RevUp Montana Programs

The U.S. Department of Labor (USDOL) defines a "program of study (POS)" as a training program in which students can earn a terminal degree or industry-recognized credential, which can include non-credit programs. "Participants" are considered to be any student that enrolls in a POS that has been improved, in whole or in part by grant funds. USDOL encourages awardees to begin counting participants from the date of award (Oct 1, 2013 in this case). Improvements include adjustments to curriculum, paying instructors, and/or the use of new equipment in the training. USDOL also counts as participants, all students that partake in any course that has been enhanced by grant funds as a required element of their training, even if that training was not a target of grant funds. In RevUp those policies resulted in the inclusion of students within several programs (Helena College's aviation, City College's power plant and Montana State University Northern's (MSUN) 4-year diesel students) and students that enrolled in a grant-funded general education course (e.g. COMX, WRIT, etc.) but no other grant-funded training. The latter significantly inflated the number of students at MSUN, Helena College and Missoula College.

While RevUp adhered to USDOL definitions in tracking and reporting formal Performance Metrics for the project, a different approach was taken in evaluating impacts. Both RevUP staff and the third-party evaluator, RTI, studied only the students enrolled in RevUp's nine target programs/courses who enrolled after grant activities catalyzed significant changes in the target programs/courses.

Target Occupations & Performance Estimates

Based on labor market information about high-growth, high-wage occupations emerging in the manufacturing and energy industries RevUP focused on the following nine occupational pathways:

- Manufacturing Industry - welding/fabrication; machining; industrial maintenance; industrial electronics; and Commercial Driver's License (CDL);
- Energy Industry – diesel technology, energy technology, and industrial safety (focusing initially on entry-level training for workers in the oil and gas industry (e.g. roustabouts).
- Entrepreneurship training was also targeted to support workers looking to establish businesses in these fields. Because entrepreneurship courses do not meet USDOL's parameters for a POS, students partaking in entrepreneurship courses would not necessarily qualify as participants.

In addition to these occupational pathways, RevUp included two other major elective initiatives: (1) the use of remote coaches to enhance student engagement and retention, and (2) adoption of emporium math models in the delivery of development math. Coaching services and math instruction were provided to students outside of RevUp's targeted occupations. Because math courses do not meet USDOL's parameters for a POS, students partaking in math instruction would not necessarily qualify as participants. USDOL also determined that coached students would not count as participants because improving student services is not considered an improvement in their definition.

Each college participating in RevUp Montana was invited to choose which of the project's initiatives in which they would participate. Each college was asked to supply an estimate of the number of participants it thought it would serve in each initiative of the project and these estimates were aggregated to provide USDOL with the project's overall Performance Objectives.

Each Colleges initial estimates in each target occupation are shown in **Table 1** below.

Table 1: RevUp Performance Objective Estimates by College and Initiative

RevUp Performance Objective Estimates by College and Initiative	Welding	Welding	Welding Fabrication	Canadian Welding Bureau	Manufacturing	Machining	Industrial Electronics	Industrial Maintenance	Energy Industry	Oil and Gas	Diesel Technology	Energy Technology	CDL/Heavy ops	Participant TOTAL	Entrepreneuship	Coaching	Developmental Math	Impacted TOTAL	TOTAL TOTAL
Bitterroot College		14	14			42	28	28		56		42	55	265	45			45	310
City College		60	15			9	28	12		147*		44*	12	537	38	225		263	800
Dawson Comm College		45	45	5						100				150				0	150
Flathead Valley Comm College		150	24	4	*		50							204	*	185		185	389
Fort Peck Comm College		24		12									50	86	35		56	91	177
Gallatin College		45	25			50								95	20			20	115
Great Falls College MSU	*	80	30	15										95	6	225		231	326
Helena College		8	5	4		15					243*			270	5		662	667	937
Highlands College		9												9				0	9
Little Big Horn College		48	48			110				48		70		276			60	60	336
Miles City Comm College													66	66				0	66
Missoula College		36										105*	108	462	115	213	4600	4928	5390
MSU Northern											440*			560		120		120	680
TOTAL SWAMMEI Participants	0	519	206	40	0	226	106	40		351	683	261	291	2723	264	968	5378	6610	9333

Table 2 Describes how each college's original participant estimates translate into meeting USDOL's 8 Performance Outcomes

Table 2: Original Aggregate USDOL Performance Metrics by College

Original (Aggregate) USDOL Performance Metrics by College	Unique Particiants	Participants Completing a TAACCCT program	Participants Still Retained in POS or other TAACCCT	Participants* Completing Credit Hours	Participants in further education after completion of POS	Participants Employed after Completion	Participants Retained in Employment	Participants employed at enrollment that receive a wage increase			
Bitterroot College	265	178	45	231	58	14	10	133			
City College	537	360	91	428	118	27	20	270			
Dawson Comm College	150	101	26	112	33	8	6	75			
Flathead Valley Comm College	389	261	66	394	86	20	15	196			
Fort Peck Comm College	86	58	15	132	19	4	3	43			
Gallatin College	95	64	16	86	21	5	4	48			
Great Falls College MSU	320	214	54	265	70	16	12	161			
Helena College	270	181	46	707	59	14	10	136			
Highlands College	9	6	2	7	2	0	0	5			
Little Big Horn College	276	185	47	250	61	14	10	139			
Miles City Comm College	66	44	11	49	15	3	3	33			
Missoula College	462	310	79	3857	102	24	18	232			
MSU Northern	560	375	95	417	123	29	21	282			
Based Upon This % of Participants #		67.00%	17.00%		22.00%	5.10%	3.80%	50.30%			

** Originally based upon both participants and non-participant ("impacted") students expected to complete grant-funded, credit-hour courses*

Adjustments and Adaptations of Planned Activities

Some significant shifts occurred after the RevUp project was awarded. External shifts included a massive downturn in oil and gas exploration in the Bakken oil fields that greatly reduced the demand for the planned safety training activities associated with RevUp and demand for online instruction in diesel technology. Internally, many colleges planned to offer new programs through the project's "course sharing" initiative in which students could enroll in online/hybrid courses taught by instructors at other "teaching colleges" at their native institution. Delays in implementing course sharing and a decision to limit the pilot to a few institutions limited the ability to initiate new programs under this initiative. Five new programs were launched via course sharing, but 14 planned programs were not. More information about the course sharing initiative can be found in the Final Evaluation of RevUp's Course Sharing Initiative report.

In contrast, 8 were initiated during RevUp that were unanticipated as the project was being developed. Five of those eight were CDL programs that were added to the RevUp project to help serve the seemingly inexhaustible demand for commercial drivers.

Table 3 is a graphic representation of planned programs and adjustments made during the project including an estimate of the final number of participants served within each initiative at individual colleges.

Table 3: RevUp Programs of Study and Final Participation (estimate)

RevUp Programs of Study and Final Participation (estimate)	Welding/Fabrication	Machining	Industrial Electronics	Industrial Maintenance	CDL/Heavy Ops	Oil and Gas	Diesel Technology	Energy Technology	Entrepreneurship	Coaching	Developmental/Technical Math
Colleges	**Advanced Manufacturing Programs**					**Energy Programs**				**Tracks don't count towards participant Total**	
Bitterroot College*											
City College	211				115	242		107		465	
Dawson Comm College	54					20					
Flathead Valley Comm College	253	145	138		16					241	
Fort Peck Comm College	55				45		5		15		70
Gallatin College	194	46									
Great Falls College MSU	291				7	41				710	
Helena College	127	85					120				710
Highlands College	102	29			*						
Little Big Horn College	18				35						
Miles City Comm College					123						
Missoula College	137	5			85				27	484	906
MSU Northern	118	3					597			529	
Percentage (%)of aggregate goal met	215	152	130	0	146	86	106	41	16	250	
**outcomes aggregated with Missoula College*											

Legend

Planned but not Offered (due to lack of course sharing)	Program Offered via Course Sharing
Offered but not Originally Planned (added during project)	Non-particiant Grant-funded Initiatives
Grant-funded Program-of-Study	*#'s indicate estimated participants served (6.20.17)*

Stacked Credential Programs

17 programs were launched and 22 programs were enhanced during RevUp. In addition to outfitting programs with modern equipment and updated curriculum, most RevUp programs also adopted a stacked credential format (a sequence of credentials that each build upon one another and each signify the completion of a specific competency or skill). Generally, in this format, credentials can be earned more quickly than traditional postsecondary awards and accrue as a student moves through their academic program. Two approaches to creating stacked credentials were used in RevUp: (1) integrating industry-recognized credentials (IRCs) into academic programs, and (2) adopting Certificate of Technical Studies (CTS) awards to denote completion of a semester in good standing. Many programs adopted both strategies. While some colleges expressed they believed the CTS "off-ramp" would encourage students to leave college after just a semester and potentially negatively impact the college's reputation with employers; other colleges recognized that a significant percentage of students do not complete their studies in a linear fashion and believed that adding additional stages of recognition would help students' transient entry into the labor market and ease their re-entry into postsecondary through Prior Learning Assessment.

RTI, RevUp's third-party evaluator, found in their Interim Report that both IRCs and CTS degrees hold labor market value and that students who earned credentials early in their postsecondary experience seemed to go on to obtain higher-level educational degrees at a higher rate, perhaps due to increases in their academic confidence.

There is great variance in the characteristics of IRCs. The IRCs piloted during RevUp as well as their impacts are detailed in the full **Final Evaluation of RevUp's Stacked Credential** report. In some cases, most notably in welding, colleges were able to better align their collective programs' learning outcomes by agreeing to integrate common IRC frameworks. In most cases this meant minor adjustments to course content.

Some colleges (Highlands College, Great Falls College Montana State University (GFC MSU), and Flathead Valley) also automated the award of the CTS credential by removing any application or fee payment processes. This automation appears to be significant for student impacts. In one case (GFC MSU – '15-'16) this adjusted the student award rate upwards from 48% to 83%.

Table 4: RevUp Stacked Credential Programs

RevUp Stacked Credential Programs	Advanced Manufacturing Programs					Energy Programs				
Colleges	Welding/Fabrication	Machining	Industrial Electronics	Industrial Maintenance	CDL/Heavy ops	Oil and Gas	Diesel Technology	Energy Technology	Entrepreneuship	
Bitterroot College*										
City College										
Dawson Comm College										
Flathead Valley Comm College										
Fort Peck Comm College										
Gallatin College										
Great Falls College MSU										
Helena College										
Highlands College										
Little Big Horn College										
Miles City Comm College										
Missoula College										
MSU Northern										

Legend of Integrated Stacked Credential
Programs that have a CTS award opportunity
Programs that have integrated at least one IRC
Programs with integrated IRCs and automated CTS offerings

Colleges that didn't add CTS degrees into programs included Helena College, Gallatin College and Missoula/Bitterroot Colleges. Helena and Gallatin both expressed that there was no demand for workers with competencies at levels lower than Associate of Applied Science graduates in their local markets. Both Bitterroot and Missoula Colleges aggressively sought approval to add the CTS award into their mix of educational credentials but those approvals were denied by their flagship university.

Table 4 is a graphic description of colleges with programs that integrated IRC, CTS into traditional programs.

Technological Enhancement of Instruction

USDOL's Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant sought to promote integration of new instructional technology to aid in instructional delivery as well as expand student access by emphasizing the curation of online and hybrid programs. Colleges within the RevUp consortium developed both opportunities that included: use of simulators in CDL and diesel technology courses; access to new online/hybrid programs, in part, through course sharing; remote student support services and emporium math models that utilized pre-recorded video tutorials.

Table 5: Technology Enhanced Programs and Courses

RevUp Stacked Credential Programs	Welding/Fabrication	Machining	Industrial Electronics	Industrial Maintenance	CDL/Heavy ops	Oil and Gas	Diesel Technology	Energy Technology	Entrepreneuship
Colleges	**Advanced Manufacturing Programs**					**Energy Programs**			
Bitterroot College*									
City College									
Dawson Comm College									
Flathead Valley Comm College									
Fort Peck Comm College									
Gallatin College									
Great Falls College MSU									
Helena College									
Highlands College									
Little Big Horn College									
Miles City Comm College									
Missoula College									
MSU Northern									

Legend of Integrated Stacked Credential
Programs that have integrated at least one IRC
Integrated at least one IRC but have an unrealized CTS award opportunity
Programs with integrated IRCs and automated CTS offerings

Program Performance

Table 6 describes the (estimated) percentage of the original participant estimate met by each college within each RevUp initiative. In cases where unanticipated programs were added during the project period (blue highlight) the total number of participants served is provided instead of a percentage.

Table 6: Percentage of Participant Estimate Met by Program and College

Colleges	Advanced Manufacturing Programs					Energy Programs			Tracks don't count		
Bitterroot College*											
City College	281%	0%	0%	0%	958%	165%		243%	0%	207%	
Dawson Comm College	57%					20%					
Flathead Valley Comm College	142%		276%		16				0%	130%	
Fort Peck Comm College	153%				90%				43%		125%
Gallatin College	277%	92%							0%		
Great Falls College MSU	233%				7	41			0%	316%	
Helena College	747%	567%					49%		0%		107%
Highlands College	1133%				*						
Little Big Horn College	19%	0%			35	0%		0%			0%
Miles City Comm College					186%						
Missoula College	214%	12%	0%	0%	52%	0%		0%	17%	227%	20%
MSU Northern	118						136%			441%	
Percentage (%)of aggregate goal met	**215%**	**152%**	**130%**	**0%**	**146%**	**86%**	**106%**	**41%**	**16%**	**250%**	31%
**outcomes aggregated with Missoula College*											

Legend
The percentage of the original participant-to-be-served estimates are indicated in white
Programs that did not have participant estimates - #'s (black) represent participants served in these programs

Table 7 describes the aggregate percentages of USDOL Performance Metrics met by the RevUp Montana consortium.

Table 7: Comparing aggregate goals to actual aggregate goals

	USDOL Standard Performance Metrics	Project Goals from Grant Application	Project Actual	% of Goal Met
1	**Total unique participants served** *USDOL ultimately did not approve of including coached students as "participants", nor did they allow the adjustment of project targets to reflect this determination*	3,419 *In Programs: 2,451* *Through Coaching: 968*	7,219 *In Programs: 5,186* *Through Coaching: 2,429*	*Programs: 152%* *Coaching: 251%*
2	**Total number of participants earning credential** *USDOL includes third-party credentials*	2,439	1,775	73%
3	**Total number of participants who have completed a TAACCCT funded program**	2,329	1,374	59%
4	**Total number of participants employed after grant-funded program of study completion** *Only includes participants not employed at time-of-enrollment (no wages in quarter of entry)*	175	780	446%
5	**Total number of participants retained in employment after grant-funded program of study completion** *Only includes participants not employed at time-of-enrollment (no wages in quarter of entry)*	131	466	356%
6	**Total Number participants completing credit hours**	6,921	7,920	114%
7	**Total number of participants enrolled in further education after grant-funded program of study completion**	759	301	40%
8	**Total number of participants still retained in their program of study**	585	908	155%
9	**Total number of participants employed at enrollment who receive a wage increase post-enrollment**	1,744	653	37%
10	**Total # of "non-participants" impacted by changes to developmental math and/or completing an National Career Readiness Certificate** (*Not an official USDOL metric*)	5,970	1,156	29%