad	Approximate Cost to Student (in PV)	ROI (years)
Historical (‘01-‘13)	37%						6.68 Terms	\$57,032	13
‘15 RevUp Cohort Total	43%	17%	16.5%	9%	39%	25%	4.3 Terms	\$37,321	8
	116/272	46/272	45/272	25/272	106/272	39/156			
‘15 RevUp Cohort w/ comprehensive Workforce Navigator	55%	24%	25%	7%	42%	45.5%	4.4 Terms	\$39,716	9
	84/150	36/150	37/150	11/150	63/150	30/66			

*Historical rates as calculated by RTI, RevUp’s third-party evaluator.*

In general, the expansion of IRCs was well received in Montana’s private sector. Businesses expressed that IRCs help hiring managers determine specifically what job applicants knew how to do which isn’t as apparent with traditional AAS degrees and certificates. There was interest in CWB “Assessments”. Unlike a traditional academic assessment, CWB’s assessment allows an evaluator to rate an incumbent worker on a scale of 1-100 conveying the scope of their capabilities but also the quality of their work. The consistency of scores allowed employers to effectively value employees. In one case, an employer (ADF Group Inc.) hired two employees based solely on their assessment scores.

## VI. Implications/ Sustainability

There are significant unexplored opportunities to utilize IRCs short modules as a useful common denominator of training programs. Many IRC modules could be taught in K-12 environments (Office of Public Instruction is currently exploring implementation of CWB credentials in MT high schools) which alleviates the need to teach entire college programs (formal dual/co-enrollment) to provide students meaningful overlap with college programs. Colleges can use IRCs as a foundation for both traditional academic programs and short-term training that serve incumbent workers, allowing easier non-credit to credit articulation, consistent PLA, and increase the



value proposition of higher education by offering a host of credential types to students. IRCs might also be used as the backbone of competency-based apprenticeships and other work-based learning programs. IRCs might also help bridge the communication gap between employers and educators who often struggle to find a common language that can effectively describe what a business needs and how a college capacity to meet those needs

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