# Enhancing Automotive Technology Education at the Chippewa Valley Technical College: A Student and Employer Needs Assessment

by

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## ABSTRACT

The purpose of this study was to provide evidence that automotive technician employers in the Chippewa Valley would be interested in hiring students with a second year of education as well as to show that students who are currently enrolled in the one-year automotive technology program at the Chippewa Valley Technical College (CVTC) would be interested in attending a second year of programming.

A survey of 76 local employers indicated that many have difficulty finding qualified entry-level automotive technicians to fill openings, and 60 businesses (79% of respondents) would be willing to hire a graduate of the CVTC who had completed a two-year technical diploma.

A focus group conducted with students enrolled in the program indicated approximately 75% of students would be interested in attending a second year of programming, however they

cautioned that eliminating the opportunity for a one-year technical diploma would dissuade some students from attending.

Overall, the combination of employer survey responses and student feedback indicate that there is both a need on the part of local employers as well as an interest on the part of students to have an additional year of training for automotive technology students. Recommendations for future actions as well as suggestions for follow up evaluations are addressed.

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# Chapter I: Introduction

Students at the Chippewa Valley Technical College (CVTC) have long been lauded for their technical expertise and ability to apply the skills they have learned immediately upon graduation (see CVTC, 2007). Recently, it has become evident that graduates of the automotive maintenance technician program remain lacking in their training because students fail to advance within their chosen careers. After some discussion, the CVTC Board of Directors has approved the revision of the automotive skills program to include an optional second year of education. Prior to making changes, the university will administer a needs assessment which will then be followed by the development and implementation of curriculum targeted at increasing the marketability of automotive maintenance students and increasing the likelihood of advancement within their given field. The focus of this project will be to demonstrate a need for additional education from the perspective of both potential employers of graduates as well as the students who are currently enrolled in the program.

## *Statement of the Problem*

Students of the automotive maintenance technician program at CVTC are not receiving adequate skills training to allow them to advance beyond entry level positions once they enter the workforce. Curriculum developers at CVTC need to demonstrate that there is a need both from the student population and future employers for graduates who have completed two years of automotive technology education.

## *Purpose of the Study*

This study consisted of a needs assessment designed to demonstrate that students at CVTC are interested in attending a second year of study and to demonstrate that employers in the Chippewa

Valley are interested in hiring CVTC graduates who have completed two years of automotive technology training.

*Assumptions of the Study*

It is assumed that students who graduate from the CVTC automotive technology program are indeed learning the skills and meeting the learning objectives for the courses already included in the course curriculum. It is assumed that deficit in skills is not a result of poor instruction, unmotivated learners, or technological barriers but instead a gap in the skills taught by the university and the skills required of the professionals in the field of automotive technology.

*Definition of Terms*

*Wisconsin Technical College System.* The state-wide affiliation of 16 technical college districts in Wisconsin. The focus of this study is the Chippewa Valley District – Chippewa Valley Technical College.

*Chippewa Valley Technical College.* The Chippewa Valley Technical College is one of 16 districts contained within the Wisconsin Technical College System. The student population at CVTC averages 7,000 annually (CVTC, 2008a), and students can choose from approximately 75 different areas of study (CVTC, 2008b). Chippewa Valley Technical College offers students the opportunity to participate in apprenticeships, associate or technical degree or diploma programs, or certification programs (CVTC, 2008b).

*Automotive Technology Program.* The automotive technology program at CVTC is a one-year, technical diploma program that provides entry level training to students who wish to purse a career in the automotive industry. At this time, the curriculum provides instruction in eight areas set forth by the National Institute for Automotive Excellence (NIASE): brakes, suspension/steering, air conditioning, electrical/electronic systems, engine repair, engine

fuel/ignition/emissions, manual drive train, and automatic transmission servicing (Automotive Maintenance Technician, 2008a). The program, currently under the direction of Brian Gerrits, holds National Automotive Technicians Education Foundation (NATEF) certification that is valid through August 2012 (NATEF, 2008). Recent graduates have obtained jobs as automotive service technicians, automotive parts salespeople, service writers, shop foremen, and service consultants or advisors. The average wage reported by 2006 graduates was $10.78 per hour (Automotive Maintenance Technician, 2008b).

*National Institute for Automotive Service Excellence (NIASE).* The NIASE is the automotive industry's method for differentiating between professional and amateur automotive technicians. This organization set forth a selection of curriculum topics to which educational institutions teach. Upon completion of education, students have the opportunity to test for certification and become officially certified as an ASE technician.

*National Automotive Technicians Education Foundation (NATEF).* The accrediting organization of the NIASE. This organization tracks accreditation of automotive service technician training programs across the country.

*Limitations of the Study*

One limitation of this needs assessment and subsequent curriculum is that it will be based on the employment needs of those employers in the Chippewa Valley. As such, the results of this study cannot be generalized much beyond this area as rates of employment by sector can differ substantially. In addition, this project was under a fairly tight deadline and did not allow time for more than one focus group or a second round of survey administration that resulted in smaller sample sizes than could have been attained had the measures been repeated.

*Methodology*

Subsequent chapters briefly discuss how curriculum is developed at technical schools and include general information on the field of automotive technology. A focus group provided evidence that students currently enrolled in the automotive technology program are interested in attending additional years of education, and a survey administered to potential employers of CVTC graduates in the Chippewa Valley indicated a strong interest in employing students who have had additional training. Finally, this author will develop a framework for evaluation of program outcomes to determine not only how effectively students are learning and retaining the skills taught by the new additions to the curriculum but also how well those additional skills are working to facilitate advancement in the workplace.

# Chapter II: Literature Review

The process of developing curriculum for high school, technical college, and universities differs in the subject matter, yet the steps by which this curriculum is developed are similar. The following chapter discusses what curriculum is, how it is written for higher education audiences, how it is changed, and finally how it is evaluated. Understanding the basics of curriculum development, improvement, and evaluation will lay the groundwork for later discussion pertaining specifically to the automotive technician program at Chippewa Valley Technical College.

## *What is curriculum?*

Curriculum is usually defined in one of two ways. Curriculum may refer to all of the courses offered at a particular institution of education, or alternatively it may refer to the specific set of courses required to teach a specific set of skills – usually referred to as a "program" (Curriculum, n.d.). Armstrong (2003) notes that the term may also be used to indicate the order in which a skill set or knowledge base is taught – what takes priority and should be taught first? Armstrong continues to note that professionals might use the term "instruction" when referring to the actual delivery of curriculum. For the remainder of this study, the term "curriculum" will refer to a set of courses chosen and sequenced in order to teach the learner a particular set of skills as effectively as possible.

Posner (1995) also discusses the confusion regarding definitions of curriculum beyond simply confusing it with instruction and notes that there are five basic classifications of curriculum used by educators. The official curriculum is the curriculum that has been documented in syllabi, course outlines, lists of objectives, and curriculum guides. Operational curriculum refers to what is actually taught by the instructor over the course of a class and how

the importance of the material is communicated to the students (Posner). In other words, what is actually taught to the students and what the students take away from the class. The hidden curriculum consists of the norms and values that are communicated via topic matter, while the null curriculum consists of the subject matter that is purposely excluded from instruction (Posner). Finally, extra curriculum is comprised of experiences outside of the classroom that are primarily motivated by student interests (Posner).

When addressing curriculum development and change such as in the case of an automotive technician program, one has control over the official curriculum and the null curriculum. As a curriculum developer, one has no input on how an activity is actually taught; rather this is left to the instructor's interpretation of the best way in which to meet the guidelines set forth in the official curriculum. The application of the null curriculum is incorporated by virtue of the fact that official curriculum indicates what will be taught and thus any topic matter excluded is indication of null curriculum. Control is also a loosely used term, as the curriculum for automotive technician programs must incorporate a pre-determined set of instructional topics in order to remain NATEF certified.

*Curricular Theory*

Sears and Marshall (1990) noted that there are a variety of competing theories regarding curriculum theory and practice. Most individuals are familiar with what is known as the traditional approach, which consists of organizing subject matter in a logical fashion. Goals are clearly stated prior to teaching, and activities are planned well in advance of classroom time (Sears & Marshall). Students are evaluated primarily via quantitative measures of their knowledge retention (tests), and students are motivated to learn by extrinsic factors – the reward of good grades or the threat of poor grades (Sears & Marshall).

Sears and Marshall (1990) also note several alternative theoretical orientations that diverge from traditional beliefs. A more contemporary perspective emphasizes self-understanding and posits that knowledge is valuable only insofar as it is personally relevant to the learner (Sears & Marshall). Another perspective weighs the role of the teacher more heavily, asserting that the teacher is such a powerful influence in the learning environment that he or she exerts so much control as to influence the delivery independent of the curricular objectives (Sears & Marshall). Finally, some curricular theorists indicate that the purpose of curriculum is to build a better society, and that in learning together in a group, additional messages aside from traditional knowledge are communicated. It is here that students learn social rules and behaviors appropriate for their societal position (Sears & Marshall).

*How is Traditional Curriculum Developed?*

The traditional theory of curriculum is utilized frequently, but broken down even further with regard to learning objectives. The following steps were outlined in Ong's (2002) discussion of traditional (knowledge) versus competency (skills) based curriculum. In general, the process begins with broadly identifying the topics, or domain, of information to be included in the curriculum. When developing curriculum, an educator must first determine the general subject area about which he or she will be designing curriculum (Ong). After the general domain has been identified, the major competencies or units of knowledge that are integral to the success of the learner are identified (Ong). A curriculum developer must determine exactly what the learner should know or be able to do upon successfully completing the courses or modules in a curriculum.

After the main goals have been identified, a curriculum developer must identify the supporting knowledge or skills that are necessary in order for a learner to be able to successfully

demonstrate successful learning (Ong, 2002). Finally, an educator must determine what foundation abilities must be present prior to entering into an educational program in order to be successfully (Ong). Foundation abilities – or basic skills – may include basic skills such as reading or writing at an eighth grade level or speaking English fluently or be as advanced as having mastered the skills taught in a previous component of the curriculum. It is in this stage that the curriculum developer asserts his or her assumptions about the learners entering into the curriculum program (Ong, 2002).

*Curriculum and Education at Wisconsin Technical Colleges*

There are a variety of education opportunities available at Wisconsin Technical Colleges, and each has its own curriculum requirements. The Applied Associate's Degree is a two-year program that combines technical skills as well as general education courses such as math and social sciences. One- and two-year technical diplomas focus completely on skills education and forego most general education courses aside from those deemed necessary to successfully complete skills education. Short-term diplomas focus on a specific occupation and take less than a year, and certificate provide targeted education that focus on specific skills relevant to a particular career. Apprentice-related instruction consists of a combination of on the job training and classroom instruction that prepares students for high-skilled careers in two to five years. An advanced technical certificate consists of a small selection of courses that are combined in response to the targeted needs of an employer, and a liberal arts program is designed to meet the general education requirements of a liberal arts degree with courses that can be transferred to a university with pre-established articulation agreements (Wisconsin Technical Colleges, 2008).

*Changing Curriculum in the WTCS*

Changing curriculum is a complicated and lengthy process for schools in the Wisconsin Technical College System. A movement for change is initiated by giving notice to the Dean of Instruction and then developing a strong case for needing change. This evidence of need can consist of a formal needs assessment, soliciting input from professionals or organizations within the field, and analyzing and comparing current curriculum to curriculum at other locations that award similar degrees or certifications. A variety of forms along with desired revisions are then again submitted to the Dean of Instruction who reviews the proposal along with the Registrar. The proposal is then reviewed by an administrative board at the WTCS level, and if approved, the state curriculum consultant reviews the proposal as well. If approved, the changes are submitted electronically and are approved for implementation the following year (Nicolet Area Technical College, 2008).

*Evaluation Curriculum in the WTCS*

To maintain the integrity of curriculum, the WTCS engages in a process known as the quality review process (QRP). The goals of the QRP are to identify factors of program quality, facilitate program improvement, anticipate future needs and trends, identify and prioritize resources, and ensure accountability to consumers (Quality Review Process, 2003). These program goals were developed to align with the requirements for the Malcolm Baldridge Award and Wisconsin Forward Award. Each program offered by the technical colleges undergoes the QRP process every five years to ensure that all programs are kept up to date and utilize the most effective instruction techniques as possible. This also ensure that content is kept up to date and puts students in the most advantageous positions upon graduation (Quality Review Process, 2003).

As part of the QRP process, each program is evaluated using a score card and rated in a variety of areas. The information from these score cards – such as placement rate, starting salary, etc. – is entered into a state-wide database that is accessible by all WTCS staff. This allows program administrators from across the state to access the information to determine best practices for each program. Utilizing QRP data from automotive maintenance technician programs that have transitioned into two-year curriculum will help administrators at CVTC to build an effective case that demonstrates the advantages of offering additional programming.

As one can see, the development and improvement of curriculum in Wisconsin Technical Colleges is no easy or simple task. The rest of this paper will focus specifically on the process of building a strong case for the addition of a second year of curriculum to the automotive maintenance technician program by assessing input from potential employers in the Chippewa Valley as well as determining the advantages to a two year program using QRP data from similar program across the state. This information will then be incorporated in the initial proposal for curriculum modification that is submitted to the Dean of Instruction of the WTCS. The entire process of establishing need and demonstrating potential benefits of program revision will follow a model of program evaluation and revision currently being used by the technical college system.

*CVTC Automotive Technician Program Summary*

Chippewa Valley Technical College's automotive technology program was initiated in 1968 as a two-year program. In 1990, the program was shortened to a single year because there was sufficient evidence that jobs were available to locally employ technicians who had completed a one year program. At this time, the program enrolls an average of 18 students per year in two sections, and the curriculum is comprised strictly of technical skills education, save for one required course in communication. Within the past year, instructors for the program

along with employers who serve on the program's advisory board have undertaken the task of expanding the program to a second year in order to provide more opportunities for students to enter the workforce at a higher wage. A 2006-2007 graduate follow up study (CVTC, 2008c) resulted in 17 of 24 graduates responding to a survey regarding their employment status. Of these 17 respondents, 15 were employed in their field, one was employed outside the field, and one respondent was seeking further education. Respondents worked an average of 42 hours per week, and the average wage of all respondents was $11.16 per hour.

# Chapter III: Methodology

The purpose of the study was to complete a needs assessment that demonstrated a clear interest on the part of automotive technology students in continuing on in their education for a second year as well as to demonstrate that employers in the Chippewa Valley are interested in hiring graduates who have undertaken a second year of technical study. The following methodology will discuss two studies. The first study consisted of a quantitative needs assessment undertaken to determine how employers feel about hiring graduates who have completed additional years of education. Survey questions also assessed area employers' current and future employment needs. The second study consisted of a focus group that allowed students to provide feedback on the idea of implementing a second year of programming in the automotive technology program. Questions were designed to determine what kinds of factors motivated students to attend Chippewa Valley Technical College as well as what kind of information students would need to make the decision to continue on to a second year of training.

## *Needs Assessment : Employer Survey*

*Subject selection and description.* A list of automotive servicers was created by the chair of the automotive technology program and given to this research. The list included a combination of prior and potential employers of CVTC graduates, dealerships and independent shop owners, and large and small businesses. A total of 223 surveys were mailed initially, however 20 were returned as undeliverable. Sixty-eight businesses responded to the survey, yielding a 33.5% response rate. Approximately eight more businesses responded after follow up contact, resulting in a total of 76 responding businesses (37.4%). Ten businesses (8%) indicated they were independent organizations and serviced only domestic vehicles. Another 27 businesses

(36%) indicated they were independent, full service providers, three businesses (4%) indicated they only maintained and repaired vehicles, and the remaining businesses either indicated they provided another combination or services or did not answer the question. Of the 76 businesses that responded to the survey, 47 currently employed automotive technicians and 11 were planning to employ automotive technicians in the future. Thirty-two percent of businesses surveyed indicated that their current entry level technicians had completed a one year technical diploma, and 33% of businesses surveyed indicated their entry level employees had completed two years of education - either technical diploma or associate's degree.

*Instrumentation.* The needs assessment utilized a written survey that was developed jointly between administrators at CVTC, administrators at WTCS, and this author. The survey needed to include a required set of criteria as determined by the WTCS as well as information specifically pertinent to employing CVTC graduates in the job market in the Chippewa Valley. Questions primarily focused on the current and future employment needs of the companies – both in the raw number of future employees that will be needed as well as the level of education the businesses wish to find in potential employees. A final copy of the survey sent to employers can be located in Appendix A.

*Data collection procedure* .Surveys were mailed to local businesses and respondents were asked to return the surveys within approximately two weeks of their receipt. Data was then entered into a database by CVTC employees for further analysis. No identifying information was linked to the respondents' answers, and all qualitative comments were analyzed in a separate database to further ensure anonymity.

*Data analysis.* Data analysis consisted solely of descriptive statistics to determine the needs of future employers. This information was then compared against the projected number of

graduates of the automotive technician program to determine if CVTC will be adequately meeting the needs of employers in the Chippewa Valley.

*Limitations.* Limitations of this study included the fairly inflexible timeline that did not allow for re-administration of the survey to employers who had not responded. In addition, it is not known what non-respondents had in common. If this survey were to be repeated, additional information about the employers would be tracked to identify non-respondents and encourage their participation.

*Needs Assessment: Student Focus Group*

*Subject selection and description.* Current students in the automotive technician program were invited to attend a focus group on a weekday evening immediately preceding one of their regular courses. Approximately ten students were able to attend this focus group and were provided with a meal while they participated. No further information was formally collected regarding their age, gender, or additional demographic information as it was not directly relevant to the outcome of this needs assessment.

*Instrumentation.* A list of questions was devised jointly by this author, a curriculum developer at CVTC, and the chair of the automotive technology program. Questions were specifically designed to determine why students chose to attend the automotive program at CVTC as well as what kind of factors would influence their decision to continue on into a second year of the program should it be offered in the future. Additionally, the instructors wished to gain some feedback on how students would be selected to attend a second year, as there would be a limited number of spaces allowed for students. A final copy of the questions used in this focus group can be located in Appendix B.

*Data collection procedures.* Focus group participants were first informed as to what kinds of questions they would be asked and how their answers would be recorded and analyzed. After each participant signed an informed consent document, students were asked a series of questions designed to isolate their motives for attending CVTC as well as their interest in attending an additional year of the program. The entire focus group was recorded and later transcribed for thematic analysis. Subsequent to the analysis, the recording was deleted.

*Data analysis.* Analysis consisted of careful examination of each participant's statements that was then classified into recurring categories for each questions. This resulted in a brief but thorough set of summary answers to each question that included the recurring themes students brought up to answer each question. Summarized answers were presented in order of frequency, so that the most common answer was presented first and then followed by less frequently mentioned answers. This author chose not to directly quote any students so as to ensure confidentiality and anonymity would be preserved.

*Limitations.* Again, the external validity of this study is extremely low and results cannot be generalized to other, similar program in this area or to any other programs housed at CVTC. If time had permitted, this focus group could have been repeated with additional non-participants or individual interviews could have been conducted to gain additional perspective from students who could not attend the focus group. Finally, a slightly smaller group may have resulted in some participants contributing more to the discussion than they did in this case.

# Chapter IV: Results

Again, this project consisted of two studies: a needs assessment survey to show evidence that area employers need employees with more education as well as a needs assessment focus group to demonstrate that students would be interested in completing a second year of study in the automotive technology program. The needs assessment survey will be presented first, followed by a summary of the results of the qualitative analysis of focus group comments.

## *Needs Assessment: Employer Survey*

Seventy six businesses responded to a variety of questions regarding their present and future needs with regard to hiring new automotive technicians. Specifically, this survey intended to determine what kinds of needs new hires would be meeting (filling newly created positions or replacing vacant positions) as well as what kind of training would generally be desired in new hires. Businesses who responded to the survey employed anywhere between one and six entry level automotive technicians, and most of these employees had obtained either a one or two-year technical diploma.

Seventy-three percent of businesses indicated that they had experienced no change in the number of entry-level automotive technicians they had hired in the past three years. For businesses that did experience a change, the most frequently indicated number of positions changed was only one. When asked why the number of available entry-level automotive technology positions has been changing, the most common reasons cited were economic conditions (16%), followed by business growth (12%), decrease in business (9%), and staff turnover (8%).

When asked about the actual number of new hires that were projected to be needed in 2009, 22 (30%) businesses indicated that they would need to hire one or two new employees to

replace individuals holding current positions, and an additional 23(30%) businesses indicated they planned to create one or two new full-time positions in 2009. These numbers were slightly lower for part-time positions, with six (8%) of respondents expecting to replace one to two part-time positions and 11 (14%) of businesses indicating they planned to create new part-time positions. Three businesses (4% of respondents) indicated that they planned to hire three to four replacements in 2009, and two businesses (3%) indicated they planned to create three to four new positions in 2009.

Figures for 2010 and 2011 were slightly more conservative, with only eight (11%) of businesses indicating they planned to hire one to two new full-time replacements each year. The projected creation of one to two new, full-time positions dipped to only five (7%) of respondents in 2010 but increased to 7 (9%) for 2011. Interestingly, three businesses (4%) indicated that they planned to create three to four new, full-time positions in 2010, and four businesses (5%) indicated that they planned to hire five or more full-time replacements in 2010. This optimism is not seen in 2011, where the number of businesses expecting to create new jobs peaks at seven businesses (9%) projecting the creation of one to two new, full-time positions. Four businesses (5%) still expect to hire five or more full-time replacements in 2011.

Businesses were also polled on the starting wages for entry-level automotive technicians. Twelve respondents (16%) indicated that their new employees start at less than $10.00 per hour. An additional 16 (21%) of businesses start between $10.01 and $10.50, and eight more (11%) start employees between $10.51 and $11.00 per hour. Thirteen (17%) of respondents start new employees between $11.01 and $11.50 per hour, and nine (12%) start new employees between $11.51 and $12.00 per hour.

When asked if they felt that entry-level technicians had adequate training to enter the workforce, only 22 of the 76 businesses who responded to the survey indicated yes. An additional 17 indicated no, ten businesses indicated that they were unsure, and 27 respondents chose not to answer the question. When asked if they had difficulty finding qualified automotive technicians, a shocking 56 respondents indicated that they do have difficulty always, usually, or some of the time.

The final items on the survey intended to determine whether or not potential employers would be willing to hire CVTC graduates, and if so what type of degree the businesses prefer. When asked about their preference for an employee with a two-year technical diploma versus one with a two-year associate's degree, 24 businesses (32%) indicated they would prefer an individual with a technical diploma. An additional 30 respondents (40%) indicated no preference, and 16 respondents did not answer. Finally, when asked if they would be willing to hire a graduate of the two-year technical diploma program at CVTC, an overwhelming 60 businesses (79%) indicated they would. Only three businesses (4%) indicated they would not, and 13 respondents left this question blank.

*Needs Assessment: Student Focus Group*

Ten students were able to participate in a guided discussion that was undertaken to determine why they chose to attend the automotive technician program at CVTC as well as to gauge their interest in attending a second year of the program. The following information was assembled as an executive summary and provided to administrators at Chippewa Valley Technical College. A more detailed analysis question by question can be found in Appendix C.

*Needs Assessment: Student Focus Group Executive Summary*

Overall, students appeared receptive to the idea of adding a second year and have already seen the need for two-year diplomas when job searching in the Chippewa Valley. Requiring students to complete a two-year diploma, however, would dissuade some students from applying.

The cost of tuition, materials, and tools were of particular concern to students. Financial aid is not structured to meet students' needs with regard to paying tuition and for tools – especially during the first semester. Suggestions included breaking up payments for tools over two semesters or waiting to order tools until financial aid has arrived.

There was much discussion over the type of coursework and subject matter that would be addressed in the second year, and students would like to be very clear about how a second year of education would benefit them professionally and financially.

With regard to selecting which students will continue on to the second program, students placed great emphasis on instructor perceptions, grades, attendance, and professional conduct. Students suggested a formal application process in which students are ranked based upon several components and then the top selection of those students are allowed the opportunity to continue on to the second year.

Finally, students would prefer to attend second year classes during the mornings so that they are allowed the flexibility to work later into the evening while attending the second year of classes. Many students expressed difficulty in balancing school, work, and home lives and indicated that any additional flexibility would be greatly appreciated.

# Chapter V: Discussion

The purpose of these two studies was to demonstrate a quantifiable need for an additional year of programming in the automotive technology program at CVTC. To show evidence of employer need, a survey was distributed to potential employers of CVTC graduates to ask them about their current and future employment needs as well as their willingness to hire CVTC graduates. A second study consisted of conducting a focus group with approximately ten students who were currently enrolled in the automotive technology program to determine why they chose to attend CVTC as well as how receptive they would be to attending a second year of programming. Chippewa Valley Technical College Instructors also hoped to gain additional feedback from students regarding the second year's admission process and the structure of the courses for the second year.

## *Needs Assessment: Employer Survey*

The first question that immediately serves to provide evidence of local employers' need for well-trained employees is that so many of them indicate they have difficulty finding qualified applicants. Fifty-six respondents indicated that that they have trouble finding qualified employees, and only 22 respondents indicated that the employees they do end up hiring have received adequate training. The answers to these two questions provide solid evidence that there is a need for well-trained, entry-level automotive technicians in the Chippewa Valley.

Questions about each respondent's intentions to hire in the upcoming three years also provide reassurance that there will still be a market for skilled automotive technicians when students begin completing the second year of the automotive technology program. Considering that the program only graduates between 12 and 18 students per year, it appears that there are

enough projected positions in the next three years to employ the majority of them locally in the Chippewa Valley.

The lack of consensus on whether or not a two-year technical diploma or two year associate's degree was preferred may indicate that employers are in need of some rudimentary education prior to being asked this question again. While the difference between the two degrees was briefly explained in the survey, the fact that so many respondents were unsure or did not answer the question indicates that this point may be up for some discussion. The difference between the two degrees stated simply is that a technical diploma focuses primarily on technical skills while an associate's degree incorporated more general education courses – such as math, science, computers, and communication. It is still of considerable value to sit down and have a discussion or further question future employers about specifically where they feel their new employees lack skills. Is it in the areas of mechanical training, or could it be that they wish to have employees who are better communicators? Determining where they feel new hires are deficient will allow CVTC to customize their programming to meet the very specific needs of local employers.

Perhaps the most telling question and answer on this survey address the respondent's propensity to hire a CVTC graduate with a two-year technical diploma. Almost 80% of employers indicated that they would be willing to hire a two-year graduate, and when coupled with the fact that a considerable number of positions will be opening up for graduates in the next few years, this statement can be considered a notable indication of need. In addition, projections for future employment needs also remain in line with the number of students who graduate from the program annually, indicating that the demand for entry-level automotive technicians will be enduring.

*Needs Assessment: Student Focus Group*

The combination of questions was designed to work in conjunction with the information gathered from the employer needs assessment survey. Students in the focus group were first asked about what motivated their decision to attend CVTC, and the most common and immediate answer was because of its location. It appeared that the students in the focus group took their education very seriously and considered it a priority in their lives; however they made their choices to attend the program and CVTC in particular based upon its location because the students would not be required to move far and uproot their lives and their families. It would logically follow that this same priority – location – would play a large part in their job search and that the majority of students would be looking for jobs in the Chippewa Valley. This provides a solid argument that students who are trained at CVTC will indeed be meeting the needs of local employers within the next year or so as well as on into the future.

There was immediate interest on the part of the students, however they also questioned specifically how attending a second year of the program would translate into professional benefits for them. Students predicted that approximately 75% of their peers would be interested in attending a second year of schooling; however students cautioned against eliminating the option for a one-year degree altogether because that option continues to meet the needs of a sub-set of students. These observations indicate that the program has the potential to meet the needs of both types of students – those looking for a single year and those looking for two years of programming. Eliminating the one year option would result in some students choosing to attend school elsewhere.

Finally, students were very engaged in providing ideas for how students would be chosen to attend a second year of the program and placed a lot of emphasis upon professional conduct,

grades, and instructor feedback. They very clearly recognized the opportunities a second year of education would immediately provide for them, and appeared very excited at the prospect of receiving more education. Students did, however, speak at length about the challenges they face balancing their school and home lives. Several students mentioned that it was difficult to meet their financial obligations while attending school and making time for their families, and they noted that, while attending a second year of schooling would indeed be a great opportunity, their families remain a significant priority in their lives.

*Limitations*

The initial survey study was limited a bit by the fairly stringent guidelines set in place by upper level administration within the Wisconsin Technical College System. In order to provide evidence of need for additional programming, there are pre-fabricated surveys and processes that must be used that do not provide the level of flexibility one would desire for projects such as these. In addition, the survey was created to serve multiple functions in developing the application to expand the program – not solely to demonstrate need for a second year of education. Further questions specifically asking where current new hires come from as well as where their specific skill deficiencies lie may have been extremely useful as the second year of programming is developed.

This author also questions the timing of this survey with regard to the recent downturn in the economy. This survey was distributed in October and November, and it is unknown if the staffing estimates are based on earlier figures from the summer or more recent estimates that have taken the status of the economy into account. It may be helpful to play close attention to alumni employment surveys that are answered in the next year or so to maintain an accurate picture of the employment environment for CVTC automotive technology graduates.

With regard to the student focus groups, this author would have liked to conduct an additional focus group with students who were not able to attend. The students in the focus group conducted for this study appeared to be extremely motivated and highly interested in adding a second year of study onto the program. It is likely that a different perspective may have arisen from students who did not attend the focus group, or students might have been likely to share additional information in one on one interviews.

*Recommendations*

With regard to the employer survey, this author recommends further investigation into the exact nature of the difficulties employers find when searching for new hires, as this will help to focus the direction of the second year of education towards skills that will immediately improve the employability of graduates. This author also recommends that CVTC continue to undertake careful follow up surveys of graduates to determine how adding a second year of education has affected graduates job searches, starting wages, and upward mobility.

With regard to focus group findings, students do appear to have many questions about the particulars of adding a second year, and it would be valuable for program directors to meet with students again after these specific questions have been answered. Students appeared to be extremely receptive to this focus group as well, and they were able to provide strong evidence of their interest in the program. This author suggests that future applications for curriculum changes also include focus groups, as they provide compelling statements from students that provide excellent support for additional programming.

To adequately evaluate the outcomes of this program, this author suggested that the program continue to administer graduate follow up surveys, however survey administrators should add an additional demographic category in which respondents can indicate how many

years of school they attended. This will allow comparisons between one- and two-year students, and collecting this information will not add additional tasks for CVTC as this survey is already being administered on a yearly basis. In addition, it would be helpful to follow up with employers after two-year graduates have spent a year in the industry to determine where additional improvements might be made in programming. At this point, CVTC may wish to determine if it would be advantageous to substitute one or two additional basic skills courses (such as mathematics or communications) in lieu of some technical education or if employers really feel that basic education skills are being adequately met by the program in its current state.

*Conclusion*

Based upon an employer survey designed to assess the need for more skilled workers as well as a focus group designed to gauge the interest of students in attending additional training, administrators at CVTC are able to make quite a strong case for the need to establish a second year of programming. It is advised that they continue to work on gaining WTCS approval for curriculum expansion; however this author cautions them against discontinuing the one-year technical diploma program. It is advised that an evaluation be undertaken after the first cycle of students completes the program and has obtained employment so that the appropriate changes can be made to make future students even more successful.

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Appendix A: Needs Assessment: Employer Survey

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## SURVEY conducted by Chippewa Valley Technical College for a Automotive Technician two year vocational diploma program

**Chippewa Valley Technical College** is considering establishing a **2 year vocational diploma in Automotive.** Please help us by completing this questionnaire regarding your company's hiring practices and future hiring needs.
The course offerings will include all 8 modules of NATEF/ASE skills standards.

**Please darken the appropriate circle by each item and return to CVTC by [ date] in the enclosed envelope.**

1) Do you currently employ individuals who perform automotive technician duties?

- No, but we plan to add this position in the future. (If "No", go to Question 9)
- No, we have no plans to create such positions. (If "No", there is no need to finish; please return in the enclosed
- Yes. (Go to Question 2.)

2) Please list the major job duties for Automotive Technicians.

3) How many entry-level technician positions exist in your company? 4) What amount of training do the majority of your entry-level technician have? (choose one) (see insert for description)

| 1 | 2-3 | 4-6 | 7+ | |
|---|---|---|---|---|
| | | | | Full-time (+35 hrs/wk) |
| | | | | Part-time |

- No post high school training
- 1-year technical diploma
- 2-year vocational diploma
- 2 -year associate degree

5) During the ***past three years***, how has the number of technician positions changed at your company?

**Full-time positions:**
- No change
- Did not employ full time

**Part-time:**
- No change
- Did not employ part time

**Full-time positions:**

| | 1 | 2-3 | 4-6 | 7+ |
|---|---|---|---|---|
| Increased by | | | | |
| Decreased by | | | | |

**Part-time:**

| | 1 | 2-3 | 4-6 | 7+ |
|---|---|---|---|---|
| Increased by | | | | |
| Decreased by | | | | |

6) **Employment change**:
If you experienced a change in the number of positions, please indicate the factors.

- Technological changes
- Licensing/certification
- Decrease in business
- Economic environment
- Labor costs
- Business growth
- Staff turnover

Other factors:

7) **During the next three years**, how many entry-level Automotive Technicians do you expect to **hire**?

| | 2008 | | | 2009 | | | 2010 | | |
|---|---|---|---|---|---|---|---|---|---|
| **Replacements of existing positions** | 1-2 | 3-4 | 5+ | 1-2 | 3-4 | 5+ | 1-2 | 3-4 | 5+ |
| Full-time (more than 35 hrs/wk) | | | | | | | | | |
| Part-time (less than 35 hrs/wk) | | | | | | | | | |

**New positions**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Full-time (more than 35 hrs/wk) | | | | | | | | | |
| Part-time (less than 35 hrs/wk) | | | | | | | | | |

8) Please indicate the typical starting hourly wage for an entry-level Automotive Technician at your place of work:

| | Less than $10.00 | $10.01-10.50 | $10.51-11.00 | $11.01-11.50 | $11.51-12.00 |
|---|---|---|---|---|---|
| Full-time: | | | | | |
| Part-time | | | | | |

9)

a) Do you think that entry-level technician(s) currently employed in your establishment have adequate educational preparation for the duties they are performing?

yes no unsure

b) Would you be willing to hire a graduate who has successfully completed a two vocational diploma associate degree in Automotive at Chippewa Valley Technical College?

Comment:

Yes No

10) Do you have difficulty finding qualified Automotive Technicians?

Always Usually Sometimes Rarely/never

11) Would you prefer to hire a person who completed an Automotive two year diploma degree than a person who completed a 2 year associate degree? (note; the associate degree requires 21 credits of general education as compared to 9 credits in a 2 yr diploma)

yes no Does not matter

12) Please make any additional comments to assist us in determining whether there is a need for a two year automotive vocational diploma program.

12) Please indicate the type of business or industry you represent:

- Independent - domestic
- Independent – foreign
- Independent -maintenance and repair (brakes, oil change and tires)
- Independent- full service
- Other

Please indicate the type of position you hold?

- Shop supervisor
- Service manager
- Owner/manager
- Human resources responsible for hiring
- Other: _____

13) Would you be willing to serve on the advisory committee for the 2 yr Vocational Diploma program? If yes, please add your name, and contact information below

Name _____Phone _____

Email _____

- Yes
- No

Appendix B: Needs Assessment: Student Focus Group Questions

1. Why did you come to Chippewa Valley Technical College?
2. How does the cost of college affect your decision to come here?
3. How does your life situation impact your decision to come to CVTC?
4. What would you need to know to make your decision regarding one versus two years?
5. How would students be selected to continue on to a second year of the program?
6. As of right now, would you continue on to the second year and why?
7. Would you prefer to attend school during the morning or evening next semester?

Appendix C: Needs Assessment: Student Focus Group Question Analysis

1. **Why did you come to Chippewa Valley Technical College?**

The overwhelming reason is because it was relatively close to where the student lives. Travel times range between walking a few blocks to driving up to around 30 miles each day. Students indicated that they seriously considered the cost of relocation when applying and attending different programs.

The range of campuses is definitely a benefit to the college, as students can attend classes at locations nearer to their homes.

The second major reason students chose CVTC is because of the cost. They were able to get financial aid for this program and it was comparatively cheaper than other programs they considered. Many of the other programs students considered were private – UTI was mentioned several times.

2. **How does the cost of college affect your decision to come here?**

Students indicated that tuition was their biggest cost at this point, however the cost of tools and materials was also prohibitive. Tools in particular pose a barrier – even to those receiving financial aid. Financial aid payments do not arrive early enough to be used to pay for tools outright so often times students must set up payments plans and pay out of pocket until financial aid arrives. When financial aid does arrive, the first semester's allotment does not cover the cost of tuition, tools, and materials.

Other students indicated that the initial investment in tools was daunting for those who were new high school graduates or those who were not certain that they planned to stay in the field. Payments plans are an option, however not well received because of the interest charged on them.

Suggestions to address this problem included getting financial aid earlier, using tools later in the program (so they can be purchased after financial aid has arrived), or splitting the cost of the tools over two semesters. Dividing the payments for tools over two or more semesters was by far the most popular suggestion.

3. **How does your life situation impact your decision to come to CVTC?**

Many students mentioned the need to be able to anticipate how much time they will be spending in school. Several students had families to support and continue to work either full or part time, so determining if they will be attending one or two years of school before they enter the program is extremely important.

Knowing that you will have a more secure future is also important – getting formal education and basic mechanic skills is much more valuable than the skills one would learn at a basic, entry level factory job.

Benefits are also taken into consideration; students recognized that having a formal education – especially a two-year degree – will allow them to get jobs in dealerships where benefits packages (including retirement) are offered.

The economy is also a concern at this point – students want stability in their future. A factory job may not always be there, but it is practically guaranteed that vehicles will need maintenance in the future.

Several students indicated that the waiting list was of concern to them as well. Going to school is an important decision that requires advanced planning, and being put on a waiting list – especially for a one year program – can result in difficulty in making life plans.

4. **What would you need to know to make your decision regarding one versus two years?**

First and foremost, students want to know how it would benefit them. What additional job opportunities open up for them? How much additional money can they make per hour? Over their lifetime? How does this affect their upward mobility? How does this contribute to ASC Certification?

Second, students really want the specifics about what kinds of courses and what additional subject matter will be covered. Will it be the same topics as in the first year only more in-depth? Will the second year be introducing completely new subject matter?

Students indicated that they would like to be informed of the option for continuing on to a second year before they are even accepted to the program so that they can make life plans.

5. **How would students be selected to continue on to a second year of the program?**

Students indicated that they relied heavily on the perceptions of their instructors. Second year students need to be hard workers who are reliable and punctual with good attendance and good interpersonal skills. Attendance and grades should be considered as more objective measures, and students suggested that perhaps an application process that resulted in a ranking of students be utilized. The number of students accepted (ie top 10, top 25%) would depend on the space available in the program.

6. **As of right now, would you continue on to the second year and why?**

Approximately 75% of focus group attendants indicated that they would continue on to a second year. Students indicated that they would feel more confident in their skills and have a more solid foundation of knowledge upon which they will build specialized skills when they get jobs. A recent tour of dealerships in the area indicated that they hired primarily individuals with

two year degrees – in fact only one student with a one-year degree had been hired by these dealerships in the past year. Many students indicated interested in higher wages, job security, and upward mobility.

Students predicted that the majority of their peers would also be interested in continuing on to a second year, however some focus group participants also mentioned that they chose CVTC specifically because they only had to complete one year of schooling. It appears that some students are drawn to the program because they can receive a technical diploma with one year of education, and that fits their life situations and future goals more appropriately than a two year program. Some students indicated that they would not have come to CVTC if a two year program was their only option.

7. **Would you prefer to attend school during the morning or evening next semester?**

After talking through this, students agreed that they would prefer to attend school during the morning because they would then be able to work a full shift during the afternoon and evening if they wanted to. They would not be limited in their availability by having to leave for class in the evenings or required to work split shifts if classes were to be held in the afternoon.

Students agreed that completing this program is extremely difficult because of the time commitment required, and it is difficult to balance their financial situations and their schooling.