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Abstract

In an effort to provide Career and Technical Education (CTE) professionals with additional insight on how to better meet the educational needs of the learner, this study sought to identify the preference for learning of postsecondary automotive technology students. While it might appear logical to naturally classify auto-tech students as primarily hands-on-learners, the results suggested that the sample was a diverse group of learners with specific educational preferences within the automotive technology program. With a lack of learning style research within the trade and industry sector of CTE, findings may be useful to trade and industry teachers and or teacher educators interested in diversifying curriculum and instruction via strategies to enhance the educational experience for the student learner.

Historical Perspectives

Over the years, many students have had a teacher from whom it was difficult to learn. This difficulty may have been

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related to a lack of student interest in the curriculum, or it could have been that the subject was taught in a manner that didn't correspond with the student's preference for learning. According to Gardner, (1999) educators tend to teach the way they were taught. Moreover, Jonassen (1981) identified that a strong relationship exists between a teacher's learning style and his or her preferred teaching style. Unfortunately, there is not a "one-size fits all" approach to teaching and or learning (Jorgensen, 2006). Thus, this creates a problem that requires attention.

"It is clear that a learning style body of knowledge has been accepted into the education literature and professional development agenda since the 1980s" (Hickcox, 2006, p. 4). A large portion of past research has focused on identifying learning styles, personality types, intelligence and/or adaptive strategies of teaching to meet the learning needs of students. However, this research does not, in most cases, specifically align with a Career and Technical Education (CTE) setting. For this reason, it may be difficult to fully comprehend the relevance of learning style literature to CTE without highlighting its importance.

Learning Styles and their Importance

While not specifically targeted to CTE, there is a vast amount of literature surrounding the topic of learning style, which is relevant in all educational contexts. Kolb, (1984) defined learning as a "process whereby knowledge is created through the transformation of experience" (p.38). A learning style on the other hand is defined as a "mode and/or environment(s) in which individuals learn most effectively and efficiently" (Howell & Wikoff, 1984, p. 119). Sims and Sims (2006) explained that the phrase learning style is often used interchangeably with terms such as "cognitive style," "learning ability," and techniques for assessing individuals "learning characteristics."

There is not a "one-size fits all" approach to teaching and or learning (Jorgensen, 2006). However, Hartel (1995) identified that an educator's teaching style is often determined by his or her own learning style rather than by the learning style of the pupil. A study by Jonassen (1981) identified that a strong relationship exists between the learning style of an educator and his or her preferred teaching style. Additional literature has revealed that educators cannot provide a substantial reason as to why they utilized a particular teaching and or learning style technique (Barkley, 1995). While findings such as these could be considered alarming, Whittington and Raven (1995) suggested that teaching styles can be altered with conscious effort. Heimlich and Norland (1994) indicated that:

> It is often asserted that educators should adapt their teaching style to the learning style of the students. This advice appears to be a contradiction of the basic meaning of style, which is a function of an individual's personality, experience, ethnicity, education and other individual traits. An educator cannot and should not "change" personality to satisfy each and every learner. Instead, the teacher can adopt - and - adapt classroom methods, strategies, techniques, and processes to be more consistent with his or her individual style (p. 45).

With this "adopt - and - adapt" principle in mind, several studies have provided a pragmatic look at such a concept. Ausburn and Brown (2006) noted that "studies of individual differences in preferred instructional methods and approaches to learning have shown that student learning tends to benefit from identifying such differences and from using them to customize instruction" (p. 17). An example of this includes a meta-analysis of 42 studies conducted between the

1980s and 1990s which found a positive relationship between academic achievement and instruction that matched students' learning styles (Dunn Griggs, Olsen, Gorman, & Beasley, 1995). Another study by Munday (2002) found that knowledge of the learning strategy preference enhanced academic performance, and as a result, is beneficial to adult students as well as the instructor.

These studies have served to highlight the vast amount of research conducted on learning styles. This literature reinforces the importance of the topic of learning styles and personal differences in the teaching and learning process. While the related literature does not specifically align with a CTE setting, educators within the profession should take this information seriously as comprehending learning style characteristics has the ability to enhance the educational experience for the learner.

The Problem

According to Gardner (1999), teachers tend to teach the way they were taught. Jonassen (1981) identified that a strong relationship exists between a teacher's learning style and preferred teaching style. These critical findings present a problem that requires attention as we do not all come from the same mold in regard to our specific learning style or personality. Hickcox (2006) suggested that all learning style research and application efforts should stress the development of the individual and the whole learner. Therefore, learning styles should be accounted for when considering the topic of curriculum development and instruction. With the overload of curricular assessment demands, and the numerous learning style models, educators may find themselves in a state of confusion regarding the use of learning style models in the classroom (Hickcox, 2006).

Purpose and Research Questions

While several studies have examined student-learning styles within education, few have examined this topic in the trade and industrial sector of CTE. Thus, this study sought to identify the learning styles of postsecondary automotive technology students, and determine whether there is an association between the students' learning styles and selected background information: (a) years of auto-tech work experience, (b) high school auto-tech course completion, and (c) postgraduate career plan. This topic was examined for the purpose of providing more information regarding how to better serve the educational needs in preparing this student population for the world-of-work. Therefore, this study sought to answer the following questions:

1. What is the learning style distribution of postsecondary automotive technology students?
2. Is there an association between the students' learning styles and their postgraduate plans to pursue an automotive technology career?
3. Is there an association between the students' learning styles and their automotive technology work experience since age 16?
4. Is there an association between the students' learning styles and their completion of a high school auto-tech course?

Theoretical Framework

Over the years, the topic of learning has been examined extensively and has received considerable attention in scholarly journals as well as the popular press. A large portion of this past research has focused on the concept of experiential learning, generally used by educators to describe a series of pragmatic activities sequenced in such a way that it is thought to enhance the educational experience for the student learner. Therefore, the theoretical framework utilized in this CTE focused research study was Kolb's Experiential Learning Theory (ELT). Kolb's ELT has steadily gained acceptance and popularity in education and serves as an invaluable resource for teaching and learning (Kolb & Kolb, 2006). Kolb draws upon the works of Dewey, which stressed the role of experience in the learning process (Rudowski, 1996). Thus, this learning model is grounded in the theoretical framework of personal experience (Ausburn & Brown, 2006). Kolb's ELT is built on six propositions (Kolb & Kolb, 2005) that include:

(a) Learning is best conceived as a process, not in terms of outcomes. To improve learning in higher education, the primary focus should be on engaging students in a process that best enhances their learning, a process that includes feedback on the effectiveness of their learning efforts.

(b) All learning is relearning. Learning is best facilitated by a process that draws out the students' beliefs and ideas about a topic so that they can be examined, tested, and integrated with new, more refined ideas.

(c) Learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world. Conflict, differences, and disagreement are what drive the learning process. In the process of learning one is called upon to move back and forth between opposing modes of reflection and action and feeling and thinking.

(d) Learning is a holistic process of adaptation to the world. Not just the result of cognition, learning involves the experiential integrated functioning of the total person; thinking, feeling, perceiving, and behaving.

(e) Learning results from synergetic transactions between the person and the environment.

(f) Learning is the process of creating knowledge (p. 194).

Kolb's ELT (1984) identified two dialectically related modes of grasping experience: Concrete Experience (CE) and Abstract Conceptualization (AC); and two dialectically related modes of transforming experience: Reflective Observation (RO), Active Experimentation (AE). Based on the preferences for one of the polar opposites of each of the aforementioned modes appears four learning styles including: (a) Converging, (b) Diverging, (c) Assimilating and (d) Accommodating (Evans, Forney & Guido-Dibrito, 1998) (see Figure 1). Kolb's ELT naturally aligned with this study and its focus on the learning styles, and preferences for learning, of postsecondary automotive technology students.

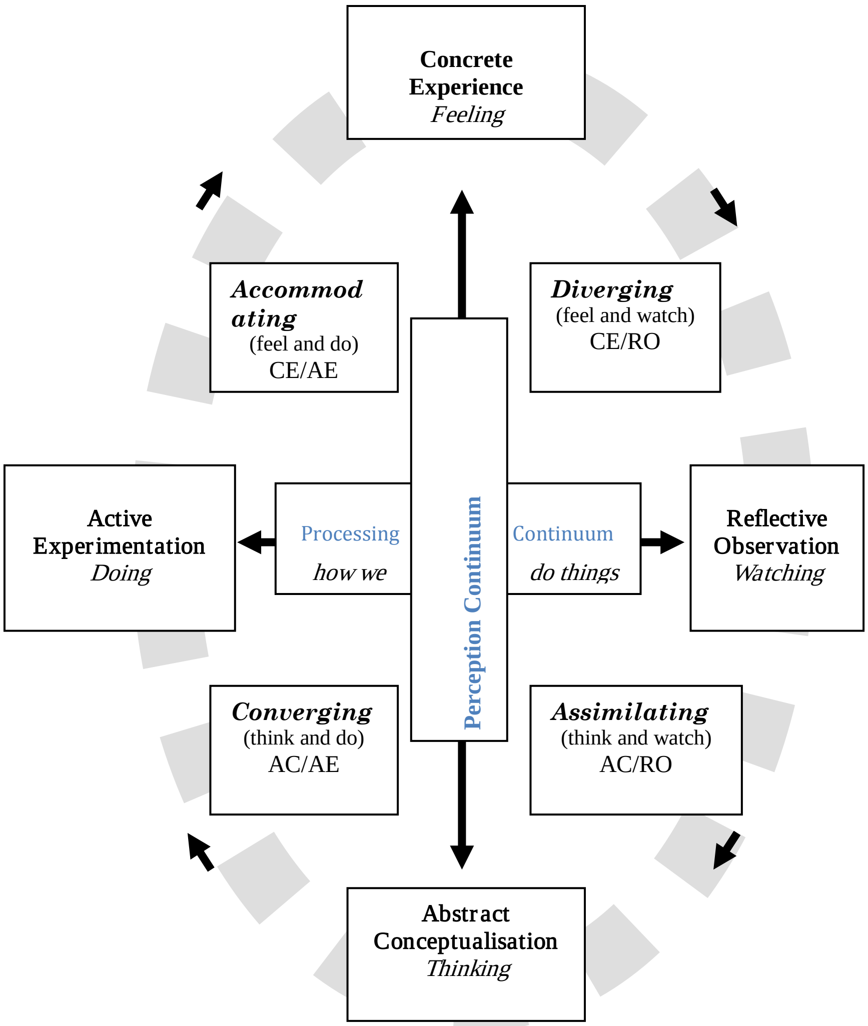

Figure 1. Kolb’s learning styles (Chapman, 2006).

Methods

Kolb's ETL uses an instrument known as the Learning Style Inventory (LSI) to assess individual learning style and preference for learning. The LSI is set up in a simple format, which usually provides an interesting self-examination and discussion, that identifies valuable information regarding the individual's approaches to learning (Kolb & Kolb, 2005). Table 1 presents the LSI technical manual normal distributions of undergraduate, graduate students and adult learners according to their learning style classifications and particular educational specialization as observed after completing the assessment.

Table 1
Distribution of Learning Style by Educational Specialization (n=4679)

	Learning Style			
Educational Specialization	Accommodating	Diverging	Converging	Assimilating
Accounting	39 (26.2%)	26 (17.4%)	42 (28.2%)	42 (28.2%)
Agriculture	6 (31.6%)	6 (31.6%)	6 (31.6%)	1 (5.3%)
Architecture	2 (28.6%)	0 (0%)	1 (14.3%)	4 (57.1%)
Business	290 (31.2%)	165 (17.8%)	215 (23.1%)	259 (27.9%)
	54 (49.1%)	17 (15.5%)	20 (18.2%)	19 (17.3%)
Computer Sci./IS	54 (26.2%)	35 (17%)	55 (26.7%)	62 (30.1%)
Education	92 (38.3%)	46 (19.2%)	41 (17.1%)	61 (25.4%)
Engineering	103 (23.6%)	50 (11.5%)	145 (33.3%)	138 (31.7%)
App. & Fine Arts	23 (30.7%)	20 (26.7%)	12 (16%)	20 (26.7%)
Health	82 (31.4%)	48 (18.4%)	59 (22.6%)	72 (27.6%)
Humanities	28 (25.2%)	24 (21.6%)	19 (17.1%)	40 (36%)
Language	8 (30.8%)	4 (15.4%)	5 (19.2%)	9 (34.6%)
Law	29 (26.4%)	16 (14.5%)	23 (20.9%)	42 (38.2%)
Literature	5 (13.2%)	15 (39.5%)	8 (21.1%)	10 (26.3%)
Medicine	88 (27.8%)	50 (15.8%)	96 (30.4%)	82 (25.9%)
Other	301(31.8%)	213 (22.5%)	185 (19.5%)	248 (26.2%)
Phys. Education	12 (50%)	5 (20.8%)	3 (12.5%)	4 (16.7%)
Psychology	53 (33.1%)	40 (25%)	15 (9.4%)	52 (32.5%)
Science/Math	53 (18.5%)	35 (12.2%)	88 (30.8%)	110 (38.5%)
Social Sciences	68 (29.7%)	51 (23.3%)	38 (16.6%)	72 (31.4%)
Total	1390 (29.7%)	866 (18.5%)	1076 (23%)	1347 (28.8%)

(Kolb & Kolb, 2005a, p 71)
Note. The sample within this table includes both undergraduate college students, graduate students and adult learners with an approximate age range of <19 to >55.

Target Population

The target population for this study was postsecondary automotive technology students in the central region of Pennsylvania (i.e., from New York to Maryland), and was defined as: (a) first or second year students currently enrolled in a postsecondary automotive technology program providing career preparation in the automotive technology field (i.e., general certificate programs, associate of applied science degree programs, and automotive manufacturer GM Asset programs); (b) students currently learning, through a combination of classroom instruction and hands-on experience, to repair automobiles, trucks, buses, and other vehicles; and (c) currently enrolled students who are at least 18 years of age.

During the data collection phase of this study, there were three public postsecondary colleges with automotive technology programs in the central region of Pennsylvania. According to these institutions' offices of the Registrar, during the spring semester 2008, there were a total of 310 postsecondary automotive technology students in central Pennsylvania. Therefore, a minimum sample size of 172 was required for the study to represent the population with no more than a 5% margin of error with 95% confidence (Isaac & Michael, 1997). To secure an acceptable sample size, the surveys were administered by the primary investigator during sessions held in the participating postsecondary automotive technology students' regular community college classrooms.

Instrumentation

A quantitative research methodology was used to conduct the study with data collection accomplished through two paper form questionnaires. The first focused on participant demographic information through a series of questions relating to: (a) gender, (b) age, (c) career plan, (d) automotive work experience, (e) secondary auto-tech course completion, and (f) program satisfaction. The second was Kolb's Learning Style Inventory (LSI).

Validity and reliability for LSI

Kolb's ELT uses a self-administered, scored and interpreted educational assessment instrument, the Learning Style Inventory (LSI), to assess individual learning style, which was utilized in the study (3.1 Version). Smith and Kolb (1986) identified the reliability Cronbach alpha coefficients of the LSI as ranging from .73 to .88. Watson and Bruckner (Evens et al., 1998) found the reliability Cronbach alpha coefficients of the LSI ranged from .76 to .85. While the LSI appears to be a reliable assessment tool yielding internally consistent scores, Kolb (1976) has suggested the best measure of his instrument is not reliability but rather construct validity. As an example, Ferrell (1983) conducted a factor-analytic comparison of four learning style instruments and determined a match was present between the factors and learning style on the original LSI contributing to construct validity. Furthermore, Evans et al. (1998) noted construct and concurrent validity of the LSI have received several endorsements.

Data Collection

The data collection phase of this study was conducted during the spring of 2008 at the three public postsecondary institutions in central Pennsylvania offering automotive technology as a program of study. The appropriate clearance was obtained from the Pennsylvania State University Office for Research Protections regarding the inclusion of human subjects in this research study. Access was also granted by the automotive technology faculty members at the participating institutions. These faculty members selected specific automotive technology classes to participate in this study for a total of 189 potential research participants. Faculty members allotted 90 minutes of class time for data collection.

Beginning in January of 2008, 13 face-to-face data collection sessions were conducted with automotive technology students at the three institutions. After a brief introduction and explanation of the research purpose, students were invited to participate in the study. The students were informed that participation was voluntary and their identity would be kept confidential. A signed informed consent form was obtained from each participating student prior to his or her completion of the survey instruments. The participants were instructed to first complete the general background information survey. Second, students were asked to complete the LSI (3.1 Version) instrument. Third and finally, participants were extended a thank you as the primary investigator collected the survey packets from each student.

Rate of Return

The face-to-face data collection sessions yielded 188 participants/instruments (i.e., 99% response rate) or approximately 60% of the total population. However, 12 survey packets were removed from the study due to incomplete information. Thus, the total count of usable instruments within this study was 176 or 56.7% of the target population. The usable response rate from the sample of 189 subjects was 93%.

Analysis of Data

The first research question was answered by calculating the frequencies and percentages of the learning style data collected from the completed LSI instruments. Next, the second research question was answered by calculating the frequencies and percentages of the data collected from the background information survey. Finally, the remaining two research questions were answered through a series of Chi-square cross tabulations examining the association between the students' learning styles and selected background information: (a) years of auto-tech work experience, (b) high school auto-tech course completion, and (c) career plan. All data were analyzed using the Statistical Package for the Social Sciences (SPSS v16, 2008).

Background of Participants

Demographic data were collected from participants via six questions regarding gender, age, career plan, automotive work experience, secondary auto-tech course completion status, and current program satisfaction. Table 2 summarizes the demographic data collected from the background information survey.

Table 2
Demographic Data of Participants
(n=176)

	n	%
Gender		
Male	173	98
Female	3	2
Age of Participants		
18-20 yrs.	141	80
21-23 yrs.	24	14
24-26 yrs.	4	2
27-30 yrs.	2	1
31-45 yrs.	5	3
Plan to Pursue a Career in Auto-Tech		
Yes	166	94
No	10	6
Years of Auto-Tech Work Experience Since Age 16		
None	31	18
< 1 yrs.	43	24
1-5 yrs.	98	56
6-10 yrs.	2	1
11-15 yrs.	0	0
16 or > yrs.	2	1
Completed an Auto-Tech Course in High School		
Yes	55	31
No	121	69
Overall Satisfaction with Current Auto-Tech Program		
Very Satisfied	90	51
Moderately Satisfied	82	47
Low Satisfaction	4	2
No Satisfaction	0	0

Findings

Research Question 1

The first research question focused on identifying the learning style distribution of postsecondary automotive technology students and was answered by calculating the frequencies and percentages of the learning style data collected from the completed LSI instruments. The results revealed that all learning styles were represented within the sample. The Accommodating style was most highly represented (39.8%), while the Assimilating was the least (16.5%), suggesting that the sample of postsecondary automotive technology students was a diverse group of learners (see Table 3).

Table 3
Distribution of Participant Learning Styles (n = 176)

Learning Style	*n*	%
Accommodating	70	39.8
Diverging	37	21
Converging	40	22.7
Assimilating	29	16.5
Total	176	100

Note. (a) Accommodating people have the ability to learn primarily from hands-on experience; (b) Diverging people are best at viewing concrete situations from diverse points of view; (c) Converging people are best at finding practical uses for ideas and theories; and (d) Assimilating people are best at understanding the information and putting it into logical form (Kolb & Kolb, 2005b).

The basic descriptive statistics calculated from the completed LSI further revealed: (a) 70 (39.8%) participants identified as Accommodating had a CE and AE preference for learning; (b) 37 (21%) participants identified as Diverging had a CE and RO preference for learning; (c) 40 (22.7%)

participants identified as Converging had an AE and AC preference for learning; and (d) 29 (16.5%) participants identified as Assimilating had a RO and AC preference for learning (see Figure 2).

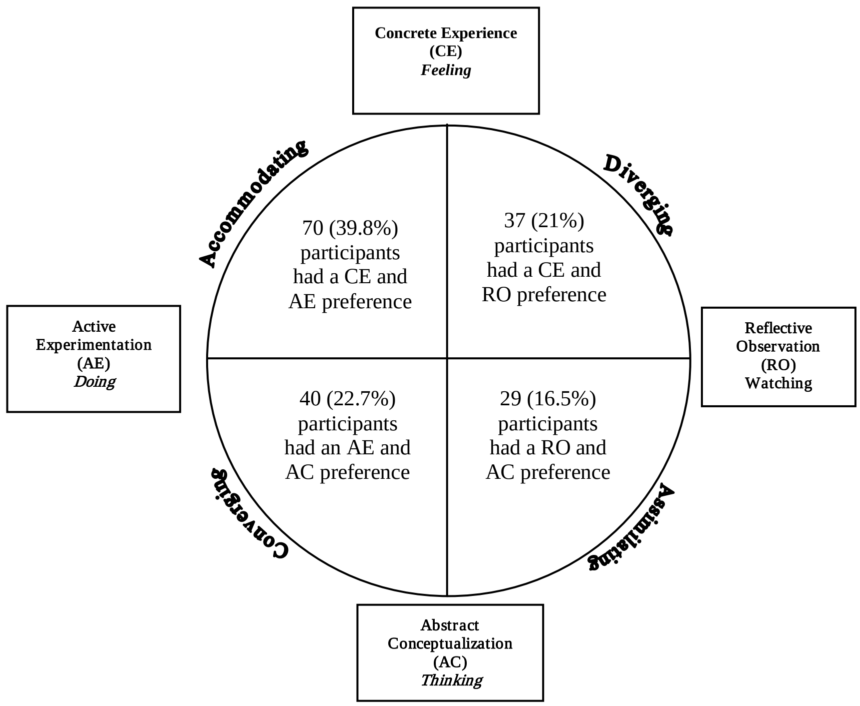

Figure 2. Preference for learning distribution of Participants.

Research Question 2

The second research question focused on associations between the students' learning styles and postgraduate plans to pursue an automotive technology career, and was answered using a Chi-square cross tabulation consisting of a 4x2 analysis between the four learning styles, and postgraduate plans. The results revealed no statistically significant association between the learning styles and whether participants planned to pursue an auto-tech career (see Table 4).

However, the basic descriptive statistics in Table 4 reveal an overwhelming majority (166 of 176) of the students were planning to pursue a postgraduate auto-tech career. Of those planning to pursue an auto-tech career, 66 (40%) were Accommodating style, 35 (21%) Diverging, 38 (22.8%) Converging, and 27 (16.2%) Assimilating. Of the 10 students not planning to pursue an auto-tech career, 4 (40%) were Accommodating style, 2 (20%) Diverging, 2 (20%) Converging, and 2 (20%) Assimilating.

Table 4
Crosstabulation of Learning Style by Auto Tech Career Plan Status (n = 176)

	Do you Plan to Pursue an Auto Tech Career?	
Learning Style	Yes	No
Accommodating	66 (40%)	4 (40%)
Diverging	35 (21%)	2 (20%)
Converging	38 (22.8%)	2 (20%)
Assimilating	27 (16.2%)	2 (20%)
Total	166 (100%)	10 (100%)

$\chi 2(3,N=176)=.120$, $p=.989$.
Note. 4 cells (50.0%) have expected counts less than 5. The minimum expected count is 1.65.

Research Question 3

The third question focused on identifying any association between the students' learning styles and their automotive technology work experience since age 16, and was answered using a Chi-square cross tabulation consisting of a 4x2 analysis between the four learning styles and automotive technology work experience since age 16. The Chi-square cross tabulation revealed that there was a statistically significant association between those with auto-tech experience since age 16 and learning style (see Table 5).

In examining the percentages within the experience versus no experience, the primary investigator noticed the following patterns. First, participants with work experience, by a ratio of approximately 2 to 1, were accommodating style learners. Second, those with no experience, by slightly more than a 2 to 1 ratio, were Assimilating style learners as compared to experienced Assimilating learners. As detailed within Table 5, the majority of the participants (145 of 176) had auto-tech experience since they were 16 years of age including 63 (43.5%) Accommodating style learners, 28 (19.3%) Diverging, 35 (24.1%) Converging, and 19 (13.1%) Assimilating. Only 31 had no work experience, the majority of whom, ten (32.3%), were classified as Assimilating style learners followed by Diverging style with nine (29%).

Table 5
Crosstabulation of Learning Style by Work Experience Status (n = 176)

	Auto Tech Work Experience Since Age 16	
Learning Style	No Experience	Experience
Accommodating	7 (22.6%)	63 (43.5%)
Diverging	9 (29%)	28 (19.3%)
Converging	5 (16.1%)	35 (24.1%)
Assimilating	10 (32.3%)	19 (13.1%)
Total	31 (100%)	145 (100%)

$\chi 2(3,N=176)= 1.03$, $p =.016$, Cramer's V=.016.
Note. 0 cells (.0%) have expected counts less than 5. The minimum expected count is 5.11.

Research Question 4

The fourth question focused on identifying any association between the students' learning styles and completion of an automotive technology course in high school, and was answered using a Chi-square cross tabulation consisting of a 4x2 analysis between the four learning styles and whether participants had completed an automotive technology course in high school. The results revealed no statistically significant association between learning styles and completion of a secondary auto-tech course (see Table 6).

As displayed within Table 6, a majority of the participants (121 of 176) did not complete an auto-tech course in high school, including 46 (38%) Accommodating style learners, 26 (21.5%) Diverging style, 25 (20.7%) Converging style, and 24 (19.8%) Assimilating style. Only 55 completed an auto-tech course in high school, of which 24 (43.6%) were classified as Accommodating style, followed by 15 (27.3%) Converging style learners.

Table 6
Crosstabulation of Learning Style by Secondary Auto Tech Course Completion Status (n = 176)

	Did you Complete a Secondary Auto Tech Course?	
Learning Style	Yes	No
Accommodating	24 (43.6%)	46 (38%)
Diverging	11 (20%)	26 (21.5%)
Converging	15 (27.3%)	25 (20.7%)
Assimilating	5 (9.1%)	24 (19.8%)
Total	55 (100%)	121(100%)

$\chi 2(3,N=176)= 3.71$, $p =.294$.
Note. 0 cells (.0%) have expected counts less than 5. The minimum expected count is 9.06.

Conclusions and Discussion

In an effort to provide career and technical education (CTE) professionals with additional insight on how to better meet the individual educational needs of postsecondary automotive technology students, this study sought to examine their preferences for learning. While it might appear logical to classify auto-tech students as primarily hands-on-learners, the results for research question one suggested that the sample was a diverse group of learners with specific educational preferences (see Figure 2). More specifically, the Learning Style Inventory (LSI) revealed that all learning styles were represented within the sample with the Accommodating style most highly represented (39.8%), and the Assimilating classification the least (16.5%), thus indirectly resembling the diversity of learning style classifications by educational specialization within the LSI technical manual (i.e., Table 1).

Given that the sample of participants statistically represents the population with 95% confidence at the $p<.05$ level, and since all four learning styles were collectively represented by the sample, postsecondary automotive technology faculty within central Pennsylvania should guard against disproportionately teaching to one learning style over another. Even when an association between the students' learning styles and the status of automotive technology work experience since age 16 was revealed, all learning styles were represented by the sample. This is particularly important since past research has shown that educators tend to teach the way they were taught (Gardner, 1999), and the sample of postsecondary automotive technology students was identified as a diverse group of learners. Thus, a process of adopting and adapting instructional techniques and strategies for all learning styles seems most appropriate and is recommended by the authors as it has the ability to enhance the educational experience for the student learner.

This process of adopting and adapting instructional techniques and activities can vary greatly depending on the area of educational specialization. Sample auto-tech activities, as well as the role of instructor, are shown for each of Kolb's learning styles in Figure 3 to assist automotive technology faculty with enhancing the learning environment for which they are responsible.

Accommodating **(Instructor's Role:** Open-ended vehicle problems Student presentations Hands-on repair simulations	**Diverging** **(Instructor's Role:** Class discussions Group lab projects Field trips
Converging **(Instructor's Role: Coach)** Vehicle computer simulations Individual lab assignments Field trips	**Assimilating** **(Instructor's Role: Expert)** Lectures/Presentations Repair manual reading Repair demonstrations

Figure 3. Sample activities and role of the auto-tech faculty for Kolb's learning styles.

A cautionary note regarding the learning style/preference results of this study; there are no right or wrong classifications, and everyone uses each learning style and preference for learning to some degree. While the results do represent the population with no more than a 5% margin of error with 95% confidence, the findings of this study are limited in a sense because: (a) they are not generalizable outside of the target population; and (b) the instrumentation format was self-reporting in nature and could have been incorrectly reported by participants. Thus, the results should be viewed as a tool to assist in better understanding the population of postsecondary automotive technology students in central Pennsylvania. The results of the LSI identified the strength of preference not the degree of learning style use.

Therefore, type biases and/or negative stereotyping of this student population as a result of the findings within this study should be avoided at all costs.

Recommendations

We now know the learning style distribution of postsecondary automotive technology students in central Pennsylvania. Based on the conclusions of the study, the authors make the following recommendations. First, pre-service automotive technology teachers within central Pennsylvania should be introduced to the practical implications of learning style characteristics within an accredited teacher education program prior to working with students. Second, all first year postsecondary automotive technology students within central Pennsylvania should complete the Learning Style Inventory (LSI) during the first month of the academic year to assist both students and faculty members in identifying characteristics critical within the teaching and learning process. Third, postsecondary automotive technology faculty members within central Pennsylvania should implement an educational system of adopting and adapting instructional strategies and activities that naturally align with their students' learning style preference/characteristics identified from the completed LSI assessments. Fourth, since the CTE discipline has never been analyzed or reported, the distribution of postsecondary automotive technology learning styles within Table 3 should be placed in the learning style by educational specialization section of the LSI technical manual (i.e., Table 1). Finally, since there is a dearth of learning style studies within the trade and industry sector of career and technical education, this study should be replicated in specializations such automotive collision repair, building trades, welding, and precision machining.

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