

**A Comprehensive Literature Analysis of**

**Why the American High School**

**Curriculum Needs**

**National Structure**

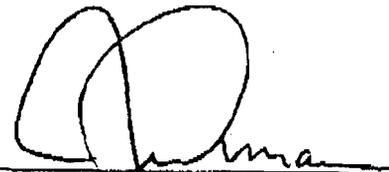
**by**

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A handwritten signature in black ink, appearing to read 'James Lehmann', written over a horizontal line.

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ABSTRACT

The purpose of this comprehensive literature review was to examine if a structured high school curriculum that includes: academically rigorous courses and certain available resources for students, can increase the number of students who are college ready. This review examines the key curriculum components to be college ready as well as the benefits to the student and our society when a student pursues this academic path. Included in this paper are recommendations on which components should be included in an academically rigorous high school curriculum to prepare all to be college ready.

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## Chapter I: Introduction

A student in the United States who graduates from high school and is prepared to attend a four-year college or university is likely to earn \$2.1 million dollars over their lifetime compared to \$1.2 million of someone who does not attend postsecondary education (Day & Newburger, 2002). This evidence of lifetime earnings demonstrates that it is even more crucial for individuals to obtain a postsecondary education.

According to the U.S. Department of Education 75% of all public high school students graduate in four years and only 32% of them leave high school ready to attend a four-year college or university (Greene & Forster, 2003). With the evidence that obtaining a college degree provides a substantial increase in lifetime earnings, which in turn affects the economic stability of the United States why are so few students ill-prepared to attend college?

In order for a student to have the option of attending college they must be “college ready”. The U.S. Department of Education defines being college ready as having the minimal set of skills required to attend a four year college or university. ACT, Inc. a non-profit independent organization who provides research, assessment and program management services in the areas of education and work force development defines college readiness as, “the level of preparation a student needs to be ready to enroll and succeed – without remediation – in a credit-bearing course at a two-year or four-year institution, trade school, or technical school (ACT, 2004, p. iii).”

A student’s academic curriculum especially high school courses have typically defined whether one is college ready or not. This coursework has typically consisted of four years of English and three years each of mathematics, science and social studies. It

was believed that these courses would provide American high school students the foundation they would need to have postsecondary options and to be successful in college. What is not as clearly as defined is what are these core courses and how come not all students are required to take them or have access to them? These core courses alone are not the only option to prepare students for college, for the academic courses must have some depth (ACT, 2004).

In the Yale Report of 1828 the faculty stated, “In laying the foundation of a thorough education, it is necessary that all the important mental faculties be brought into exercise. It is not sufficient that one or two be cultivated, while others are neglected” (p. 5). A comprehensive academic curriculum that includes a curriculum with depth and appropriate testing along with the necessary resources available for students to aid in their success would accomplish this and open education opportunities for youth.

#### *Statement of the Problem*

High school graduation requirements in the United States are failing to equally prepare students to have the option of attending a four-year college or university. Academically rich and rigorous college preparatory courses are not required of all students which in turn limits a student options upon graduation because they are ill prepared. This problem is due to the fact that high school graduation requirements are not aligned with what postsecondary institutions believe are the skills needed be successful in college. Many young men and women are tracked into a college preparatory or non-college preparatory course routes as early as the eighth grade and this limits a student’s educational options and room for intellectual growth.

### *Purpose of the Study*

A structured curriculum that includes: academically rigorous courses and resources available for students can increase the number of students who are college ready. With the help of a literature review this study will determine what the common curriculum both academic and non academic will entail and the advantages this will provide for the student.

### *Research Questions*

1. What courses should make up the core curriculum to best prepare students for higher education?
2. What are the educational, social and economic benefits to the students for taking a core curriculum?

### *Limitations of the Study*

A limitation of this study would be to make the assumption that every student in the United States has the intellectual ability or has the personal desire to attend college. This study should show that all students should be given the opportunity to prepare themselves to have the option to attend college. Whether or not a student chooses to attend is their choice. In looking at the entire high school aged population in the United States there are two issues that arise. This study will not look at students who have been diagnosed with a learning disability or who are English language learners. Also no attention will be paid to funding for these programs.

## Chapter II: Literature Review

### *Introduction*

Research supports that students who take a certain prescribed set of high school courses are better prepared for postsecondary education, but are they college ready. In order to be college ready a number of actions must occur: a student must graduate from high school, they must take a certain set of academic classes where they have obtained the necessary skills for postsecondary education and they must have basic literacy skills (Greene & Forester, 2003). Much support exists for the benefits of a general high school core curriculum and this literature review will entail history, recent studies and research to provide evidence that a core high school curriculum along with additional non academic components will best prepare a student for postsecondary educational options and success.

### *History of American High School General Education*

Every student who attends school is a unique individual who will learn in their own individual way. Since students have unique individual learning styles there is much debate on how to educate a student to succeed in postsecondary education and in their individual life. In order to answer the question of what educational practices provide a student the educational foundation to be successful, we must first start by defining education and its purpose. There is no definitive definition of education but there are similarities among definitions that exist. It is important to look at historical definitions of education so we can gain an understanding of where the roots of education lie. The goal and purpose of education is simply stated in the 1945 *Harvard Report, General Education in a Free Society* as “...education seeks to do two things: help young persons

fulfill, and fit them so far as it can for those common spheres which, as citizens and heirs of a joint culture, they will share with others” (p. 4). General education prepares a student to think for themselves, take part in intelligent action and learn what has been done in the past, and what the greatest men have thought. This education lays a basis for all advanced study (Hutchins, 1936). It is clear from both of these definitions that education is a basis for which an individual continuously draws upon for reasoning, critically thinking and problem solving in their lifetime. A solid educational foundation is the basis for advanced thinking and continued learning. These definitions describe what education aims to be, but the question of how to accomplish this task and how it fits with individual learning styles remain.

Defining what courses to take, the number of years a student should attend school and the academic content of the curriculum is a continual discussion. In 1749 Benjamin Franklin proposed an English grammar school which was an academy that offered secondary students a curriculum with varied subjects. This early academy eventually evolved into the secondary school in the United States (Guttek, 1972). These early thoughts of Franklin began to propose the idea that students needed to learn more than just the classics. They needed to be exposed to other languages, concrete skills and much more of a practical curriculum that prepared them for the world they were to live in. These early academies were private or semi-private and met the needs of the rising middle class. The main focus of the academies and early high schools was to prepare selected students for college.

It was not until the late 1800's that the evolution of secondary schools began. With the change to a more industrialized nation people began to see the need for mass

public secondary education and another option besides the private elite academies. New jobs required a more highly skilled work force and the high school began to be the place that prepared students for their adult roles in society. Places were already using tax dollars to support elementary and postsecondary education, but there were very limited education options for others not in the middle to upper classes. A landmark decision in Kalamazoo, Michigan allowed the city to tax for public high school education. This decision sparked states to create high schools supported by local tax dollars which now provided a student the opportunity of a complete educational system.

Early educational leaders wanted a ladder educational system that provided a seamless education from eight years of elementary and grammar school, four years of secondary school and then higher education (Rury, 2002). This proposed system would be gapless and focused on the end outcome, preparing a student for postsecondary education. A high school curriculum should not be based on future careers which was a very different educational approach than the European tracked system.

The Boston English Channel, established in 1821 was the first American high school. The curriculum focus of this early school was to provide the children with a more real world or practical course of study (Spring, 1997). The main objective of early public high schools was to prepare students for college, but with the evolution of an industrialized nation many thought it should be a place that prepares students for commercial, industrial and vocational training (Gutek, 1972).

Even with the increase of public high schools in the U.S. the majority of students attending were in the middle and upper class. Parents of children in the lower classes could not afford to send their student to high school once they reached a working age of

14-15. These families needed their children to work and help support the family. By the end of the 19<sup>th</sup> century the American educational track was in place. The educational plan consisted of eight years of elementary school followed by four years of secondary school. At the end of the 19<sup>th</sup> century the American public high school served over 500,000 which was less than 10% of the nation's teenagers (Rury, 2002).

At the beginning of the 20<sup>th</sup> century there was a further increase in populations, urban areas and with the new demands of an industrialized nation there was much more of a need for public high schools and mass education for all social classes. By 1930, public high schools were serving nearly 5 million students which was nearly half the nation's eligible population and the high school became the link that existed between the labor market and the nation's educational system (Rury, 2002). It was during this time the schools began to enroll a much more socioeconomic diverse population. High school attendance grew from roughly 4.4 million in 1930 to 12.3 million in 1967.

The American high school will undergo much growth and change in the 20<sup>th</sup> century. The 20<sup>th</sup> century public high school began to be the main secondary educational institution and the focus now shifted on what should be taught and how. With the number of students entering schools following World War II there was a shift on the role of the school in the society (Guttek, 1972). The American economy was changing and there was a need for a well-trained workforce. The high school prepared youths for a distinct number of occupations, and very few for postsecondary education. As early as the 1960's there were signs that the labor demand for unskilled workers would be limited (Rury, 2002). High schools students needed to be prepared to meet the rising literacy requirements and demanding skills of new jobs. At this time the current work force was

classified at over 40% being blue collar but this was beginning to change. Vocational education remained strong, but the skills required in the job market began to change and the need for “general classes” began to emerge (Rury, 2002). Schools however did not abandon the vocational track completely, but instead began to prepare more students for postsecondary options (Spring, 1997).

Following World War II the federal government began to play a more active role in the policies regarding schools. Public education began to become a much more important factor in national politics. The federal government’s peaked interest in schools coincided with the economic and work force changes beginning to take place. It was evident in the 1980’s that more and more jobs required a college education. At the end of the 20<sup>th</sup> century there was much attention given to the nation’s academic preparedness of students and the educational emphasis is now on academic skills (Rury, 2002).

#### *Defining College Readiness*

With nearly 70% of students leaving high school not qualified to attend a four-year college too many students graduate with a high school diploma that has prepared them to do nothing (Greene & Forster, 2003). In order to be qualified to attend a four-year college or university a student must have graduated from college, scored at or above basic level on the National Assessment of Educational Progress and have taken the minimum number of prerequisite high school core classes for college admission to the nation’s least selective four-year colleges and universities. With the increasing global economy and the demand for highly skilled workers, it is essential that one must obtain some level of postsecondary education in order to obtain a livable wage in the United States. According to the U.S. Census Bureau a worker with a bachelor’s degree lifetime

earnings will be \$2.1 million compared to \$1.2 million for a worker with just a high school diploma. This gap in lifetime income between the college educated and non college educated has been growing. In 1975, a worker with a bachelor's degree earned 1.5 times the annual salary of someone with just a high school diploma and in 1999 this figure rose to 1.8 times (Day & Newburger, 2002). With the evidence provided of the economic value of a college degree it is necessary to prepare all students to have the best opportunity for economic stability in life. "If schools fail to prepare students for success after graduation, the obligation to students, parents and the larger society to produce graduates who have the human capital necessary to maintain or improve our collective standard of living and the economic strength of our country goes unmet" (Phillips and Skelly, 2006 Section II, para. 3). In order for a student to have the opportunity to have the highest earning potential in American society they need to obtain a postsecondary education. In order to obtain a postsecondary degree a student must graduate high school being "college ready".

College readiness is comprised of a number of elements that best prepare a student academically to be eligible for postsecondary educational opportunities. In order to be college ready a number of actions must occur: a student must graduate from high school, they must take a certain set of academic classes where they have obtained the necessary skills for postsecondary education and they must have basic literacy skills (Greene & Forester, 2003). ACT, Inc a non-profit independent organization who provides research, assessment and program management services in the areas of education and work force development defines college readiness as an individual's student's level of preparation so they can enroll and succeed – without remediation into a credit bearing

college course (ACT Inc., 2007b). A student that is college ready will have the academic preparation and social skills to know what is expected of them in a college course can manage the content and knowledge and can comprehend the essential lessons and information the class was trying to convey (Conley, 2007b). Another definition of college readiness goes much more in depth beyond academic coursework. College readiness is multi faceted and consists of: key cognitive strategies, key content, academic behavior and contextual skills and awareness (Conley, 2007b). College readiness consists of multiple variables that include factors both in and out of school for the student. Students need not only academic preparation through study and coursework but need key cognitive strategies that allow students to learn academic content from a variety of disciplines (Conley, 2007b). Students who are academically prepared for college not only attend at a higher rate but graduate at a higher rate. Statistics demonstrate large gaps in college degree completion rates exist between those who were are prepared and unprepared for college across all socioeconomic levels (Goldberger, 2007). Students from the lowest economic tier who enter college unprepared only 15% of them complete their degree compared to 56% of very or highly prepared do. The discrepancies remain true for the middle and upper socioeconomic levels as well. Eighty percent of the very or highly prepared complete a degree while 37% of the unprepared do not. With each increase of a student's socioeconomic status it improves their chances of completing a college degree, however the gaps exist for all socioeconomic classes based on a student's academic preparedness (Goldberger, 2007). There are a number of college readiness definitions but one thing remains constant among them all. For a student to have the best opportunity to

obtain a postsecondary education they must have solid and rigorous academic preparation.

### *Defining of a Core Curriculum*

The early nineteenth century schools curriculum was under much debate, just like it is today. A question being asked as early as the late 1800's was should the American public high school prepare students for the work world or higher education? With the onset of the industrial revolution and now the formalized mass education of secondary students, this was a topic of much debate. *The Report of the Committee on Secondary School Studies* written in February 1894 recommended there is no differentiation in the treatment of subjects for college preparatory and terminal students (National Education Association of the United States, 1894). A student who has not academically tracked to be attending college and who was being educated to join the workforce was considered a terminal student. A secondary school curriculum should best prepare a student regardless of their future career. This early report felt the high school curriculum should remain academically focused regardless of what the future career plans of a student were at the time. They recommended that a student should take academically rigorous courses that included English, history, mathematics, science, and language study. They felt that the powers of concentration, memory, and communications that a student gained by taking these courses was relevant and appropriate for any career a student may choose (Rury, 2002). In 1918, another report was issued titled, "*Cardinal Principles of Secondary Education*" which proposed a new and different vision for high schools. This proposal called for a differentiated secondary school that not only provided different and distinct academic routes for individual students, but that a school brings together students of

different backgrounds. The school would provide students different academic tracks that prepared them for college, vocational work or a general diploma, but at the same time would integrate all different types of students in certain classes. This report was advocating for a comprehensive American high school that would meet the needs of students both academically and socially. This approach addressed the concerns of the progressing American nation. The American public high school was in its infancy stage when these early reports emerged so neither systematically changed education.

High schools continued to grow in population and by 1940 nearly 67% of all teenagers were in high school (Spring, 1997). Beginning as early as the 1960's a student's education began to reflect their economic earning power. The vocational academic track started to become irrelevant and "watered down". If students were not on the "college prep" track their education was a general course of study, which did not really prepare them for much of anything (Rury, 2002). The truer impact of education and earning power began to really surface in the 1980's and 90's and a college education began to pay significantly more in a lifetime than just a high school education. The nation began to recognize that students are ill prepared for the changing work force in the United States. At one time a high school curriculum prepared a student for life after high school, but now that the labor market began to show signs that more and more jobs required education beyond high school and there was a concern in the shortage of capable and skilled workers (Rury, 2002).

The two reports *The Report of the Committee on Secondary School Studies* and *Cardinal Principles of Secondary Education* were the first to address curriculum issues on a national level. The recommendations of these reports are significant because

beginning in the later half of the 20<sup>th</sup> century and the start of the 21<sup>st</sup> century the same discussions and issues are being addressed in regards to the American public high school curriculum. The academic curriculum of a high school student was left mostly up to the local school district or state and one could say left in neutral for many years. Schools tended to focus on more social goals rather than academic. It wasn't until the early 1980's when the publication *A Nation at Risk* began to address nationally the concern of high school students not having an adequate high school curriculum that prepared them for the changing labor market in the United States. This report outlines recommendations for American secondary and higher education to best develop the talents of their students to the fullest (*United States, 1983*). The underlying philosophy of the report felt that every student is born eager to learn, they can learn and that a high school education should prepare an individual for life long learning, skills for emerging careers and citizenship, In order to achieve this they put forward a series of curriculum recommendations to strength high school graduation requirements. The report refers to these requirements as the Five New Basics of an academic curriculum. These subject areas are: English, mathematics, science, social studies and computer science.

The report recommends that states and local high schools need to strength their requirements and the *Five New Basics* will lay this foundation. According to the report the recommendation for a comprehensive academic curriculum will include the following courses for a high school student throughout their four years: four years of English; three years of mathematics; three years of science; three years of social studies; and one-half year of computer science. Two years of a foreign language are recommended for a student that plans on attending a postsecondary institution (*United States, 1983*). The

recommended academic course areas included key skills and concepts that should be covered but the report lacked the details in courses and how schools were to implement this change. The report brought awareness that students need to have a number of years of academic courses, but paid no attention to the course content and the necessary skills a student needs to obtain. After this report many institutions of higher education adapted these core curriculum requirements for admission standards and the high schools were left to define these courses without a standard guideline. This report was policy driven and lacked the substance and connectedness between policy and what happens in the classroom (Elmore, 2003). With the release of *A Nation at Risk* many schools began to look at their curriculum standards, but the process to change was slow. In 1996, Achieve Inc., a bipartisan, non profit organization was founded by the nation's governors and business leaders to help raise academic standards within the states in the US. More than half the states have benchmarked their academic standards, accountability systems and test with Achieve Inc's help. Achieve Inc. works as a voice for standards-based education reform by gathering the support of governors, CEOs and other educational leaders together.

In 2004 Achieve, Inc. released a report entitled, "*The Expectations Gap – A 50-state Review of High School Graduation Requirements.*" According to this report there is no state where it is required of all students to take a college or work preparatory curriculum for diploma requirements. By not preparing a student for the option of postsecondary we limit the number of highly educated and skilled workers in the work force. If schools can increase the number of students who are minimally prepared for postsecondary courses, the degree completion rates would increase across all economic

backgrounds (Goldberger, 2007). An increase of the number of educated citizens has direct impact on the social well being and economy of the country. Over twenty years later after the release of the recommended standards no state was achieving college readiness for all. In regards to the *Nation at Risk* recommended requirements 36 states require four years of English with six of them only requiring three years. However, there are only six states that specify four years of grade appropriate English. Only 24 states require three years of math, with 13 only requiring two years. Of the 42 states with graduation requirements that are statewide they all require science courses to be taken, but 20 of these states do not specify which science course needs to be taken (Achieve, Inc. 2004b). Research demonstrates that students who are prepared for college are the most likely to attend and succeed. We can demonstrate the benefits of obtaining a postsecondary degree, but the academic preparation related to the skills needed needs to be defined.

ACT, Inc. has helped to define which high school academic courses will best prepare a student to be successful in postsecondary education. Preparation in English, mathematics and science are key subject areas where a student must be prepared. Courses that are sequential in skill building and thought process best prepare students for postsecondary education. A college preparatory curriculum should include: English 9-12, Algebra I and II, Geometry and at least one upper level course, Biology, Chemistry and Physics (ACT, Inc., 2004). The most important aspect of a student taking these courses is that these courses contain a level of rigor. Standard for Success, an organization within the Center for Educational Research and Policy completed a two year study with colleges and universities to define what skills in the core subject areas students need to obtain in

order to be successful in college. This report titled *Understanding University Success* outlines key concepts and skills within the core subject areas of English, mathematics, natural science, social studies, second languages and art (Conley, 2003). The level of rigor is complemented by the thought that academic preparation consists of two components: key cognitive strategies and content knowledge (Conley, 2007b). Successful academic preparation consists of a student learning the knowledge but also knowing how to use it. It is not the number of credits alone that prepares a student but more importantly the course content and the skills learned by a student.

The American Diploma Project associated with Achieve, Inc. is a network of 33 states working together to make sure that every student is prepared for work or postsecondary education. A study conducted with the help of business leaders, K-12 and postsecondary educators and leaders was done to define the knowledge and skills needed in mathematics and English to be successful after high school graduation. High school graduation requirements are set by states and there can be a large amount of disparity and variance in academic preparation and standards for students. The American Diploma project worked to create national benchmarks that can apply to all students regardless of the state they reside in. The content a student learns in class should be tied to academic standards that are aligned with the expectations of the postsecondary institutions and the workplace (Achieve, 2004a). Academic preparation should go beyond the set number of classes and the course name. The focus should be on the content of these courses. If expected skills and outcomes are defined it will allow teachers to be able to focus on the most appropriate pedagogy to educate these young minds.

An academic core class needs to be defined in terms of the skills a student will learn from taking this class. Academic skills and outcomes need to be aligned with postsecondary expectations in order to truly prepare a student to be college ready (Conley, 2003) Knowledge and Skills for University Success, developed by Standards for Success is a comprehensive set of the necessary skills a student needs to be successful in entry level college courses in the academic areas of English, mathematics, natural sciences, social sciences, second languages and the arts. These standards depict the specific skills a student should possess after completing the appropriate college preparatory high school curriculum. For example in the area of English a student should be able to “make supported inferences and draw conclusions, based on textual features, seeking such evidence in text, format, language use, expository structures and arguments made” (Conley, 2003, p. 22). In math a student should know basic mathematical computations. Achieve, Inc. and Standards for Success are two national entities trying to bring definition to the core curriculum.

ACT, Inc. has also defined the skill sets needed in the core curriculum in the development of their College Readiness Standards which are tied to College Readiness Benchmarks on a series of college readiness assessments. These benchmarks represent the academic knowledge and skills a student must possess in order to be successful in a credit-bearing college course in the areas of English, algebra, social science and biology (ACT, Inc., 2006). The descriptive standards can be used to help students and educators clearly define what a student needs to know to be college and work ready. A student who is prepared in math should be able to determine the probability of a simple event; this is

an example of an ACT College Readiness Standard. College Readiness Standards are aligned with concrete skills that can relate to postsecondary success.

Researchers agree that the academic core curriculum goes beyond the number of units and course names. “What it takes to earn a high school diploma is largely disconnected from what it takes for graduates to compete beyond high school – either in the college classroom or in the workplace” (Tell & Cohen, 2007, pg. 82). It is important to recognize that the academic curriculum is one step along the ladder of a student’s educational journey and that a rung that is often missing is that the requirements and courses have rigorous content that aligns with the skills necessary for a student to succeed in postsecondary education.

#### *The Disconnect Between K-12 and Postsecondary Institutions*

With more and more states beginning to require college-readiness curriculums of their graduates it is essential that secondary and postsecondary institutions agree and understand what skills are necessary for a student to be successful. Studies conducted by ACT, Inc. and Standards for Success have demonstrated that there is a need that the academic skills a student learns in high school should be aligned with the necessary skills to succeed in college. It is important to recognize that high schools and colleges are fundamentally different learning communities (Conley, 2007a). “The disconnect is not merely structural; it is deeply rooted in cultural and functional differences. The two institutions think about the nature of knowing differently, with high schools focusing primarily on transmission of content and colleges on utilizing content as a means to stimulate ways of thinking and knowing” (Conley, 2007a, p. 99).

The disconnect between secondary and postsecondary education has a long

history. Both of these educational institutions were created separate of one another, have their own institutional boundaries, policy and governance structures which leads to no wide spread practices that allow the two to work together (Venezia, Finney & Callan, 2007). Postsecondary institutions set their own criteria for admission and success while the secondary institution or the state determine what academic skills are necessary for success (Venezia, Kirst & Antonio, 2003). What one educational entity might feel is very important for academic success the other may view the opposite. There is no formal link between the two educational entities. This broken link along with differences of educational pedagogy creates an issue of disconnect between secondary and postsecondary institutions.

One main area of disconnect between high schools and postsecondary institutions is on the topic of the necessary academic skills needed to succeed in college. The 2005-2006 ACT National Curriculum Survey<sup>®</sup> is the only nationwide survey of educational practices and expectations. Thousands of middle school/junior high school, high school and postsecondary instructors in the content areas of English/writing, reading, mathematics and science were surveyed to determine what is the necessary skills and academic knowledge that is being taught currently and which of these are important for grade level success and postsecondary readiness. This study found a number of areas where the expectations of a high school instructor in regards to academic skills vary greatly from what a postsecondary instructor views as important. “What postsecondary instructors expect entering college students to know is far more targeted and specific than what high school teachers view as important” (ACT, Inc. 2007, p. 4). For example, in the area of science high school teachers rated the science content as very important to be

successful over science process/inquiry while postsecondary instructors rated science process skills much higher than content. High school instructors feel that advanced content in mathematics is the most important while postsecondary instructors view that rigorous understanding of the fundamentals as the most important (ACT, Inc., 2007).

In addition to specific academic skills that postsecondary and high school instructors differed on is the topic of whether or not state standards prepare students for postsecondary success. State standards tend to have many specific skills outlined so it is not surprising that high school educators believe more in content than fundamental development. The majority of high school instructors felt that their specific state standards prepared their students well for postsecondary education. In contrast the majority of postsecondary educators felt that their state's state standards did a poor to very poor job for preparing students for postsecondary academics (ACT, Inc., 2007). These differences in academic expectations are a result of a lack of communication between the two entities. Secondary and postsecondary educators need to gather and speak directly with one another to define the skills that a student needs to achieve postsecondary academic success. These meetings can help to further define college readiness and student academic expectations (Conley, 2007b).

There has been a reform effort underway regarding state academic standards. However postsecondary institutions and educators are often not included in these discussions which continues to widen the disconnect (Venezia, Kirst, & Antonio, 2003). The secondary school reform process in the mid 1990's tended to focus on realigning curriculum to meet high school graduation exams which were often at a tenth and eighth grade level. The focus of reform was not on preparing students to be college ready. In this

current movement of realigning state standards it is not connected to the efforts to improve college access and success (Venezia, Finney & Callan, 2007). States are beginning to realize that academic preparation of their students is essential for their success in college and the workplace.

Since 2005 there have been eleven states that have enacted graduation requirements of a college-readiness curriculum, with other states soon to follow (Conklin & Sanford, 2007). Even with the ambitious efforts of organizations like Achieve, Inc. and their American Diploma Project, in which 33 states are trying to bring together entities to align academic standards to college readiness, there is still very little movement at the state or national level to institutionalize relationships between these entities. These policy changes are a step heading in the right direction; however without communication between the two entities it can have potential to increase college going rates but not affect the remediation and college completion rates that are an alarming concern. If the disconnect between the two continues it can impede a student from a successful transition from high school to college and can diminish educational opportunities (Venezia, Kirst & Antonio, 2003).

### Chapter III: Summary and Recommendations

#### *Summary*

According to the U.S. Census Bureau individuals who obtain a postsecondary degree have higher lifetime earnings which has a significant impact on the overall social and economic well being in the United States. The purpose of this study was to show that current high school graduation requirements are failing in meeting the academic preparation needs of American high school students. Within the limitations of this study which consisted of not focusing on students who have been diagnosed with a learning disability or are participating in an ESL program. Also no attention was paid to funding for these programs. Let's reference the two questions asked in Chapter I.

1. What courses should make up the core curriculum to best prepare students for higher education?
2. What are the educational, social and economic benefits to the students for taking a core curriculum?

Research has shown that only about 32% of students graduate high school academically prepared to succeed in postsecondary education, even though nearly 75% attend college (Greene & Forster, 2003). With nearly a third of all college students requiring remedial courses in reading, writing and mathematics and nearly one of four students who are enrolled in a four-year college do not return for their second year it is essential that students are academic prepared to not only attend college but to succeed (Tell & Cohen, 2007). The general high school requirements are not preparing students adequately to be prepared to succeed in postsecondary education or in providing them the option to even attend.

A rigorous and solid academic curriculum consisting of English, mathematics, science and social studies can provide the necessary foundation for postsecondary preparation. These courses need to contain a level of academic rigor and depth to adequately prepare students. Research shows that requiring students to take a challenging academic core can have direct impact on increasing college readiness. The San Jose Unified School District has showed that by increasing graduation requirements and standards it can have a direct impact on increasing academic performance and college readiness.

Beginning with the freshman class in 1998, the San Jose Unified School District eliminated the two-track high school curriculum. Nearly 70% of the school district's population being of a racial and ethnic minority. Students were now required to complete at least three years of college preparatory math, four years of English, three years of science, 3 ½ years of social studies, and two years of foreign language. These courses are the minimum requirements of the University of California system. The school district went beyond these academic core and added a year of a visual and performing art and 40 hours of community service (Maxwell, 2006). In the spring of 2006, more than 75% of the graduating seniors of the San Jose High Schools had applied to a postsecondary institution, both two and four-year colleges (Maxwell, 2006). The San Jose Unified School District was keenly aware of the impact and possibly impending struggles students might encounter with the curriculum changes. To aid in the success of their students they added two additional periods during the day, created Saturday sessions and redesigned summer school to focus on rigorous coursework not remedial.

The San Jose Unified School District high school curriculum change and implementation is an excellent model that validates the research on how the right academic curriculum can cross racial and economic boundaries and prepare a student to be academically ready for college.

### *Recommendations*

College readiness should be the end goal of every student's education plan. Each and every student should have the option to decide if they want to attend college. They should not be choosing what high school academic path to take to prepare them, but instead focusing on what postsecondary education they want to pursue. Research has shown that students need a fundamental core of courses to academically prepare them to be successful in postsecondary educational options. There is solid evidence that rigorous academic preparation is the key element in preparing a student for postsecondary options and success, yet still so many students are underprepared for postsecondary education. If you look across the country you will see a hodge podge of different high school graduation requirements within individual states and districts. There is no national standard of high school graduation requirements where in lies one of the troubles in students being inadequately prepared.

For example, the San Jose Unified School District has taken it upon themselves to make sure their students graduate with the best academic preparation so they are prepared for postsecondary education if they choose to attend. The California state requirements for a high school diploma are below the minimum requirements of the University of California system making the high school diploma inadequate to be able to apply to college (<http://www.cde.ca.gov/ci/gc/hs/hsgmin.asp>).

In the state of Iowa there are no state mandated high school courses, but rather a set of skills that students should know in specific subject areas. The Iowa Core Curriculum is a guide for districts to follow but the implementation of learning these skills is left up to the individual school districts to decide in what format and class these skills are learned (<http://www.iowa.gov/educate/content/view/674/1001/>).

The State of Indiana offers their students three diploma tracks: General High School Diploma, Core 40 Diploma and an Academic Honors Diploma. The General Diploma requirements are below the recommended academic core curriculum and consists of 16 elective courses. The Core 40 is a solid college preparatory requirement meeting the recommended core courses and is required of all students. A student has the option to opt of of the Core 40 and take the General Diploma route. In addition to the Core 40 students may elect a more challenging path and participate in the Core 40 Academic Honors or Technical Honors Diploma ([http://ideanet.doe.state.in.us/sservices/pdf/grad\\_requirements\\_2011.pdf](http://ideanet.doe.state.in.us/sservices/pdf/grad_requirements_2011.pdf)).

These three examples demonstrate the many variances in high school diploma requirements. To provide some uniformity and equality to what a student is provided in high school I recommend a national requirement of standard academic high school courses for all graduates. College readiness should be the culture in the schools and not just for select groups of students who have the guidance to choose the correct courses. By making this a policy driven initiative it will force practices to change.

The proposed curriculum would consist of 4 years of English, 3 years of mathematics including Algebra and Trig, 3 years of science including biology, chemistry or physics and 3 years of social studies. These courses are no different than the

recommendations that ACT, Inc., Achieve, Inc. or other researchers have made except for the fact that they must become a requirement. States and postsecondary educational institutions need to begin working together and communicating on the academic skills necessary for a high school student to succeed in college. Education on national and state level needs to be looked at in a K-16 approach rather than K-12. This approach would allow open communication and clearer understanding of the necessary academic skills needed to best prepare our students.

State and national governments needs to take a vital role to effect the change for the majority of students. Ad hoc piece meal programs are insufficient in effecting change for the masses. They serve a role and should not be discounted, but for comprehensive reform and action to take place it must be a at a high political level with all educators involved, postsecondary and secondary. States need to establish the policy framework that supports these groups to come together (Conley, 2007b). This can be accomplished by mandating or supporting these groups to be able to negotiate and interact across boundaries. These groups need to not be advisory councils that meet to discuss but actually have some power to recommend structural changes that can be inacted to benefit student preparation for academic success in secondary and postsecondary education.

If the country was to decide that college readiness for all is the goal there will need to be supplemental curriculum components to support a student. The shift in focus to readiness for all would a be a major cultural shift in belief for many schools. "...the most important thing a high school can do is create a culture focused on intellectual development of all students" (Conley, 2007b, p.4). Students will need additional support and teachers additional and continued professional development.

With a change in increasing academic curriculums and preparing more students for college schools will need to spend time on educating students on the postsecondary options and process. There are a number of organizations that work with students for college readiness and have many practices in place that are very successful. With a change in academically preparing more students for college many will not know how to apply and attend college. Admission Possible a non-profit organization in Minneapolis and St. Paul works with over 1,200 low-income students in earning college admissions and finding the resources to attend (<http://www.admissionpossible.org>). Students receive one-on-one coaching and mentoring in regards to test preparation and the college application process. In 2005 100% of Admission Possible students were accepted to a college. This one on one mentoring is only one example of many programs that exist to aid students in attending college. Admission Possible is an after school program with Americorp volunteers, but schools could adapt a few of their philosophies and practices and provide this level of support to students in a homeroom or with assigned mentors.

Another option would be for schools to participate in the AVID program (<http://www.avidonline.org/>). AVID is a curriculum based program in the schools that targets students in the B, C and D range. Students attend AVID electives taught by faculty in that school. The content of these courses focus on study and organizational skills, academic help and tutoring, enrichment and motivational activities and critical thinking and question probing skills. These courses are designed to supplement and aid a student who is taking a challenging curriculum. Students will need additional academic support and it is crucial that a school encourages participation in existing programs or adapts a program that will meet their needs. Schools and districts will need to decide how

they want to provide the college access support for their students but it is a crucial component in raising the academic standards. Without guidance students will have completed the academic course preparations but not know how to take the necessary steps to attend and be successful in college.

With the increase in academic coursework there will need to be additional academic support for students. Schools will need to adjust their curriculum or school day for more teaching time or instate structured tutoring sessions for their students. If higher expectations are going to be placed on the students then there needs to be the support to foster their academic growth. Since each school has a different climate and culture these decisions will need to be made at the local level on what meets the needs of the students best. Examples of support could be Saturday study sessions, changes to the focus of summer school from remedial to rigor, peer tutoring, block scheduling, or extended homeruns for mentoring and guidance.

Students can and will rise to meet high expectations if the bar is set. If we believe as a society that our children can be educated to a level that provides them with a solid academic preparation to obtain a postsecondary education and to provide to economic stability of our country they will rise to the occasion. The issue of college readiness for all must be the expectation and the structure of classes, programs and services must be intertwined around the student to meet this objective.

What will be important to keep in mind is that not every school is the same nor every student. It will still be the responsibility of the teachers to teach the material in a way that they feel capitalizes on a student's learning ability. The schools will need to

decide which support services and delivery method of the academic material is conducive to their students learning.

It is the responsibility of the schools to academically prepare all students equally.

The 16<sup>th</sup> American President Abraham Lincoln said, “I will prepare and one day my chance will come”. If we continue to inadequately prepare our students we are taking away the opportunity for their chance to come. By requiring an academically challenging core curriculum and increasing the partnership between postsecondary and secondary schools we will provide students with options to obtain a postsecondary education and limitless opportunities. The goal of college readiness for all should not be on solely getting accepted to a college, but rather on being academically prepared to succeed in college.

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