

Annual Report for Assessment of Outcomes

Submitted: June 13, 2011

SAC: **ACR**: Auto Collision Repair Technology

Outcomes Assessed: ACR 2 Year Certificate & AAS Degree

1. *Describe changes to teaching practices implemented as a result of learning outcome assessments that were carried out in the previous academic year.*

We created a Critical Thinking Outcome assessment exercise during the previous academic year. We decided to abandon its use as it did not mesh with our new all-inclusive outcomes assessment project. We decided to focus our attention and efforts on our new project.

2. *Identify the outcomes assessed this year, and describe the methods used. What were the results of the assessment (i.e., what did you learn about how well students are meeting the outcomes)?*

For our Learning Assessment, we assessed the six PCC Core Outcomes of our ACR 2 Year Certificate & AAS Degree. We also assessed our student's subject area specific hands-on and shop practices skills to fulfill our Technical Skills Assessment, as our program is a beneficiary of Perkins funding. We accomplished this task by combining the two projects into one end of program assessment.

The assessment tool (**see Cooperative Education Employer Evaluation**) is completed by the employer/supervisor during the completion of the student's Cooperative Education work experience requirement (300 hours). This is the sixth term of the ACR 2 Year Certificate and the AAS Degree.

The Learning Assessment portion focuses on 25 learning areas that align with the six PCC Core Outcomes. The Technical Skills Assessment portion concentrates on 20 hands-on and shop practices skills that make up five areas of objectives that our program is built on. Some of the individual items could have been placed in either the learning assessment or the technical skills areas.



P.O. Box 19000 Portland, Oregon 97280-0990

Cooperative Education Employer Evaluation

Student _____

Supervisor _____

Auto Collision Repair Term: _____

Company _____

LEARNING ASSESSMENT
EVALUATION OF CO-OP STUDENT SHOULD BE BASED ON COMPARISON TO ENTRY LEVEL EMPLOYEES.

<u>Level 1 - Limited</u>	<u>Level 2 - Basic</u>	<u>Level 3 - Advanced</u>
1 2 3 ABILITY TO COMMUNICATE		
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Reading - estimates, repair order, parts lists, instructions		1 2 3 SOLVING
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Writing - parts request, supply lists, supplements		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Process & repair problems - repair sequences, distinguish relevant from non-relevant data
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Speaking - Terminology, appropriate interactions		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Computation - measurements, basic math, basic computer programs
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Listening-following instructions, ask suitable questions		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Utilization of repair data - repair orders, measurement charts, manufacturer's information
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Visually - diagrams, using technology to convey ideas		
HAS AN UNDERSTANDING OF COMMUNITY & ENVIRONMENTAL RESPONSIBILITY		
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Recycling - metals, antifreeze, batteries, paints & thinners		1 2 3 EXHIBITS PROFESSIONAL COMPETENCE
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Hazards - exposure to chemical, safety, shop practices		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Is on time to work
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Pollution - efficient use of materials, end use issues		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Alerts supervisor if absent or late
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Dresses appropriately for job setting
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Uses time effectively
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Adapt to feed back
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Does not endanger self or others
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Professional attitude
1 2 3 DEMONSTRATE CULTURAL AWARENESS		
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Cultural and human interactions - working within a team, attitude towards others
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Communicating with team members - mutual respect, acknowledging other opinions

TECHNICAL SKILLS ASSESSMENT
EVALUATION OF CO-OP STUDENT SHOULD BE BASED ON COMPARISON TO ENTRY LEVEL EMPLOYEES.

1 2 3	1 2 3
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Knowledge & use of basic tools	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Skill in panel repair
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Personal safety practices - safety glasses, glove, dust masks, respirators	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Skill in panel rough-out
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Shows continual improvement and speed in completing work	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Skill in surface preparation
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Exhibits adequate knowledge learned in class to perform tasks	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Skill in finishing of filler
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Uses care with equipment and materials	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Skill in frame set-up
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Is accurate and careful in work	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Skill in frame measuring
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Skill in parts removal & replacement	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Weld-on structural parts replacement
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Skill in labeling and storage of parts & hardware	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Skill in panel removal
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Skill in parts alignment	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Skill in panel fitting
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Skill in spot-weld drilling
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Skill in grinding welds

Instructor Use Only

Did the student meet the objectives? Yes No _____

Did the student complete their required hours? Yes No _____

Has this report been discussed with the student? Yes No _____

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Supervisor Signature

Date

As part of the Cooperative Education contract, the employers agree to assess the degree to which students have met the outcomes and skills required of the certificate or degree. Our SAC chose 3 levels of achievement, as opposed to 4 or 5, so that the assessment was more cut and dry. This way the employer was not stuck trying to decide on the middle areas of scoring. This also makes the findings easier to interpret, more useful and consistent. As a result, there are less gray areas of scoring.

The assessment tool is based on a rubric that we provide (**see ACR Learning Outcomes/Technical Skills Assessment Rubric**). The rubric describes the 3 levels of achievement for each of the program outcomes and skills.

For consistency, both the rubric and the Cooperative Education Employer Evaluation sheets are administered at the work site by the Auto Collision instructor of record for the Cooperative Education course. The two documents are read and signed by the employer/supervisor and discussed with the instructor prior to completing the assessment. The employer/supervisor is reminded that the evaluation of the Co-op student should be based on comparison to entry level employees.

The Self-Reflection outcome is scored on a separate assessment sheet using the same rubric and is completed by the Auto Collision instructor of record (**see ACR Self-Reflection Cooperative Education Learning Assessment**). The five specific areas of assessment that cover the self-reflection outcome are based on student and instructor interaction, worksite visits, and 8 weekly journal entries.

Auto Collision Repair Technology

Learning Outcomes/Technical Skills Assessment Rubric

Level 1- Limited

Limited demonstration and application of knowledge and skills.

Entry level employee exhibits limited skill and speed, applies few learned skills and knowledge and struggles to perform task (is not developing skills), does not complete task or requires excessive guidance.

Level 2 - Basic

Basic demonstration and application of knowledge and skills.

Entry level employee exhibits basic skill and speed, applies knowledge and uses developing skills to perform task, completes with some guidance.

Level 3 - Advanced

Demonstrates advanced comprehension and is able to apply essential knowledge and skill.

Entry level employee exhibits advanced skill and speed, applies knowledge and uses proficient skills to perform task, completes with little guidance.

Please use this scoring guide when completing the Supervisor Evaluation form. (Administered by Auto Collision Instructor)
Evaluation of Co-op student should be based on comparison to entry level employees.

Student _____

Supervisor _____ Date _____

Auto Collision Repair Technology

Self-Reflection Cooperative Education Learning Assessment

Student _____

Term _____

Level 1 – Limited Level 2 – Basic Level 3 - Advanced

Self-Reflection – Co-op student is able to apply self-reflection as it pertains to:

1 2 3

- Summaries of shop activities and environment - 8 weekly journal entries

- Assess, examine and reflect on their own professional competence and personal experience and how these impact and relate to the auto collision repair shop environment

- Assess own skills and abilities, monitor progress and motivate self

- Be accountable for actions and their impact on others

- Contribute to the shop community

This assessment is to be completed by the Auto Collision Repair Technology instructor at the completion of the Cooperative Education work experience. Assessment is based on student and instructor interaction, work site visit, and 8 weekly journal entries. Instructor will use Auto Collision Repair Technology Learning Outcomes Assessment Rubric as a scoring guide.

Instructor _____

Date _____

The information collected on each student for all of the outcomes combined is used as part of the grade for the student's 10 credits of AB280A Cooperative Education work experience. The information collected on each student for the self-reflection assessment is used as part of the grade for the student's 2 credits of AB280B Cooperative Education Seminar.

For program assessment, the information gathered from all students is entered into our assessment spreadsheet and is averaged for each outcome and an average of all outcomes is calculated for each student. The results are evaluated by the department for consideration of program improvement (**see ACR Learning/Technical Skills Assessment Spreadsheet**). Individual student results columns were placed into the spreadsheet in a random order for confidentiality.

Averaged scores of 2.0 and greater are interpreted as evidence that students are meeting or exceeding the specific outcomes. Individual student's scores of 1 in any category could trigger further evaluation of the student's abilities in this area, and could contribute to a non-passing grade for AB280A or AB280B. Our goal is a score of 2.0 (Basic demonstration and application of knowledge and skills) and above for any and all individual outcomes.

Our SAC is excited with the assessment tools that we have developed and we are thrilled with the overall results revealed by this process. Average scores in 10 out of 11 outcome categories and 12 out of 15 individual student averages were exceptional! The one outcome category that we were not happy with was Self-Reflection. Out of the 5 learning areas in this category, 4 averages were under a 2.0 score. Three individual student averages were not as good as we would prefer. Two were under 2.0 and one was right at a 2.0 score. Even with the eventual improvement in the category of Self-Reflection, which would bring these three scores up, there are other areas of concern for these three students. When examining the three students, there is a common thread. They are non-native speakers and English is the second and even third language for these students.

There are definitely areas for improvement and plans to address these are in section 3 below.

AUTO COLLISION REPAIR TECHNOLOGY
Learning/Technical Skills Assessment Spreadsheet
Spring 2011

Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15				
Company name	VC	MC	KN	CA	AC	AA	AA	CA	CA	KW	MV	BB	KW	BT	MH				
Met objectives	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes				
Completed 300 hrs	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes				
Report discussed with student	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes				
Total # of Students	15																		
<i>Communication</i>																			
Reading	2	2	1	3	3	2	2	2	2	2	2	2	2	3	3	2.2	7%	67%	27%
Writing	2	2	2	3	3	2	2	3	2	2	3	2	2	3	3	2.4	0%	60%	40%
Speaking	3	3	1	3	3	3	3	3	2	2	3	3	1	3	2	2.5	13%	20%	67%
Listening	2	3	1	2	3	3	2	3	3	3	2	3	1	2	3	2.4	13%	33%	53%
Visually	1	2	1	2	3	3	3	2	2	2	2	3	2	3	3	2.3	13%	47%	40%
<i>Community and Environmental Responsibility</i>																			
Recycling	3	3	2	3	3	3	3	3	3	3	3	3	2	3	2	2.8	0%	20%	80%
Hazards	3	3	2	3	3	3	3	3	3	2	3	3	2	3	2	2.7	0%	27%	73%
Pollution	2	3	2	3	3	3	3	3	2	3	3	2	3	3	2	2.7	0%	33%	67%
<i>Critical Thinking and Problem Solving</i>																			
Process and repair problems	3	2	1	2	3	3	3	2	2	2	3	3	2	2	3	2.4	7%	47%	47%
Computation	3	2	1	2	3	3	3	3	2	2	3	3	2	3	3	2.5	7%	33%	60%
Utilization of repair date	2	2	1	2	3	3	3	3	2	1	3	3	2	3	3	2.4	13%	33%	53%
<i>Professional Competence</i>																			
On time	3	3	3	2	3	3	3	3	3	3	3	3	1	3	2	2.7	7%	13%	80%
Alerts if absent or late	3	3	3	2	3	3	3	3	3	3	3	3	2	3	3	2.9	0%	13%	87%
Dresses appropriately	2	3	3	3	3	3	3	3	2	3	3	3	2	3	3	2.8	0%	20%	80%
Uses Time Effectively	2	3	2	2	3	3	3	3	2	2	3	3	1	3	2	2.5	7%	40%	53%
Adapts to feedback	1	3	2	3	3	3	3	3	3	3	3	3	2	3	3	2.7	7%	13%	80%
Does not endanger self or others	2	3	2	3	3	3	3	3	3	3	2	3	2	3	3	2.7	0%	27%	73%
Professional attitude	2	3	2	3	3	3	3	3	3	3	3	3	1	3	3	2.7	7%	13%	80%
<i>Cultural Awareness</i>																			
Cultural and human interactions	1	3	3	3	3	3	3	3	3	3	3	3	2	3	3	2.8	7%	7%	87%
Communicate with team members	3	3	2	3	3	3	3	3	2	3	3	3	1	3	1	2.6	13%	13%	73%
<i>Self-Reflection</i>																			
Shop activities and environment	2	3	2	2	3	3	3	3	3	2	3	2	3	3	2	2.6	0%	40%	60%
Assess, examine and reflect	1	2	1	1	2	2	2	2	3	1	2	2	2	2	1	1.7	33%	60%	7%
Assess skills abilities	2	2	1	1	2	2	2	2	3	1	2	1	1	2	2	1.7	33%	60%	7%
Accountable for actions	1	2	1	2	3	2	2	2	3	1	2	2	1	2	1	1.8	33%	53%	13%
Contribute to shop community	2	2	1	2	2	2	2	2	3	1	2	2	2	2	2	1.9	13%	80%	7%

Level 1=Limited 2=Basic 3=Advanced

AUTO COLLISION REPAIR TECHNOLOGY
Learning/Technical Skills Assessment Spreadsheet
Spring 2011

Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15				
Shop Practices																			
Knowledge and use of basic tools	3	3	2	3	3	3	3	2	2	2	3	3	2	3	3	2.7	0%	33%	67%
Personal safety practices	1	2	3	3	3	3	3	3	3	3	2	3	3	3	2	2.7	7%	20%	73%
Shows continual improvement, speed	2	2	2	2	3	3	3	3	3	2	2	3	2	3	2	2.5	0%	53%	47%
Exhibits adequate knowledge	3	3	2	3	3	3	3	3	3	3	3	3	2	3	3	2.9	0%	13%	87%
Uses care with equipment	1	3	3	3	3	3	3	2	3	3	3	3	2	3	2	2.7	7%	20%	73%
Accurate and careful	2	3	2	3	3	3	3	3	3	3	2	3	2	3	3	2.7	0%	27%	73%
Parts Replacement																			
Skill in parts removal	3	3	1	2	3	3	3	3	3	2	3	3	2	2	3	2.6	7%	27%	67%
Skill in labeling and storage	3	2	3	3	3	3	3	3	3	2	3	3	2	3	2	2.7	0%	27%	73%
Skill in parts alignment	1	2	2	3	3	3	3	2	1	2	3	2	2	2	2.3	13%	47%	40%	
Panel Repair																			
Skill in panel repair	2	2	1	3	3	3	3	3	3	1	2	3	3	2	2	2.4	13%	33%	53%
Skill in panel rough-out	2	2	2	3	3	3	3	3	3	2	2	3	2	2	2	2.5	0%	53%	47%
Skill in surface preparation	2	3	2	3	3	3	3	3	3	1	3	3	2	3	2	2.6	7%	27%	67%
Skill in finishing of filler	2	2	1	3	3	3	3	3	2	1	3	3	2	2	3	2.4	13%	33%	53%
Frame Repair + Measuring																			
Skill in frame set-up	2	2	1	2	3	3	3	2	2	1	2	3	2	3	3	2.3	13%	47%	40%
Skill in frame measuring	2	2	1	2	3	3	3	2	2	1	2	3	2	3	3	2.3	13%	47%	40%
Weld-on Parts Replacement																			
Weld-on structural parts replacement	3	2	2	2	3	3	3	3	2	2	3	3	2	2	2	2.5	0%	53%	47%
Skill in panel removal	3	2	2	3	3	3	3	3	3	2	3	3	2	2	2	2.6	0%	40%	60%
Skill in panel fitting	2	2	2	3	3	3	3	3	3	1	2	3	2	2	2	2.4	7%	47%	47%
Skill in sport-weld drilling	3	3	2	2	3	3	3	3	2	2	3	3	2	3	3	2.7	0%	33%	67%
Skill in grinding welds	3	3	2	2	3	3	3	3	3	1	3	3	2	3	3	2.7	7%	20%	73%
Student Average	2.2	2.5	1.8	2.5	2.9	2.9	2.8	2.8	2.6	2.0	2.6	2.8	1.9	2.7	2.4				
Individual student results columns were placed into the spreadsheet in a random order for confidentiality.																			

Level 1=Limited 2=Basic 3=Advanced

3. *Identify any changes that should, as a result of this assessment, be implemented towards improving students' attainment of degree and certificate outcomes.*

Improvement to Teaching and Program

Self-Reflection outcomes: Scores indicate a lack of communicating self-reflection in the written form.

Students currently write 10 to 12 one page summaries of technical articles that they are required to read during the course of the 2 year program. They are also required to write 8 weeks of journal entries during the Cooperative Education work experience. We have been lacking on setting the expectations for the conclusion paragraph that is part of the technical article summaries and showing examples and expectations for the weekly journal entries.

The SAC has agreed to implement the following strategies to help students develop this ability:

- Show acceptable conclusion paragraph examples that highlight self-reflection.
- Have exceptional student article summaries read aloud in class to reinforce the self-reflection aspect of a conclusion paragraph.
- Give all Co-op students a hand-out that explains what is expected to be included in the 8 weekly journal entries and a sample journal entry (**see AB280B Cooperative Education – Seminar hand-out**).

Learning/Technical Skills outcomes for individual students: Scores indicate that 3 students had a total average of score that was right at or below our set goal.

Some students have language barriers that may be a contributing factor. It can be difficult for them to understand technical terms, processes, and skills.

Reading and writing may be a struggle also. Results from the assessment tools reveal that overall we are meeting and exceeding the needs of most of these types of students with the assistance of our Technical Learning Skills Specialist. We can do better though with a few individual students.

The SAC has agreed to implement the following strategies to help these students overcome these barriers:

- Be more in tune to the needs of students with language barriers.
- Try to identify those types of students early in the first term in the program.
- Strongly encourage them to get the assistance of our Technical Learning Skills Specialist.
- Encourage them to take ESOL classes.

The SAC has agreed to implement the use of the new scoring rubric for all ACR course hands-on projects, activities, and skills. This will allow us to have consistent assessment throughout our entire program.

AB 280B Cooperative Education – Seminar Hand-out

2 Credit Hours pass/no pass

To pass AB 280B, you must email George Warneke (george.warneke@pcc.edu) 8 weeks of journal entries. Each Monday I must receive an email with information from the previous week. It can be an attachment or typed into the body of the e-mail. It must include a summary of 1 week of your shop activities (vehicles worked on, tasks performed, any challenges and/or successes, etc.), info about the shop environment (how do the other employees treat you, how do you get along with them, how does the boss treat you, etc.), are your skills increasing (more ability, faster speed, new skills and techniques, etc.), are you part of the shop community (is it fun, are you comfortable in the professional setting, etc.). **Please include what week you are reporting on and how many hours have you worked so far.**

Here is a sample journal entry:

Week 2 (total hours worked so far – 80 hrs.)

This week was a little more fun than the last one. I am starting to get to know Justin and the other techs that I work with. These guys really know their stuff and they like to have fun too, there is a lot of joking between the guys at the shop and they are letting me in on it. I can already see that my abilities and speed are increasing and I'm contributing to the team.

In addition to being a more fun week, it was also a busier week, Justin and I turned out a lot of hours this week. He is letting me work more independently on some of the smaller jobs.

Monday- Removed front bumper, passenger fender and tore down door on 02 Toyota Tacoma

- installed front bumper on Volvo V70R (I struggled a little on this, but learned a lot)
- installed fog lights on front bumper of 06 Civic Hybrid

Tuesday- Put 02 Tacoma back together, found a broken tab on front headlight, had to order a new one, waiting on part to finish putting back together

- Cleaned and installed double back tape on moldings for F 250
- Tore down 05 Honda Accord, Rear bumper, Taillights, and fuel door

Wednesday- Removed front bumper on 08 Saturn Outlook

- tore down passenger door on 2002 Ford Ranger
- put 03 Ford Escape back together, Rear hatch, rear door, interior and back glass

Thursday- Repaired front bumper on 05 Honda Odyssey

- installed truck bed on 02 Ranger
- put passenger door together on 02 Ranger
- built front bumper for 02 Toyota Tacoma, installed front bumper and headlights

Friday- Put 05 Honda Accord back together

- built front bumper for 06 Toyota Sienna
- removed rear bumper and hatch on Honda Passport (I made good time on this one)
- pulled rear floor of Honda Passport
- used dent fix machine to raise low spots on Honda Passport floor and bondoed them