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The Motivation Experienced by Adolescents in a Tech Prep Curriculum

Catherine McCormack

Eastern Illinois University

This research is a product of the graduate program in School Psychology at Eastern Illinois University. Find out more about the program.

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The Motivation Experienced by

Adolescents in a Tech Prep Curriculum

(TITLE)

BY

Catherine McCormack

THESIS

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IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

1996

YEAR

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The Motivation Experienced by Adolescents in a Tech Prep Curriculum
Catherine McCormack
Eastern Illinois University
Abstract

The purpose of this study is to evaluate the motivation of students in a tech prep program in relation to that of students in a standard secondary school curriculum. The motivation of students in each program was investigated before and after a year of school.

Participants were 70 high school students who attended a school which provided both tech prep and standard curriculums. Central High School of Champaign Illinois was the school from which the participants were found. The method used to collect the data from participants was through questionnaires. The questionnaires used were the motivation for schooling scale of the School Attitude Measure, as well as demographic questions.

The results indicated that after one year no significant difference in motivation occurred between participants enrolled in either a tech prep or standard curriculum. However, the participants’ race predicted student motivation more so than program type or any other participant characteristics. The results are attributed to methodological issues and cross cultural motivation differences. A revised methods design and further analysis of participants’ characteristics are suggested for future research.
Acknowledgements

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Introduction

This study examined the motivation to learn experienced by secondary students who are enrolled in a technical-preparation education program ("tech prep"). The curriculum of tech prep being introduced to many high schools prepares students for vocations. The applied instruction teaches technical and academic skills needed for occupational success. Research of students' motivation in standard curricula has been previously undertaken. However, examinations surrounding tech prep have been limited; therefore, suggestions have been made to verify tech prep's effectiveness by studying the participation of tech prep students (Pollard, 1991). This investigation explored information about students' motivation in the non standard, tech prep curriculum.

The purpose of this study was to evaluate the motivation of students in a tech prep program in relation to that of students in a standard secondary school curriculum. The measure of student motivation was examined between the two groups in order to enlighten educators about the outcomes related to certain types of school curricula. Further research stemming from this study may assist in the improvement of student learning and effective education.

It was hypothesized that secondary students would have significantly higher motivation for schooling in a tech prep curriculum than similar students who were involved in a standard
curriculum. The validity of using tech prep curricula could be strengthened if higher motivation for schooling is found within the tech prep students' attitudes compared to the motivation for schooling within the standard curriculum students.

Theoretical Background

Tech prep is a somewhat new curriculum that has recently been gaining popularity. The tech prep curriculum is centered on combining academic and vocational education into a more applied and life-practical approach. The purpose of the innovative curriculum is to reach the neglected majority of students who do not aspire to earning a college degree. In most areas the percentage of students who fall into the non college path is at 75%; thus this large percentage of students neither continue their education nor have high school experiences which properly equip them for success in the work force (Parnell, 1992).

Furthermore, students who are enrolled in a strict vocational education are usually unprepared to continue their schooling if they should later choose to pursue a higher degree. Vocational classes with little emphasis on incorporating advanced academic skills leaves students limited to only the content abilities learned in those specific courses. A more broad vocational curriculum which prepares students for the demands of today's occupations is necessary (Kolde, 1991 & Wirt, 1991).

Motivation is a concept used to account for general behaviors.
Behaviors can be explained "...as the result of stimuli that have been
effected in the past....or as a result of the physical structure of the
individual" (Bolles, 1975). From these explanations of behavior,
many theories of motivation have been hypothesized. The most
popular theory of motivation credits human behavior to the
outcomes of a person's mental processes. These mental processes are
characteristic of a traditional explanation of behavior which states
that, "we act because we have reasons to act" (Bolles, 1975). An
increased number of reasons for an individual to act will strengthen
motivation towards the action.

Academic motivation should increase when a student realizes
more pertinent individual reasons to learn. Results from
motivational research have found that students who value course
work will increase academic performance (Pokay & Blumenfeld,
1990). Motivation for learning increases when the information to be
learned is relevant to the students' future life (Lens & Decruyenaere,
1991). Motivational psychologists agree that "making classroom
tasks more salient to the practical experiences of students may
increase their achievement motivation" (Haynes, Comer, Hamilton-
Lee, Boger, & Joyner, 1987).

Tech prep programs teach practical information and provide
rewards for participation; therefore, tech prep students should be
noticeably motivated to learn. It is important to examine the
motivation of tech prep students compared to standard curriculum
students, because if students' motivation is increased, the value of
tech prep programs will be strengthened. The hypothesis of this study expected that high school students involved in a tech prep curriculum would have significantly higher motivation for schooling than standard educated students.

Definition of Terms

Academic motivation for this study was defined as a students' attitude towards learning course material, including the students' attitude about course relevance to everyday situations and their future, and self perceived effort expended at school. The students' opinions was assessed through a questionnaire which generally assesses the students' motivation for putting forth significant effort in school.

Tech prep referred to a preexisting curriculum already meeting set legislative standards which classify a curriculum as tech prep as put forth by the Carl D. Perkins Vocational and Applied Technology Act. Illinois tech prep refers to an educational method which integrates academic skills with vocational education. It is a set order of classes, both technical and academic, that is combined with a post secondary experience leading to an associate degree (Illinois Board of Education, 1992).

A standard curriculum was defined as a preexisting curriculum already meeting state requirements. It is an appropriate high school education, including basic knowledge such as material taught for the preparation of college.
Review of Related Research

Characteristics of Tech Prep

Through the concept of tech prep and the Carl D. Perkins Vocational and Applied Technology Act of 1991, several innovative educators are actively trying to build a stronger connection between education and business, combining academic participants into occupational types of curricula and centering on the needs of at-risk students. Instructors are also creating strategies to reinforce vocational-technical programs and modifying the structure of vocational-technical programs in general. The hallmarks of tech prep incorporate career counseling, school-college curriculum partnership, "applied academics" in core participant areas, a moderate expansion of a technical focus, and significant involvement with community and world businesses (Kowalski et. al, 1993).

Teachers are beginning to use tech prep ideas to conjoin team dynamics, practical concepts, teaching for the whole learner, and multifaceted educational material. Students are led to recognize the importance of comprehension, problem solving and critical thinking. A variety of different approaches to teaching are encouraged through experimentation, which directs the student to "learn how to learn" (Kolde, 1991 p.454).

A tech prep integrated curriculum would be formed by both the academic and vocational teachers, operating together with feedback from the business community. This joint process would
result with a plan best exemplified by Kolde (1991), "...culinary arts students study percentages in their mathematics class. The math teacher instructs the class on how to figure percentages and gives them a number of problems that involve the use of percentages in the food-service industry....The culinary arts instructor then builds on the basic mathematical concept of percentages in the vocational laboratory by assigning the students the job of placing a restaurant order with the local slaughterhouse....Using information...they must determine whether it is more advantageous to purchase meat by the side or by the saddle"(p. 454).

The overall intention of tech prep is to administer "...planning and demonstration grants to consortia of local education agencies and post secondary education institutions for the development and operation of four-year programs designed to provide a tech-prep education program leading to a two-year associate degree or a two-year certificate. These programs are designed to offer strong comprehensive links between secondary schools and post secondary educational institutions in a systematic manner" (Betts, Welsh, Ryerson, 1992, p. 5).

Federal funding is being used to train instructors to build strong tech prep curricula in many schools in the United States. The role of the federal government in tech prep is helpful because the needed educational reform can not be handled by the schools alone. The federal government has an invested interest in the proposed plan in two ways. First, federal legislation has required that
Motivation and Tech Prep

vocational and academic education be broadly integrated. Secondly, vocational education must give instructions in "all aspects of an industry" (Rosenstock, 1991, p. 434).

These concepts are supported by the belief that the new vocational education will strengthen community developments. Furthermore, with the national standards of United States education being revamped through President Clinton’s Goals 2000: Education America Act, the tech prep initiative fits well with the need to prepare students to succeed in the global economy of the 1990’s. Congress assumes the rewards of this integrated curriculum will create a more skilled work force, as well as a higher standard education system (Hoyt, 1991).

Relevance of Tech Prep

The basis for developing and supporting a new more vocational and applied curriculum is twofold. First, vocational education is being reevaluated because approximately 80% of the nation's labor force is required to be more and more technically trained for the blue-collar jobs of tomorrow. The current labor force is reaching retirement age; therefore, there needs to be a new breed of workers to rise to the challenge of competing in the global economy.

The vocational education program which has been in place since 1906 has some serious drawbacks which are in need of reform. Traditionally vocational courses have only provided students with specific skills which are used in entry-level industrial jobs (Hoyt, 1991). Also, past vocational education programs mainly served
students who would not aspire to professional occupations; thus, students as well as teachers became isolated from mainstream regular education (Gray, 1991). Education (training and retraining) must now be emphasized as life-long learning, learning for application and learning for vocational work (Cavazos, 1991).

Further support for the need of technically trained workers comes from Wesson (1993). The world is changing so quickly, it needs an educational system which will help individuals deal with all the many new challenges. The new curriculum in vocational education, tech prep, is one of the most encouraging solutions. Wesson (1993) concludes by agreeing that tech prep is a plan where the students will become more serious towards school because it will now result in better jobs and better pay.

The second reason for this popular reform is the fact that fewer than 20% of all students will attend and succeed in a university (and many of those who do graduate will fail to find jobs in their major fields of study). The primary purpose of education has been to prepare students for college degrees and graduate studies; however, if the majority of students are not furthering their education and are left without jobs skills, the educational system is failing (Parnell, 1992).

To combat this failure of ineffectively educating our nation’s youth, to many the tech prep curriculum is offering hope. However, for those who truly care about the success of education, and the learning of an individual, it is important that this initiative not be
accepted blindly. It is important to examine the factors related to tech prep before it is accepted as the new and improved standard educational curriculum.

For instance, one question which Roth (1992) has proposed about tech prep is whether or not the new program is devoted to serving educational objectives. Before we casually accept federal policies of tech prep, researchers and scholars must gather data from those involved with the initiative - academic and vocational teachers, secondary and post secondary educators, and business, as well as the students and those who have completed the program (Roth, 1992).

Support for Tech Prep

There are many examples of tech prep curricula which have brought success for students. For instance, Schoenebeck (1993) conducted a study in which students would participate in a tech prep program and then unite their studies with a technical college in their last two years of high school. In this situation, the concept of articulation (communication between the two educational systems and coordination of curriculums) becomes crucial. The schools’ tech prep program would be successful if the students were successfully assisted in transitioning from high school to post secondary programs. The study analyzed a three year old program consisting of 62 students who completed a survey assessing their attitudes about the transition.

Schoenebeck (1993) concluded from the study that the tech prep curriculum was successful in supporting a significant amount of
students to continue their education at the technical college. The overlap of credits from high school and the technical college also reduced the students' tuition and decreased the amount of time needed to acquire a degree.

Furthermore, schools like one such in Maryland State, which have applied the tech prep curriculum, have found success with tech prep curricula as well (Leftwich, 1992). The school's principal was quoted as saying, "Students are learning a lot of new concepts in a brand-new way, and they are doing as well as ever" (p. 28). The teachers report that the students are more interested in the class material, the parents realize that the goals of the program are meaningful for their children, and the students themselves are finding the course work easier to comprehend (Leftwich, 1992).

At-risk students and disadvantaged youth seem to show benefit from the combined vocational/academic focus as well. Participation in vocational education was related to a 6% graduation expansion, an 8% increase of work compensations, significant decreases in unemployment, reduced job change, and higher job effectiveness, compared to their non vocational educated peers. The evidence exemplifies that these improvements in disadvantaged youth are seen when the students are receiving training of occupational skills instead of only the standard academic education (Gray, 1991).

Other paradigms showing success of a tech prep type of curriculum which adhere to an applied learning approach are evident
in cognitive research. Results from investigations support that teaching academics with practical application is effective (Gray, 1991). Furthermore, researchers argue that "...the current distinction made between learning for knowledge and learning for doing is contrary to learning theory and detrimental to instructional effectiveness" (p. 442). For instance, studies reported by Gray (1991) estimate that students who engage in "...five credits of a vocational education participant to which math makes a significant contribution doubles the average gain in math proficiency of non college-bound youths" (p. 442).

Students' overall school performance seems to be effected positively by the initiation of tech prep programs as well. In an area of North Carolina where tech prep has been in practice since 1986, one school system has found promising results. The school officials state that SAT scores are increasing, dropout rates are lessening, and a 60% enrollment growth in algebra classes has been found. Finally, there is a substantial rise of 28% of tech prep students who decide to continue their education at the community college level compared to standard curricula students from past years (Scott, 1991).

Motivation and Tech Prep

Students may be finding more success in these applied academic and vocational courses because of many reasons, one being increased motivation. Tech prep is designed to not only fill a social employment need, but it also may improve the quality of education by increasing students' interest to learn.
Research in cognitive psychology supports the notion that standard teaching styles, such as lectures where the students receive information passively, may stifle motivation to learn. Retention is estimated at only 10% when rote memorization is the teaching strategy. This percentage can be significantly increased when an applied, or "hands on" style of instruction is practiced. The benefit of a relevant education is "...excitement, motivation, and meaningfulness of combining separate participants and technology to create experiences not easily forgotten by students or teachers alike" (Oaks, & Pedras, 1992, p. 13).

Students are more interested in course work when skills are taught within a contextual background that is useful to the students' life. Applying academics focuses more on students learning by "doing", which succeeds in having the students master their course work. The learning process is more effective with an applied approach because "students are actively engaged... and more likely to be motivated and enthusiastic to achieve at high levels" (Atkinson, Lunsford, & Hollingsworth, 1993, p. 11).

The separation between technical and academic education in today's society may be limiting the potential for students to learn. "Education for living and education for earning a living need not be mutually exclusive" (Roth, 1992, p. 38). Tech prep curriculums strive to improve the relevance of participant matter through connections in course material. Durability of an integrative curricula is greater than learning through memorization of separated pieces of facts.
Motivation to master course work will be more apparent because students will "appreciate the opportunity to apply theory in laboratory, or hands-on, settings" (Roth, 1992, p. 39).

Motivation is not only affected through classroom assignments being more centered on the students' life experiences, achievement motivation can also be developed by giving students direct positive reinforcement for their efforts (Haynes et. al, 1987). Tech prep is a method which is designed to reward students who have excelled in high school by providing them with fulfilling jobs and higher wages. These benefits should aid students in becoming more interested in school, and learning in general (Wesson, 1993).

Tech prep programs often provide incentives which can be achieved during the course, such as college credit, a produced product, and sometimes even payment. Motivation can be increased through the use of these extrinsic rewards for good results. The aspect of extrinsic rewards increasing motivation is also linked to the theory that "Good learning and high achievements in school acquire a higher instrumental value for the individual's future" (Lens & Decruyenaere, 1991, p. 157).

Finally, tech prep has a value needed to increase authentic achievement or intrinsic learning within an individual. Tech prep provides an opportunity for students to apply structured inquiry and discover a knowledge that has value to their lives beyond simply proving school proficiency. Currently, the standard curricula often only requires superficial knowledge of information instead of
demanding more in-depth understanding of topics. Tech prep may aid students in developing achievement for authentic reasons; therefore, making a successful transfer of knowledge from their school experience, to their future life (Newman, 1991).

Summary

Tech prep is an innovative curriculum that has been popularized from the needs of our developing global economy. That the majority of students seek employment after high school instead of continuing on with their education, exemplifies the need for tech prep programs. Tech prep programs include applied academics and vocational training, combined with community college course work leading to a technical or associates degree. The result is a curriculum that is more relevant to students' goals and interest. Tech prep programs will assist students in finding more worthwhile jobs, as well as becoming more efficient employees.

Motivation to learn can be increased if the material taught is perceived by the student as relevant to their own life, as well as when extrinsic rewards are offered. This study assessed the motivation of students who participated in a tech prep curriculum which may have been more relevant to their future plans. Students who are involved in a tech prep curriculum are expected to show an increase in learning motivation compared to students who are still following a strict academic curriculum.
Participants

Participants included in the study were 100 secondary students who attended a school which provided both a tech prep program and a standard curriculum. Central High School of Champaign, Illinois was the participating school because it offers their students the choice to enroll in either a tech prep or standard curriculum for their first year of high school. The school and students were willing participants for the study.

Approximately 50 9th grade students were from the full tech prep curriculum. They were beginning their first year in this type of program. An equal number of participants were from the standard curriculum. Although the original sample included 100 participants, because several students failed to complete the questionnaires, the analyses was run on 70 participants (37 tech prep and 33 standard students).

Within the analyzed data set, 55.7 % (n=39) of the participants were female and 44.3% (n=31) were male. The tech-prep curriculum consisted of 56.8% (n=21) females and 43.2% (n=16) males; while the standard curriculum consisted of 54.5% (n=18) females and 45.5% (n=15) males. The total percentages of participants by race was 74.6% Caucasian (n=50), and 25.4% (n=17) African American. These percentages are consistent with the overall percent (26.2%) of African Americans who attend Central High School. Caucasians made up 80.6% (n=29), and African Americans made up 19.4% (n=7) of the
tech-prep participants, respectively, while 67.7% (n=21) Caucasians and 32.3% (n=10) African Americans comprised the standard group. The majority of the participants (61.6%) in the tech-prep and standard groups have aspirations to continue on to college or beyond. Very few students (14.3%) desired to begin an occupation after obtaining their high school degree. While participating in the study, the average pre test grade point average (on a 5.0 scale) of those in the tech-prep curriculum was 3.30 and those in the standard curriculum averaged a 3.59. This difference in grade point average was not statistically significant (S.D. = 1.41).

**Apparatus**

The method of data collection was through the use of questionnaires. The first questionnaire was the School Attitude Measure second edition (SAM) published by American Testronics (Wick, 1990). The SAM is a reliable and valid instrument (median scale reliability is .83 and median scale inter correlation is .56). The SAM was standardized in 1989, on five geographic areas and on a large sample of kindergarten to twelfth grade public school students. This survey measures five dimensions of students’ attitudes about school. However, for the purpose of this study only Scale 1, Motivation for Schooling, was examined. Motivation for Schooling "assesses the effect of the students’ reactions to past school experience upon their motivation in school" (Wick, 1990 p. 1).

The questions on the SAM examine how students are motivated to putting forth effort in school. The items measure these
characteristics: "willingness to participate in current school experience because it is meaningful, desire to perform competently in future school experience, perception of the relationship of current schooling to future needs, willingness to pursue future schooling, perception of the importance of school compared to other activities, and perception of the way other significant individuals view the student's school experience" (Wick, 1990, p. 2).

Students respond to the items by indicating whether they "never agree", "sometimes agree", "usually agree", or "always agree". The answers are coded in a positive direction from 1 to 4, although some of the items are scored in the reverse order. There are 20 items in the Motivation for Schooling scale, and the overall score range is 20 to 80, with an estimated mean score of 53.4. Scores greater than one standard deviation above the mean imply above average levels of Motivation for Schooling.

SAM raw scores must be converted to percentile ranks to achieve relevance. The Rasch model of statistical analysis is used to transform the raw scores to percentile ranks which are then computed to an Equal Interval Score (EIS). The EIS is reported in three digits ranging from 001 - 999. The EIS score is "characterized by units of equal distance throughout the entire scale", and is useful in finding averages (Wick, 1991, p. 2). A score of 500 is average with a standard deviation of approximately 100. For describing the participant's level of motivation and completing most of the statistical analysis for this study, the numerical flexibility of the EIS
score was most appropriate.

The second questionnaire requested demographic information including the participant’s gender, race, choice of schooling or occupation after high school, level of education aspired to by the students, and the level of education achieved by their parents (see Appendix). Lastly, the student’s pre test grade point average (GPA) was provided through teacher reports.

Procedure

The students were identified as either being in a tech prep or standard curriculum and were administered the questionnaires at a convenient time of the day that the teacher determined did not interfere with student learning. Students from both programs, were first administered the SAM, followed by the second questionnaire of demographic questions. All students had one hour to complete both questionnaires. The questionnaires were administered in the beginning of the school year and again at the end of the year. This allowed for a pre and post evaluation of students’ motivation levels before and after a year of either a tech prep or standard curriculum. A pre-post research design helped to assess any difference in the motivation levels of the two curriculum groups prior to the introduction of the curriculums.

Results

Characteristics of the Subjects

A chi-square analysis was conducted to determine whether the characteristics of the participants in the two programs differed
significantly. The characteristics compared were participant's gender, race, choice of schooling or occupation after high school, level of education aspired to by the students, and the level of education of their parents. The chi-square analysis revealed that no significant relationship existed between the type of program selected (tech prep or standard) and the specific characteristics.

The students' GPA while participating in the study from the tech prep and standard programs was compared using a t-test. The initial grade point averages did not differ statistically between participants in the two types of programs. These results signify that the participants in the two programs (tech prep and standard) were reasonably well matched on GPA.

Furthermore, a t-test was conducted to compare the initial levels of motivation between students from the two programs. Subjects in the tech-prep group had an average motivation EIS of 473.76 (S.D. = 106.19). The participants from the standard program were found to have an initial EIS of 504.48 (S.D. = 104.60). Although the standard participants appear to report a higher level of motivation towards schooling, this difference was not statistically significant and both groups scored within the average range. Both the chi-square analysis and the t-test results indicate that the participants were equivalent in background characteristics, as well as in initial motivation for schooling.

Analysis of the Original Hypothesis

The study aimed at assessing the levels of motivation at the
end of the school year, and at determining whether past motivation levels are predicted by or are due to program membership or other background characteristics.

An analysis of covariance was conducted to examine if any differences in motivation level after the school year were due to the program or the student characteristics, while taking into account the students’ initial levels of motivation. The initial level of reported motivation must be controlled for because participants between and within programs may have differed in their pre test levels of motivation (Cook and Campbell, 1979). The analysis of covariance was conducted with post motivation levels as the dependent variable, pre motivation levels as the covariate, and program membership and other background characteristics as independent variables.

The results indicate that after one year, any differences in motivation levels could not be accounted for by the type of program in which the student was involved (see Table 1). In fact, post motivation levels for students in the tech prep programs were at 471.16 (S.D. = 100.4), while those in the standard program were at 496.79 (S.D. = 113.57). This indicates that both groups remained in the average range of motivation. A t-test comparing both motivation levels, without controlling for initial motivation levels, further confirmed that the levels were not significantly different from each other.
Table 1
Average EIS Pre and Post Motivation Levels of Students from Tech Prep and Standard Programs

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<tr>
<th>PROGRAM</th>
<th>PRE EIS</th>
<th>POST EIS</th>
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<tr>
<td>TECH PREP (n=36)</td>
<td>$M = 473.76$</td>
<td>$M = 471.16$</td>
</tr>
<tr>
<td></td>
<td>S.D. = 106.19</td>
<td>S.D. = 100.40</td>
</tr>
<tr>
<td>STANDARD (n=31)</td>
<td>$M = 504.48$</td>
<td>$M = 496.79$</td>
</tr>
<tr>
<td></td>
<td>S.D. = 104.60</td>
<td>S.D. = 113.59</td>
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Thus, it can be concluded that no significant difference in motivation occurred as a result of the type of program in which the students were enrolled. Regardless of the type of program the participants underwent, the two groups tended to have equivalent motivation levels after one year.

Although motivation was not related to the type of program, the results of the analysis of covariance indicated that differences in motivation levels after a year could actually be predicted by one of the student characteristics, race. After controlling for the pre EIS score, a significant main effect of race on post motivation levels was observed, $F(1,62) = 11.18$ at $p < .001$.

More specifically, African Americans had an average post
motivation level ($M = 560.24, \text{S.D.} = 118.401$) that was significantly higher than their Caucasian peers ($M = 457.56, \text{S.D.} = 91.93$). These results held true regardless of the type of curriculum in which the students were enrolled and when initial motivation levels were controlled. Furthermore, there was not a significant race difference in pre test EIS levels, and the majority of African Americans (14 out of 17 participants) increased in motivation at the post test. The participants’ race more so than program type or any other participant characteristic predicted the participants’ motivation levels at the end of the school year.

Discussion

The results of this study did not support the hypothesis that after one year students who are enrolled in a tech prep program will generate a higher level of motivation than students in the standard curriculum. Hypothesized reasons concerning why the type of program had no significant effect on the students’ reported levels of motivation follow.

To begin, this study analyzed motivation only based on the students’ attitude towards schooling as measured with the SAM questionnaire. Although the SAM is a reliable instrument, the
validity is based on its specific operational definition of motivation for how willing the student is towards putting forth effort in school. The SAM's "Motivation for Schooling" may have measured a different attitude of motivation than what was actually perceived by the participants.

For instance, the social learning view approaches motivation in terms of effort given to completing a task for the end result (a reward). Achievement approaches center motivation around setting goals and working towards achievement (Brophy, 1983). Different results might have been obtained if an alternative instrument which measures another form of motivation had been utilized. The validity of this study could have been improved, therefore, had the participants been assessed with a variety of motivation instruments.

Insignificance could also be related to the validity of the SAM in relationship to the purpose of this investigation. For instance the motivation instrument may not have been sensitive enough to predict attitude changes over time. The inconclusive results may stem from the possibility that the SAM questions might not have been strongly change related. Additionally, the SAM scale of "Motivation for Schooling" was constructed of items containing a variety of different concepts. Performing a separate analysis on
responses to the individual items may also yield noteworthy results.

Furthermore, a possibility exists that motivation is more concretely demonstrated through production results than through investigating students’ attitudes. For instance, past studies have shown tech prep programs to be successful by examining student attendance records or by noting an increase in students who obtained their diploma (Gray, 1991, Schoenebeck, 1993 & Scott, 1991).

The purpose of this study was to examine motivation as interpreted by students’ reported attitude towards schooling instead of through production results. Therefore, the results of this study can not necessarily be interpreted to mean that students’ in a tech prep program are any more, or less, invested in their education than their standard curriculum peers. Subjects in both curriculums generated a statistically similar level of motivation in the pre and post tests. This can only be interpreted to mean that no difference exists in the students perceived SAM motivation levels after one year in either a tech prep or standard curriculum.

The fact that the level of motivation was not different between the students of the two groups implies that students’ attitude towards schooling, and effort put forth for school achievement, might
be unrelated to the type of curriculum they experience. The assumption that the Academy’s tech prep curriculum probably has no negative influence on students’ motivation towards schooling has been supported by these results. Therefore, all other student characteristics being equal, students’ attitude towards school would probably not decrease if enrolled in a tech prep curriculum. This information supports the use of tech prep curriculums as another option for student learning.

Nevertheless, the non significant results are not parallel to the reviewed research which promotes the value of tech prep. However, prior studies have examined tech prep student production rates without measuring students’ motivational attitudes (Gray, 1991, Schoenebeck, 1993 & Scott, 1991). Suggestions for further study may include comparing both production rates and attitudes of the students in order to further understand the possible benefits of a tech prep curriculum.

The lack of significance may also be due to the small sample size. A suggestion for design improvement would include obtaining completed questionnaires from all participants in both the tech prep and standard curriculum. This would provide a more representative sample of both curricula. Fully answered questionnaires may
require a great commitment from the students and teachers and may infringe on student learning time. However, to uncover more meaningful results, an undertaking of this sort should be investigated. Another possible suggestion would be to use a shortened version of the SAM or a motivation instrument which is less time consuming than the SAM.

In addition to increasing the sample size, another factor that may be affecting the results of this study is the recentness of the implemented tech prep program at Champaign High School. The Academy was in its first year of existence and the students' attitudes may have been influenced by the novelty of the experience. Obtaining student motivation levels once the students have been involved in the tech prep process for more than a year may yield results more consistent with the supportive tech prep research. Longitudinal research of this study would provide more information about the stability of motivation over time, and may uncover significant differences in motivation.

Furthermore, the program itself was still in its formation stages. This may have effected student perceptions because solid curriculum guidelines were just being formed. Once the program becomes more permanently established, repeating this study may
reveal substantial conclusions. Until a more in depth study can be performed, the present findings should be cautiously interpreted.

Although no relationship between the type of program and motivation was found in the present study, it did find that the participant's race was significantly related to the general level of motivation. African American participants were found to have a statistically higher level of SAM motivation towards schooling than their Caucasian peers regardless of program type and after controlling for pre test motivation levels.

Finding difference in racial motivation is consistent with existing cross cultural general achievement motivation research. As Castenell (1984) has concluded, it appears that African Americans view achievement in a much different manner than Caucasians. For instance, a study conducted to inquire into the perceptions of achievement motivation between adolescents of different backgrounds found noteworthy results.

Castenell (1983) investigated the difference in participants' responses to traditional and more area-specific achievement motivation scales. Overall he found that when participants were asked questions focusing on motivation towards self-esteem, independence, sense of control, and individualism, Caucasians scored
higher than African Americans. However, when emphasis was given to area-specific motivation towards peer, home and school success, African Americans scored higher. Castenell (1983) concluded that race has a large effect on achievement attitudes and behaviors (Castenell, 1983).

The fact that cultural diversity is associated with motivation is based on a theory that life experiences shape our responses towards achievement motivation. The student is influenced by society including influences from his or her family, peers, and school. “It is not a question of one group possessing a greater need achievement, but rather the circumstances or situations under which such achievement behavior will occur” (Castenell, 1984, p. 441).

It appears that the SAM is not assessing general achievement motivation; therefore, the significant results are consistent with research pertaining to racial differences found on area-specific motivation scales. It is unclear, however, what experiences or characteristics contributed to the differences found in this present study. Furthermore, it is unknown if the SAM is definitely a general or area specific motivation questionnaire. Based on the cited research, this information becomes critical to making accurate conclusions.
Finally, although statistical significance has been uncovered, practically the results may be meaningless due to the small sample size. Had a larger sample been available similar results may not have been found. The limited number of African Americans who participated in this study (n=17) may not be representative of the culture’s larger community.

In conclusion, although the proposed hypothesis was not confirmed, one significant finding was noted. The students’ race was the major predictor of motivation towards schooling as assessed with the SAM. This finding, however, was not predicted and can not be readily explained based on the data collected. A restructuring of the methods design should be performed as well as a more thorough analysis of the population’s background characteristics and life experiences. Further investigations may reveal more applicable information about motivation and its relationship to the tech prep curriculum.
References


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Appendix

Demographic Questionnaire

Date of birth: _______ Age:_______
Grade:____ Female:__ Male:____ Race:________

Parents education:
Mother-- High School Technical College Some College
4 year College Degree Graduate School

Father-- High School Technical College Some College
4 year College Degree Graduate School

Level of education desired for yourself:
High School Technical College Some College
4 year College Degree Graduate School

I want to begin an occupation after I earn a high school degree.
True_____ False_____

I want to continue on with school after I earn a high school degree.
True_____ False_____