



STATE OF MICHIGAN
DEPARTMENT OF EDUCATION
LANSING



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TO: State Board of Education

FROM: Michael P. Flanagan 

SUBJECT: Discussion Regarding Research on What a High School Graduate Needs to Know and be Able to Do

As the State Board of Education creates the "State of Michigan High School Graduate Profile," a collection of graduate profiles from across the state and the nation is provided to offer insight and suggestions for consideration to the question:

What should students know, be able to do, and understand by graduation for postsecondary and workplace readiness?

In addition, I have attached learning standards from national organizations including:

- 21st Century Learner Skills from the Partnership for 21st Learners
http://www.21stcenturyskills.org/assess21/assess_definitions.php
- Understanding University Success
<http://www.s4s.org/understanding.php>
- SCANS Skills (*The Secretary's Commission on Achieving Necessary Skills, US Department of Labor*)
<http://www.academicinnovations.com/report.html#work>

I have also attached graduate profiles from:

- Northville Public Schools, Northville, MI
- Berkley School District, Berkley MI
- Leander Independent School District, Leander, TX
- Houston Independent School District, Houston, TX

A sampling of state and national high school graduate profiles and mission statements:

Achieve--American Diploma Project:

- Oral communication/public speaking
- Science
- Mathematics

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Research
Quality writing
Reading and understanding complicated materials
Work Habits/Study Habits

Mott Middle College--Flint, MI

Self-Directed Learner

- Take responsibility for own learning
- Practices and extends learning process
- Applies knowledge
- Self Evaluates

Effective Communicator

- Expresses ideas clearly, both orally and in writing
- Demonstrates capable learning skills
- Communicates through a variety of mediums and purposes
- Communicates with diverse audiences

Creative/Complex Thinker

- Accesses, evaluates, integrates information
- Uses a variety of reasoning strategies
- Generates new ways of thinking

Cooperative Group Member

- Possesses effective interpersonal skills
- Evaluates/manages individual behavior in a positive manner
- Participates constructively in cooperative learning groups
- Evaluates/manages group behavior in a positive manner

Byron Center--Byron Center, MI

We desire our graduates to be:

1. Enthusiastic, positive, self-directed, life-long learners
2. Cooperative, productive workers
3. Involved citizens who demonstrate respect, responsibility, honesty, cooperation, and self-discipline.
4. Healthy individuals, including body, mind, and spirit.
5. Effective, literate communicators—through reading, writing, thinking, listening, and speaking.
6. Community members who exhibit an appreciation for academics, athletics, the fine arts, and various cultures.

Charlevoix Public Schools--Charlevoix, MI

The mission of the Charlevoix Public Schools, in partnership with the community, is to prepare students to become responsible, contributing members of a diverse, multicultural society.

Kalamazoo Public Schools—Kalamazoo, MI

- Be self-directed learners
- Be responsible community members

- Be quality workers/producers
- Know, value and respect human diversity
- Be competent, reflective thinkers
- Be independent, healthy individuals
- Respect creative and aesthetic expression

Farmington Hills Profile of a High School Graduate--Farmington Hills, Michigan

Lifelong Learners

Sustains learning across one's life span; creates a vision of the future and sets attainable goals for realizing that vision; assumes responsibility for what one can control; continually seeks to renew and expand competence.

Quality Producers

Strives to achieve high standards; draws upon prior knowledge; uses appropriate tools to create praiseworthy products and processes; persistently tries to improve the caliber of one's work; takes pride in progress made; motivated by a work ethic and disciplined to honor it.

Responsible Citizens

Dedicated to democratic values; pursues the common good; safeguards universal human rights; feels a common bond with other Americans and identifies with the ideals of the American heritage; loyal to the nation's institutions but critical when society strays from its principles; cherishes one's legal rights and upholds civic duties; services the community and exerts influence in public affairs; cares about the dignity and well-being of all people.

Thoughtful Problem Solvers

Recognizes problems when they arise and is motivated to solve them; weighs alternative solutions before acting; poses questions and explores imaginative ways to answer them; thinks both critically and creatively; evaluates the effectiveness of solutions attempted.

collaborative team member

effective communicator

- healthy individual
- knowledgeable thinker
- lifelong learner
- quality producer
- responsible citizen

thoughtful problem solver

Monroe Public Schools—Monroe, MI

GOAL 1: DEMONSTRATING RESPONSIBILITY

- Objective #1: All students will demonstrate the ability to work cooperatively with others in the pursuit of learning and in resolving conflict.
- Objective #2: All students will demonstrate the ability to set goals for their own learning.
- Objective #3: All students will demonstrate the ability to assess their progress.
- Objective #4: All students will demonstrate their learning through a variety of methods.

GOAL 2: IMPROVING ACADEMIC PERFORMANCE

- Objective #1: All students will demonstrate improvement in their knowledge base of the identified academic core curriculum.
 - Mathematics: All students will demonstrate proficiency in the six content strands of the Michigan Core Curriculum and the grade level benchmarks in Monroe Public Schools Mathematics Curriculum guides.
 - Language Arts: All subjects will demonstrate proficiency in literacy by communicating effectively and constructing meaning through reading, writing, listening, speaking, and viewing according to the content standards of the Michigan Core Curriculum and the grade level benchmarks in Monroe Public Schools English/Language Arts Curriculum guides.
 - Science: All students will construct and reflect scientific knowledge through the scientific process in earth, life and physical science as defined by the content standards of the Michigan Core Curriculum and the grade level benchmarks in Monroe Public Schools Science Curriculum guides.
 - Social Studies: All students will demonstrate the disciplinary knowledge, thinking skills, commitment to democratic values and citizen participation to become a responsible citizen by addressing the seven content strands of the Michigan Core Curriculum and the grade level benchmarks in Monroe Public Schools Social Studies Curriculum guides.

Objective #2: All students will improve in their acquired knowledge in communication arts as readers, writers, listeners, and speakers in all academic areas.

- Objective #3: All students will improve in their ability to be problem solvers in all academic areas.

Goal 3: ACQUIRING TECHNOLOGICAL KNOWLEDGE

Objective #1: All students will use technology as an integral part of acquiring their knowledge in all academic areas.

Objective #2: All students will utilize technology and vocational education opportunities to become more aware of real life job application of classroom learning.

Goal 4: INCREASING COMMUNITY INVOLVEMENT

Objective #1: All students will demonstrate increased knowledge of adult roles in the work place.

Objective #2: All students will demonstrate an understanding that learning takes place within and outside the school environment by effectively interacting with community members and utilizing community resources.

Minnesota State Standards

- Purposeful Thinker
Self-Directed Learner
- Productive Group Participant
- Responsible Citizen

San Dimas High School--San Dimas, CA

Expected Student Learning Results

What students should know, be able to do, and understand by graduation:

San Dimas High School graduates will be effective oral, written, artistic, mathematical, and technological communicators.

- San Dimas High School graduates will be critical thinkers who will continually challenge themselves throughout the learning process.
- San Dimas High School graduates will be effective collaborative workers.
- San Dimas High School graduates will display civic responsibility and an appreciation for our American democracy.

San Dimas High School graduates will be effective independent workers.

21st Century Skills



PARTNERSHIP FOR
21ST CENTURY SKILLS

GLOBAL AWARENESS

Students need a deeper understanding of the thinking, motivations, and actions of people from different cultures and countries in order to successfully navigate and respond to communities and workplaces extending beyond their neighborhoods. Key elements of Global Awareness include a student's ability to:

- Use 21st century skills to understand and address global issues
- Learn from and work collaboratively with individuals representing diverse cultures, religions and lifestyles in a spirit of mutual respect and open dialogue in personal, work and community contexts
- Master non-English language skills as a tool for understanding other nations and cultures

CIVIC LITERACY

Students need to understand, analyze, and participate in government and in community, both globally and locally, in order to shape the circumstances that impact their daily lives. Key elements of Civic Literacy include a student's ability to

- Be an informed citizen to participate effectively in government
Exercise the rights and obligations of citizenship at local, state, national and global levels
Understand the local and global implications of civic decisions
- Apply 21st century skills to make intelligent choices as a citizen

FINANCIAL, ECONOMIC, AND BUSINESS LITERACY

There is a growing demand on people to understand business processes, entrepreneurial spirit, and the economic forces that drive today's economy. Key elements of Financial, Economic, and Business Literacy include a student's ability to:

- Make appropriate personal economic choices
Understand the role of the economy and the role of business in the economy
Apply appropriate 21st century skills to function as a productive contributor within an organizational setting

Integrate oneself within and adapting continually to our nation's evolving economic and business environment

LEARNING SKILLS: INFORMATION AND COMMUNICATION SKILLS

Students need to think critically, analyze information, comprehend new ideas, communicate, collaborate, solve problems, and make sound decisions. Some critical elements of these thinking and learning skills are:

Creativity and intellectual curiosity. Developing, implementing and communicating new ideas to others, staying open and responsive to new and diverse perspectives.

Information and media literacy skills. Analyzing, accessing, managing, integrating, evaluating and creating information in a variety of forms and media. Understanding the role of media in society.

- Communication skills. Understanding, managing and creating effective oral, written and multimedia communication in a variety of forms and contexts.

Self-direction. Monitoring one's own understanding and learning needs, locating appropriate resources, transferring learning from one domain to another.

LEARNING SKILLS: THINKING AND PROBLEM-SOLVING SKILLS

Students need to think critically, analyze information, comprehend new ideas, communicate, collaborate, solve problems, and make sound decisions. Some critical elements of these thinking and learning skills are:

Critical thinking and systems thinking. Exercising sound reasoning in understanding and making complex choices, understanding the interconnections among systems.

Problem identification, formulation and solution. Ability to frame, analyze and solve problems.

LEARNING SKILLS: INTERPERSONAL AND SELF-DIRECTIONAL SKILLS

Students need to think critically, analyze information, comprehend new ideas, communicate, collaborate, solve problems, and make sound decisions. Some critical elements of these thinking and learning skills are:

- Interpersonal and collaborative skills. Demonstrating teamwork and leadership; adapting to varied roles and responsibilities; working

productively with others; exercising empathy; respecting diverse perspectives.

- Self-direction. Monitoring one's own understanding and learning needs, locating appropriate resources, transferring learning from one domain to another.
- Creativity and intellectual curiosity. Developing, implementing and communicating new ideas to others, staying open and responsive to new and diverse perspectives.

Social responsibility. Acting responsibly with the interests of the larger community in mind; demonstrating ethical behavior in personal, workplace and community contexts.

- Accountability and adaptability. Exercising personal responsibility and flexibility in personal, workplace and community contexts; setting and meeting high standards and goals for one's self and others; tolerating ambiguity.

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) LITERACY

Technology has become an essential tool for the realization of learning and thinking skills in today's knowledge economy. Key elements of ICT Literacy include use of ICT in service of:

- Information and media literacy skills. Analyzing, accessing, managing, integrating, evaluating and creating information in a variety of forms and media. Understanding the role of media in society.
Communication skills. Understanding, managing and creating effective oral, written and multimedia communication in a variety of forms and contexts.
Interpersonal and self-direction skills. Becoming more productive in accomplishing tasks and developing interest in improving own skills

Understanding University Success

This document is designed to answer one question: What must students know and be able to do in order to succeed in entry-level university courses? It is a difficult question because admissions requirements only hint at what is actually expected once students reach college. Traditional measures of high school achievement do not necessarily address this question very well either because they reflect each individual high school's notions of what constitutes college readiness. Even the best, brightest and most diligent high school students who easily meet admission requirements may find themselves struggling in entry-level courses. They may be eligible for admission and still not be prepared to succeed.

Knowledge and Skills for University Success, developed by Standards for Success (S4S), is the result of a two-year study in which more than 400 faculty and staff members from twenty research universities, all members of the Association of American Universities (AAU), participated in extensive meetings and reviews designed to identify what students must do to succeed in entry-level courses at their institutions. National academic content standards documents were analyzed and used for comparison. Multiple peer reviews were employed to hone the standards and ensure their validity, while consultants with expertise in standards development contributed suggestions for improvement. The resulting statements represent the most comprehensive and thoroughly grounded set of standards for college success yet developed.

The standards presented here are designed to create a new way to view college

preparation. The standards, in combination with the accompanying CD-ROM and the S4S website, provide a road map of the content knowledge and habits of mind that are valued by leading research universities in the United States.

The faculty and staff members who participated in the process of developing these standards represent a wide range of academic viewpoints. One of the most dominant themes raised by participants is the importance of the habits of mind students develop in high school and bring with them to university studies. These habits are considered by many faculty members to be more important than specific content knowledge. The habits of mind include critical thinking, analytic thinking and problem solving; an inquisitive nature and interest in taking advantage of what a research university has to offer; the willingness to accept critical feedback and to adjust based on such feedback; openness to possible failures from time to time; and the ability and desire to cope with frustrating and ambiguous learning tasks. Other critical skills include the ability to express one's self in writing and orally in a clear and convincing fashion; to discern the relative importance and credibility of various sources of information; to draw inferences and reach conclusions independently; and to use technology as a tool to assist the learning process rather than as a crutch.

The specific content knowledge identified in this document should be considered in relation to these overarching attributes and skills. Understanding and mastery of the content knowledge specified here is achieved

through the exercise of broader cognitive skills. It is not enough simply to know something; the learner must possess the ability to do something with that knowledge, whether it is to solve a problem, reach a conclusion or present a point of view. This plexus of content knowledge and cognitive skills is what an education at an American research university (and many other institutions of higher education) seeks to develop.

"Success" as defined by these standards means the ability to do well enough in college entry-level core academic courses to meet general education requirements and to continue on to major in a particular area. These two levels of success are denoted here by identifying separate standards: those intended for all students versus those intended for students wishing to major in the particular area of study.

Success in a university is different from success in high school in another important way. Universities facilitate greater specialization than high schools. Therefore, some students may find that they are able to succeed in college even though their mastery in some areas of Knowledge and Skills for University Success is less well developed than in others. Students do not need to master all standards contained in this document at the same level. However, the more of the standards that a student has mastered, the more options the student will have and the more successful the student is likely to be during the all-important initial year of college.

This document comprises six sections, each representing an academic content area. English, mathematics and second languages capture a relatively clear and distinct set of attributes associated with each respective discipline. Natural sciences and social sciences reflect the complexity of these areas, each of which encompasses a series of distinct academic disciplines. The standards in these two content areas are grouped into

the skills that cut across the disciplines within the area along with accompanying listings of the key knowledge attributes for a number of disciplines within the area.

The arts section adopts a unique approach, due to the fact that arts classes do not fit as easily into the model of entry-level classes. Arts courses may be experienced for the first time by students at any point in their academic careers, making it more difficult to identify courses associated with first-year students. Additionally, the arts are uniquely complex

in a number of other ways. First, the arts can be divided initially into the performing arts, where one performs or creates an artistic product; and arts appreciation, where one learns to enjoy or understand the arts. Second, areas within the arts require distinctly different technical skills. Music, art, dance and theatre have more distinct skill sets and knowledge than do biology and chemistry, or geography and history. Therefore, the arts standards are organized by area based on abilities derived from national arts standards documents and the expressed values of arts faculty.

The knowledge and skills standards enumerated in this document are general statements of expectations. The level of challenge required to meet any particular standard may be somewhat unclear without further definition. The necessary skill level could be interpreted anywhere from an entering student to a college graduate. To help clarify the level of expectation, a companion document includes examples of the work students produce when they meet the standard. The university work sample document is available by order (see page 6



David T. Conley, Ph.D.,
Director, Standards for Success



for details). The accompanying CD-ROM also contains a complete set of work samples spanning the standards. These illustrations help ground the standards' expectation level.

American research universities are complex, diverse environments. Not every faculty member will necessarily agree with every one of the Knowledge and Skills for University Success standards. In fact, spirited debate typifies American higher education. Therefore, the standards enumerated here should be considered a starting point for a continuing dialog about what is expected of entering students. This dialog will help shift the focus of discussion from course titles

and grades to knowledge and skills. While perfect agreement may never be achieved, the process of seeking agreement will help clarify for students and teachers alike, at both the high school and postsecondary levels, what is expected and needed for success in college. To the degree that these materials further such a process, they will have achieved their goal.

As more and more states adopt academic content standards and accompanying assessment systems, the requirements for postsecondary success become increasingly important to understand. State high school standards and tests should have some relationship to university success, given that close to two-thirds of American high school graduates go on directly to some form of postsecondary education. Most importantly, the skills students develop to do well on state assessments should bear some relationship to the knowledge and skills for university success. The standards contained in this document are designed to help create a better connection between high school and university expectations.

Whether you are a student, parent, teacher or faculty member, I invite you to explore these materials in order to gain greater insight into what is required for university success. The accompanying CD-ROM contains specific recommendations and activities different audiences can pursue to put these standards into practice. I encourage you to make use of these materials in order to help improve the preparation and success of students as they move from high school to college.

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English Standards

*= Items with an asterisk are those expected of students who plan to major in these fields of study (English, comparative literature, writing).

I. Reading & Comprehension

A. Successful students employ reading skills and strategies to understand literature. They:

- engage in an analytic process to enhance comprehension and create personal meaning when reading text. This includes the ability to annotate, question, agree or disagree, summarize, critique and formulate a personal response.
- A.2. make supported inferences and draw conclusions based on textual features, seeking such evidence in text, format, language use, expository structures and arguments used.
- A.3. use reading skills and strategies to understand a variety of types of literature, such as epic pieces (for instance, the *Iliad*) and lyric poems, as well as narrative novels and philosophical pieces.
- A.4. understand plot and character development in literature, including character motive, causes for actions and the credibility of events.

identify basic beliefs, perspectives and philosophical assumptions underlying an author's work. This includes identifying points of view, attitudes and the values conveyed by specific use of language.

exercise a variety of strategies to understand the origins and meanings of new words, including analysis of word roots and the determination of word derivations.

- A.7.* recognize and comprehend narrative terminology and techniques, such as author versus narrator, stated versus implied author and historical versus present-day reader.

B. Successful students use reading skills and strategies to understand informational texts. They:

- B.1. understand instructions for software, job descriptions, college applications, historical documents, government publications, newspapers and textbooks.
- B.2. use monitoring and self-correction, as well as reading aloud, as means to ensure comprehension.
- B.3. understand vocabulary and content, including subject-area terminology; connotative and denotative meanings; and idiomatic meanings.
- B.4. exercise a variety of strategies to understand the origins and meanings of new words, including recognition of cognates and contextual clues.

C. Successful students are able to understand the defining characteristics of texts and to recognize a variety of literary forms and genres. They:

- C.1. comprehend the salient characteristics of major types and genres of texts, such as novels, short stories, horror stories, science fiction, biographies, autobiographies, poems and plays.
- C.2. understand the formal constraints of different types of texts and can distinguish between, for example, a Shakespearean sonnet and a poem written in free verse.
- C.3. are able to discuss with understanding the effects of an

author's style and use of literary devices to influence the reader and evoke emotions. This includes devices such as imagery, characterization, choice of narrator, use of sound, formal and informal language, allusions, symbols, irony, voice, flashbacks, foreshadowing, time and sequence and mood.

C.4. are able to identify archetypes, such as universal destruction, journeys and tests and banishment, which appear across a variety of types of literature, including American literature, world literature, myths, propaganda and religious texts.

C.5. are able to discuss with understanding themes such as initiation, love and duty, heroism and death and rebirth that appear across a variety of literary works and genres.

use aesthetic qualities of style, such as diction or mood, as a basis to evaluate literature that contains ambiguities, subtleties or contradictions.

D. Successful students are familiar with a range of world literature. They:

D.1. demonstrate familiarity with major literary periods of English and American literature and their characteristic forms, subjects and authors.

D.2. demonstrate familiarity with authors from literary traditions beyond the English-speaking world.

D.3. demonstrate familiarity with major works of literature produced by American and British authors.

E. Successful students are able to discuss with understanding the relationships between literature and its historical and social contexts. They:

E.1. know major historical events that may be encountered in literature.

E.2. demonstrate familiarity with the concept that historical, social and economic contexts influence form, style and point of view; and that social influences affect an author's descriptions of character, plot and setting.

E.3. demonstrate familiarity with the concept of the relativity of all historical perspectives, including their own.

E.4. are able to discuss with understanding the relationships between literature and politics, including the political assumptions underlying an author's work and the impact of literature on political movements and events.





F. Successful students are able to read and interpret visual images, including charts and graphs. They:

- F.1. identify the primary elements of the types of charts, graphs and visual media that occur most commonly in texts.
- F.2. interpret accurately the content of charts, graphs and visual media that occur in texts.

II. Writing

A. Successful students apply basic grammar conventions in an effort to write clearly. They:

- A.1. identify and use correctly and consistently parts of speech, including nouns, pronouns, verbs, adverbs, conjunctions, prepositions, adjectives and interjections.
- A.2. use subject-verb agreement and verb tense consistently and correctly.

A.3. demonstrate consistent, correct and appropriate pronoun agreement and the use of different types of clauses and phrases, including adverb clauses, adjective clauses and adverb phrases.

B. Successful students know conventions of punctuation and capitalization. They:

- B.1. use commas with nonrestrictive clauses and contrasting expressions.
- B.2. use ellipses, colons, hyphens, semi-colons, apostrophes and quotation marks correctly.
- B.3. capitalize sentences and proper nouns correctly.
- B.4. consistently avoid run-on sentences and sentence fragments.

C. Successful students know conventions of spelling. They:

- C.1. use a dictionary and other resources to spell new, unfamiliar or difficult words.
- C.2. differentiate between commonly confused terms, such as "its" and "it's" or "affect" and "effect."
- C.3. know how to use the spell-checker and grammar check function in word processing software while understanding the limitations of relying upon these tools.

D. Successful students use writing conventions to write clearly and coherently. They:

- D.1. know and use several pre-writing strategies, including developing a focus; determining the purpose; planning a sequence of ideas; using structured overviews; and creating outlines.
- D.2. use paragraph structure in writing as manifested by the ability to construct coherent paragraphs and arrange paragraphs in logical order.
- D.3. use a variety of sentence structures appropriately in writing, including compound, complex, compound-complex, parallel, repetitive and analogous sentence structures.
- D.4. present ideas to achieve overall coherence and logical flow in writing and use appropriate techniques such as transitions and repetition to maximize cohesion.
- D.5. use words correctly; use words that mean what the writer intends to say; and use a varied vocabulary.
- D.6.* demonstrate development of a controlled yet unique style and voice in writing where appropriate.

- D.7.* use a style manual, such as the Modern Language Association (MLA) or the American Psychological Association (APA) to apply writing conventions and to create documentation formats in a manner consistent with the manual.

E. Successful students use writing to communicate ideas, concepts, emotions and descriptions to the reader. They:

- E.1. know the difference between a topic and a thesis.
- E.2. articulate a position through a thesis statement and advance it using evidence, examples and counterarguments that are relevant to the audience or issue at hand.
- E.3. use a variety of methods to develop arguments, including compare-contrast reasoning; logical arguments (inductive-deductive); and alternation between general and specific (e.g., connections between public knowledge and personal observation and experience).
- E.4. write to persuade the reader by anticipating and addressing counterarguments, by using rhetorical devices and by developing an accurate and expressive style of communication that moves beyond mechanics to add flair and elegance to writing.
- E.5. use a variety of strategies to adapt writing for different audiences and purposes, such as including appropriate content and using appropriate language, style, tone and structure.
- E.6. distinguish between formal and informal styles, for example, between academic essays and personal memos.

- E.7. use appropriate strategies and formats to write personal and business correspondence, including appropriate organizational patterns, formal language and tone.
 - E.8.* use appropriate strategies to write expository essays that employ supporting evidence; use information from primary and secondary sources; incorporate charts, graphs, tables and illustrations where appropriate; anticipate and address readers' biases and expectations; and explain technical terms and notations.
 - E.9.* use strategies to write fictional, autobiographical, and biographical narratives that include a well-developed point of view and literary elements; present events in logical sequence; convey a unifying theme or tone; use concrete and sensory language; and pace action.
- F. Successful students both use and prioritize a variety of strategies to revise and edit written work to achieve maximum improvement in the time available. They:
- F.1. employ basic editing skills proficiently to identify obvious mechanical errors, clarify and improve the structure of the piece and sharpen language and meaning.
 - F.2. review ideas and structure in substantive ways to improve depth of information and logic of organization.
 - F.3. reassess appropriateness of writing in light of genre, purpose and audience.
 - F.4. use feedback from others to revise written work.

III. Research Skills

- A. Successful students understand and use research methodologies. They:
- A.1. formulate research questions, refine topics, develop a plan for research and organize what is known about the topic.
 - A.2. use research to support and develop their own opinions, as opposed to simply restating existing information or opinions.
 - A.3. identify claims in their writing that require outside support or verification.
 - A.4.* identify through research the major concerns and debates in a given community or field of inquiry and address these in their writing.
- B. Successful students know how to find a variety of sources and use them properly. They:
- B.1. collect information to develop a topic and support a thesis.
 - B.2. understand the difference between primary and secondary sources.
 - B.3. use a variety of print or electronic primary and secondary sources including books, magazines, newspapers, journals, periodicals and the Internet.
 - B.4. understand the concept of plagiarism and how (or why) to avoid it and understand rules for paraphrasing, summarizing and quoting, as well as conventions for incorporating information from Internet-based sources in particular.
 - B.5. evaluate sources of information located on the Internet in particular to ascertain their credibility, origin, potential bias, and overall quality.
 - B.6. select relevant sources when writing research papers and appropriately include



information from such sources; logically introduce and incorporate quotations; synthesize information in a logical sequence; identify different perspectives; identify complexities and discrepancies in information; and offer support for conclusions.

- B.7.* evaluate sources critically, discerning the quality of the materials and qualifying the strength of the evidence and arguments, as well as determining credibility, identifying bias and perspective of the author and using prior knowledge of the source.

IV. Critical Thinking Skills

A. Successful students demonstrate connective intelligence. They:

- A.1. are able to discuss with understanding how personal experiences and values affect reading comprehension and interpretation.

- A.2.* demonstrate an ability to make connections between the component parts of a text and the larger theoretical structures, including presupposition, audience, purpose, writer's credibility or ethos, types of evidence or material being used and style.

B. Successful students demonstrate the ability to think independently. They:

- B.1. are comfortable formulating and expressing their own ideas.
- B.2. support their arguments with logic and evidence relevant to their audience and that explicates their position as fully as possible.
- B.3. understand fully the scope of their arguments and the claims underlying them.
- B.4. reflect on and assess the strengths and weaknesses of their ideas and the expression of those ideas.

Often, college-level mathematics courses require that students work in groups. While it is important to be able to work effectively with peers, students must also develop the skills necessary to approach mathematical problems on their own; independent of classes, group projects and work environments. Doing so will help students get the most from group activities. Both situations are valuable—as are the skills to work within them.

Students often experience anxiety when confronted with a mathematical problem, even when encountering mathematical terminology. Persistence is invaluable in the quest for correct answers to a problem, and it is vital to tolerate ambiguity on the road to solution. Interestingly enough, some faculty expressed a concern about students being too confident in their perceived knowledge and skills. Students are sometimes naively confident, preventing themselves from engaging in the mathematical process, finding other solutions and estimating or questioning the viability of their results.

Mathematical problems rarely have instant or quick solutions and often require long periods of time before a solution can be found. Sustained inquiry—engaging in the process for more than a short time—is an important part of the process when solving a problem or writing an exam. Successful students understand that math is an academic activity that requires time, sustained engagement, patience and persistence.

When students practice multiplying and adding by hand for a long time, they get a feel for what numbers are. Now, by overusing the calculator, simple operations are gone. Mental calculations help develop a feel for math. Going to the calculator too soon is a problem.

Faculty Viewpoint

Mathematics Standards

*- Items with an asterisk are those expected of students who plan to major in these fields of study (mathematics, computer science, statistics).

I. Computation

A. Successful students know basic mathematical operations. They:

- A.1. apply arithmetic operations with fractions and integers (e.g., add and subtract by finding a common denominator, multiply and divide, reduce and perform long division without a calculator).
- A.2. use exponents and scientific notation.
- A.3. use radicals correctly.
- A.4. understand relative magnitude.
- A.5. calculate using absolute value.
- A.6. use the correct order of arithmetic operations, particularly demonstrating facility with the Distributive Law.





A.7.* know terminology for complex numbers, integers, rational numbers, irrational numbers and complex numbers.

B. Successful students know and carefully record symbolic manipulations. They:

B.1. understand the uses of mathematical symbols as well as the limitations on their appropriate uses (e.g., equal signs, parentheses, superscripts and subscripts).

C. Successful students know and demonstrate fluency with mathematical notation and computation. They:

C.1. correctly perform addition, subtraction, multiplication and division that includes variables.

C.2. perform appropriate basic operations on sets (e.g., union, intersection, elements of, subsets and complement).

C.3. use alternative symbolic expressions, particularly alternatives to x (e.g., letters of the Greek alphabet that do not already have specific scientific or mathematical meanings).

II. Algebra

A. Successful students know and apply basic algebraic concepts. They:

A.1. use the distributive property to multiply polynomials.

A.2. know how to compose and decompose functions and how to find inverses of basic functions.

A.3. simplify and perform basic operations on rational expressions, including finding common denominators (e.g., add, subtract, multiply and divide).

A.4. understand exponents, roots and their properties [e.g., $(x^2)(x^3)=x^5$ and $(\sqrt{x})^3 = x^{3/2}$].

- A.5. know basic theorems of exponents and roots.
- A.6.* understand logarithms (to bases 2, 10 and e) and their properties.
divide low degree polynomials (e.g., long division).
know basic theorems of logarithms.
factor polynomials (e.g., difference of squares, perfect square trinomials, difference of two cubes and trinomials such as $x^2 + 3x + 2$).
- B. Successful students use various appropriate techniques to solve basic equations and inequalities. They:
- B.1. solve linear equations and absolute value equations.
- B.2. solve linear inequalities and absolute value inequalities.
- B.3. solve systems of linear equations and inequalities using algebraic and graphical methods (e.g., substitution, elimination, addition and graphing).
- B.4. solve quadratic equations using various appropriate methods while recognizing real solutions. This includes:
- B.4a. factoring.
- B.4b. completing the square.
- B.4c. the quadratic formula.
- C. Successful students distinguish between and among expressions, formulas, equations and functions. They:
- C.1. know when it is possible to simplify, solve, substitute or evaluate equations and expressions and when it is not possible. For example, expand, but do not solve, the expression $(x+3)(x+1)$; substitute $a = 3$, $b = 4$ into the formula $a^2 + b^2 = c^2$;
solve the equation $0 = (x+3)(x+1)$; or evaluate the function $f(x) = (x+3)(x+1)$ at $x = -1$.
- C.2. understand that the concept of a function has a specific definition beyond being a type of algebraic expression.
- C.3. represent functions, patterns and relationships in different ways (e.g., statements, formulas and graphs).
- C.4. understand the algebraic language and notation for functions (e.g., domain and range).
- C.5. understand a variety of functions (e.g., polynomial, rational, exponential, logarithmic and trigonometric) and properties of each.
- D. Successful students understand the relationship between equations and graphs. They:
- D.1. understand basic forms of the equation of a straight line and how to graph the line without the aid of a calculator.
- D.2. understand the basic shape of a quadratic function and the relationships between the roots of the quadratic and zeroes of the function.
- D.3. know the basic shape of the graph of exponential and log functions, including exponential decay.
- E. Successful students understand algebra well enough to apply it procedurally and conceptually to a range of common problems. They:
- E.1. recognize which type of expression best fits the context of a basic application (e.g., linear equation to solve distance/time problems; quadratic equation to explain the motion of a falling object; or compound interest as an exponential function).

F. Successful students demonstrate the ability to work with formulas and symbols algebraically. They:

- F.1.* know formal notation (e.g., sigma notation and factorial notation).
- F.2.* know arithmetic and geometric progressions and series.

III. Trigonometry

A. Successful students know and understand basic trigonometric principles. They:

- A.1. know the definitions of sine, cosine and tangent using right triangle geometry and similarity relations.
- A.2. understand the relationship between a trigonometric function in standard form and its corresponding graph (e.g., domain, range, amplitude, period, phase shift and vertical shift).
- A.3. understand periodicity and recognize graphs of periodic functions, especially the trigonometric functions.

A.4.* know and use identities for sum and difference of angles [e.g., $\sin(x \pm y)$, $\cos(x \pm y)$] and use double and half angle formulas.

IV. Geometry

A. Successful students understand and use both basic plane and solid geometry. They:

- A.1. know properties of similarity, congruence and parallel lines cut by a transversal.
- A.2. know how to figure area and perimeter of basic figures.
- A.3. understand the ideas behind simple geometric proofs and are able to develop and write simple geometric proofs (e.g., the Pythagorean theorem; that there are 180 degrees in a triangle; and that the area of a triangle is half the base times the height).
- A.4. solve problems involving proofs through the use of geometric constructions.
- A.5. use similar triangles to find unknown angle measurements and lengths of sides.



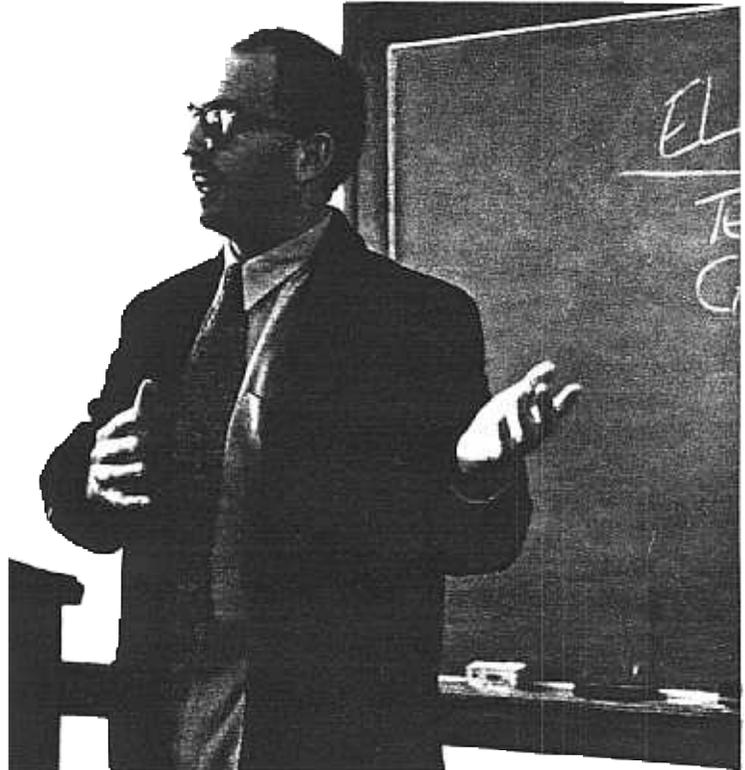
- A.6. visualize solids and surfaces in three-dimensional space (e.g., recognize the shape of a box based on a two-dimensional representation of its surfaces; and recognize the shape of a cone based on a two-dimensional representation of its surface).
- A.7. know basic formulas for volume and surface area for three-dimensional objects.

B. Successful students know analytic (i.e., coordinate) geometry. They:

- B.1. know geometric properties of lines (e.g., slope and midpoint of a line segment).
- B.2. know the formula for the distance between two points.
- B.3. solve mathematical and real-world problems (e.g., ladders, shadows and poles) that involve the properties of special right triangles with the Pythagorean theorem and its converse.
- B.4.* recognize geometric translations and transformations algebraically.

Successful students understand basic relationships between geometry and algebra. They:

- C.1. know that geometric objects and figures can also be described algebraically (e.g., $ax + by = c$ is the standard form of a line).
- C.2. know the algebra and geometry of circles.
- C.3.* know the algebra and geometry of parabolas and ellipses as a prerequisite to the study of calculus.
- C.4.* use trigonometry for examples of the algebraic/geometric relationship, including Law of Sines/Cosines.



V. Mathematical Reasoning

A. Successful students know important definitions, why definitions are necessary and are able to use mathematical reasoning to solve problems. They:

- A.1. use inductive reasoning in basic arguments.
- A.2. use deductive reasoning in basic arguments.
- A.3. use geometric and visual reasoning.
- A.4. use multiple representations (e.g., analytic, numerical and geometric) to solve problems.
- A.5. learn to solve multi-step problems.
- A.6. use a variety of strategies to revise solution processes.
- A.7. understand the uses of both proof and counterexample in problem solutions and are able to conduct simple proofs.

- A.8. are familiar with the process of abstracting mathematical models from word problems, geometric problems and applications and are able to interpret solutions in the context of these source problems.
- B. Successful students are able to work with mathematical notation to solve problems and to communicate solutions. They:
 - B.1. translate simple statements into equations (e.g., "Bill is twice as old as John" is expressed by the equation $b=2j$).
understand the role of written symbols in representing mathematical ideas and the precise use of special symbols of mathematics.
- C. Successful students know a select list of mathematical facts and know how to build upon those facts (e.g., Pythagorean theorem; formulas for perimeter, area, volume; and quadratic formula).
- D. Successful students know how to estimate. They:
 - D.1. are able to convert between decimal approximations and fractions.
 - D.2. know when to use an estimation or approximation in place of an exact answer.
 - D.3. recognize the accuracy of an estimation.
 - D.4. know how to make and use estimations.
- E. Successful students understand the appropriate use as well as the limitation of calculators. They:
 - E.1. recognize when the results produced are unreasonable or represent misinformation.
 - E.2.* use calculators for systematic trial-and-error problem solving.
 - E.3.* plot useful graphs.
- F. Successful students are able to generalize and to go from specific to abstract and back again. They:
 - F. determine the mathematical concept from the context of an external problem, solve the problem and interpret the mathematical solution in the context of the problem.
 - F.2. know how to use specific instances of general facts, as well as how to look for general results that extend particular results.
- G. Successful students demonstrate active participation in the process of learning mathematics. They:
 - G.1. are willing to experiment with problems that have multiple solution methods.
 - G.2. demonstrate an understanding of the mathematical ideas behind the steps of a solution, as well as the solution.
 - G.3. show an understanding of how to modify patterns to obtain different results.
 - G.4. show an understanding of how to modify solution strategies to obtain different results.
 - G.5. recognize when a proposed solution does not work, analyze why and use the analysis to seek a valid solution.
- H. Successful students recognize the broad range of applications of mathematical reasoning. They:
 - H.1. know that mathematical applications are used in other fields (e.g. carbon dating, exponential growth, amortization tables, predator/prey models, periodic motion and the interactions of waves).



H.2 know that mathematics has played (and continues to play) an important role in the evolution of disciplines as diverse as science, engineering, music and philosophy.

VI. Statistics**

A. Successful students apply concepts of statistics and data analysis in the social sciences and natural sciences. They:

- A.1 represent data in a variety of ways (e.g., scatter plot, line graph and two-way table) and select the most appropriate.
- A.2 understand and use statistical summaries data (e.g., standard deviation, range and mode).

A.3.* understand curve-fitting techniques (e.g., median-fit line and regression line) for various applications (e.g., making predictions).

** The majority of math participants indicated that knowledge of statistics is not necessarily a prerequisite for success in most entry-level university mathematics courses. However, participants in other disciplines identified knowledge of statistics as important to success in some entry-level courses in the social sciences (e.g., economics) and sciences (e.g., biology and ecology). Statistics is being included within mathematics for organizational convenience, but should not be interpreted as equivalent to the other five areas of mathematical knowledge and skill for university success in terms of its importance in entry-level college mathematics courses. Statistics standards also appear in the natural sciences and social sciences.

Secretary's Commission on Achieving Necessary Skills (SCANS): Final Report Available

What Work Requires of Schools is the title of the initial SCANS report. This 61 page report defines the five competencies and three-part foundation that constitute the SCANS skills. Single copies are available for \$31.50, plus \$4 for handling from: National Technical Information Service (NTIS), Technology Administration, U.S. Department of Commerce, Springfield, VA 22161, 1-800-553-6847. NTIS Order Number: PB92-146711INZ. This product may also be ordered by fax at (703) 321-8547, or by e-mail at orders@ntis.fedworld.gov

The SCANS Skills and Competencies: an Overview

The Secretary's Commission on Achieving Necessary Skills (SCANS) was appointed by the Secretary of Labor to determine the skills our young people need to succeed in the world of work. The Commission's fundamental purpose is to encourage a high-performance economy characterized by high-skill, high-wage employment.

The primary objective is to help teachers understand how curriculum and instruction must change to enable students to develop those high performance skills needed to succeed in the high performance workplace.

SCANS has focused on one important aspect of schooling: what they called "learning a living" system. In 1991, they issued their initial report, *What Work Requires of Schools*. As outlined in that report, a high-performance workplace requires workers who have a solid foundation in the basic literacy and computational skills, in the thinking skills necessary to put knowledge to work, and in the personal qualities that make workers dedicated and trustworthy.

High-performance workplaces also require other competencies: the ability to manage resources, to work amicably and productively with others, to acquire and use information, to master complex systems, and to work with a variety of technologies.

This document outlines both these "fundamental skills" and "workplace competencies"

A Three-Part Foundation

Basic Skills:

Reads, writes, performs arithmetic and mathematical operations, listens and speaks

- A. Reading--locates, understands, and interprets written information in prose and in documents such as manuals, graphs, and schedules
- B. Writing--communicates thoughts, ideas, information, and messages in writing; and creates documents such as letters, directions, manuals, reports, graphs, and flow charts
- C. Arithmetic/Mathematics--performs basic computations and approaches practical problems by choosing appropriately from a variety of mathematical techniques
- D. Listening--receives, attends to, interprets, and responds to verbal messages and other cues
- E. Speaking--organizes ideas and communicates orally

Thinking Skills:

Thinks creatively, makes decisions, solves problems, visualizes, knows how to learn, and reasons

- A. Creative Thinking--generates new ideas
- B. Decision Making--specifies goals and constraints, generates alternatives, considers risks, and evaluates and chooses best alternative
- C. Problem Solving--recognizes problems and devises and implements plan of action
- D. Seeing Things in the Mind's Eye--organizes, and processes symbols, pictures, graphs, objects, and other information
- E. Knowing How to Learn--uses efficient learning techniques to acquire and apply new knowledge and skills
- F. Reasoning--discovers a rule or principle underlying the relationship between two or objects and applies it when solving a problem

Personal Qualities:

Displays responsibility, self-esteem, sociability, self-management, and integrity and honesty

- A. Responsibility--exerts a high level of effort and perseveres towards goal attainment
- B. Self-Esteem--believes in own self-worth and maintains a positive view of self
- C. Sociability--demonstrates understanding, friendliness, adaptability, empathy, and
- D. Self-Management--assesses self accurately, sets personal goals, monitors progress, and exhibits self-control
- E. Integrity/Honesty--chooses ethical courses of action

Five Workplace Competencies

Resources:

Identifies, organizes, plans, and allocates resources

- A. *Time*--Selects goal-relevant activities, ranks them, allocates time, and prepares and follows schedules
- B. *Money*--Uses or prepares budgets, makes forecasts, keeps records, and makes adjustments to meet objectives
- C. *Material and Facilities*--Acquires, stores, allocates, and uses materials or space efficiently
- D. *Human Resources*--Assesses skills and distributes work accordingly, evaluates performance and provides feedback

Interpersonal:

Works with others

- A. *Participates as Member of a Team*--contributes to group effort
- B. *Teaches Others New Skills*
- C. *Serves Clients/Customers*--works to satisfy customers' expectations
- D. *Exercises Leadership*--communicates ideas to justify position, persuades and convinces others, responsibly challenges existing procedures and policies

- E. *Negotiates*--works toward agreements involving exchange of resources, resolves divergent interests
- F. *Works with Diversity*--works well with men and women from diverse backgrounds

Information:

Acquires and uses information

- A. *Acquires and Evaluates Information*
- B. *Organizes and Maintains Information*
- C. *Interprets and Communicates Information*
- D. *Uses Computers to Process Information*

Systems:

Understands complex inter-relationships

- A. *Understands Systems*--knows how social, organizational, and technological systems work and operates effectively with them
- B. *Monitors and Corrects Performance*--distinguishes trends, predicts impacts on systems operations, diagnoses deviations in systems' performance and corrects malfunctions
- C. *Improves or Designs Systems*--suggests modifications to existing systems and develops new or alternative systems to improve performance

Technology:

Works with a variety of technologies

- A. *Selects Technology*--chooses procedures, tools or equipment including computers and related technologies
- B. *Applies Technology to Task*--Understands overall intent and proper procedures for setup and operation of equipment
- C. *Maintains and Troubleshoots Equipment*--Prevents, identifies, or solves problems with equipment, including computers and other technologies

Glossary of Terms

Basic Skills

Reading:

Locates, understands, and interprets written information in prose and documents--including manuals, graphs, and schedules--to perform tasks; learns from text by determining the main idea or essential message; identifies relevant details, facts, and specifications; infers or locates the meaning of unknown or technical vocabulary; and judges the accuracy, appropriateness, style, and plausibility of reports, proposals, or theories of other writers.

Writing:

Communicates thoughts, ideas, information, and messages in writing; records information

completely and accurately; composes and creates documents such as letters, directions, manuals, reports, proposals, graphs, flow charts; uses language, style, organization, and format appropriate to the subject matter, purpose, and audience. Includes supporting documentation and attends to level of detail; checks, edits, and revises for correct information, appropriate emphasis, form, grammar, spelling, and punctuation.

Arithmetic/Mathematics:

Arithmetic --Performs basic computations; uses basic numerical concepts such as whole numbers and percentages in practical situations; makes reasonable estimates of arithmetic results without a calculator; and uses tables, graphs, diagrams, and charts to obtain or convey quantitative information.

Mathematics--Approaches practical problems by choosing appropriately from a variety of mathematical techniques; uses quantitative data to construct logical explanations for real world situations; expresses mathematical ideas and concepts orally and in writing; and understands the role of chance in the occurrence and prediction of events.

Listening:

Receives, attends to, interprets, and responds to verbal messages and other cues such as body language in ways that are appropriate to the purpose; for example, to comprehend; to learn; to critically evaluate; to appreciate; or to support the speaker.

Speaking:

Organizes ideas and communicates oral messages appropriate to listeners and situations; participates in conversation, discussion, and group presentations; selects an appropriate medium for conveying a message; uses verbal languages and other cues such as body language appropriate in style, tone, and level of complexity to the audience and the occasion; speaks clearly and communicates message; understands and responds to listener feed back; and asks questions when needed.

Thinking Skills

Creative Thinking:

Uses imagination freely, combines ideas or information in new ways, makes connections between seemingly unrelated ideas, and reshapes goals in ways that reveal new possibilities.

Decision Making:

Specifies goals and constraints, generates alternatives, considers risks, and evaluates and chooses best alternatives.

Problem Solving

Recognizes that a problem exists (i.e., there is a discrepancy between what is and what should or could be), identifies possible reasons for the discrepancy, and devises and implements a plan of action to resolve it. Evaluates and monitors progress, and revises plan as indicated by findings.

Seeing Things in the Mind's Eye:

Organizes and processes symbols, pictures, graphs, objects or other information; for example, see a building from blue print, a system's operation from schematics, the flow of work activities from narrative descriptions, or the taste of food from reading a recipe.

Knowing How to Learn:

Recognizes and can use learning techniques to apply and adapt new knowledge and skills in both familiar and changing situations. Involves being aware of learning tools such as personal learning styles (visual, aural, etc.), formal learning strategies (note taking or clustering items that share some characteristics), and informal learning strategies (awareness of unidentified false assumptions that may lead to faulty conclusions).

Reasoning

Discovers a rule or principle underlying the relationship between two or more objects and applies it in solving a problem. For example, uses logic to draw conclusions from available information, extracts rules or principles from a set of objects or written text; applies rules and principles to a new situation, or determines which conclusions are correct when given a set of facts and a set of conclusions.

Personal Qualities**Responsibility**

Exerts a high level of effort and perseverance towards goal attainment. Works hard to become excellent at doing tasks by setting high standards, paying attention to details, working well, and displaying a high level concentration even when assigned an unpleasant task. Displays high standards of attendance, punctuality, enthusiasm, vitality, and optimism in approaching and completing tasks.

Self-Esteem:

Believes in own self-worth and maintains a positive view of self; demonstrates knowledge of own skills and abilities; is aware of impact on others; and knows own emotional capacity and needs and how to address them.

Sociability

Demonstrates understanding, friendliness, adaptability, empathy, and politeness in new and on-going group settings. Asserts self in familiar and unfamiliar social situations; relates well to others; responds appropriately as the situation requires; and takes an interest in what others say and do.

Self-Management:

Assesses own knowledge, skills, and abilities accurately; sets well-defined and realistic personal goals; monitors progress toward goal attainment and motivates self through goal achievement; exhibits self-control and responds to feedback unemotionally and nondefensively; is a "self-starter."

Integrity/Honesty.

Can be trusted. Recognizes when faced with making a decision or exhibiting behavior that may break with commonly-held personal or societal values; understands the impact of violating these beliefs and codes on an organizations, self, and others; and chooses an ethical course of action.

Taken from: **What Work Requires of Schools: A SCANS Report for America 2000**. The Secretary's Commission on Achieving Necessary Skills, a publication of the US Department of Labor, June 1991.



Northville Public Schools
501 West Main St. :: Northville, Michigan 48167 :: Phone: (248) 349-3400 :: Fax: (248) 347-3400

- Home
- District
- Schools
- Instruction
- Board of Education
- Parents
- Employment
- Calendars



Home > Schools > High > Northville > Graduate Profile/Adult Roles

Graduate Profile/Adult Roles

A Northville Public Schools graduate, as envisioned in the graduate profile/adult roles adopted by the Northville Board of Education in 1994, has demonstrated a mastery of core knowledge and skills to become:

- An **Analytical Thinker** who is a resourceful individual and uses core knowledge to process and manage information to solve problems.
- An **Effective Communicator** who comprehends and expresses ideas clearly through various means of communication.
- A **Quality Contributor** who continually seeks to achieve quality results through individual accountability, leadership and/or teamwork using multiple methods, technologies and resources.
- A **Continuous Learner** who improves self through life-long learning with a sense of confidence to adapt to change, set and achieve goals.
- A **World Class Citizen** who is responsible to self, others and the environment as a contributing member of a democratic society in a diverse world.

High School Table of Contents

- » Welcome
- » Demographics
- » Graduate Roles
- » PTA Officers
- » School Improvement Goals
- » School Improvement (MEAP data)
- » MEAP Feedback



- » Northville Website



Home | District | Schools | Instruction | Board of Education | Parents | Employment | Calendars
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Profile of the Berkeley Graduate



- Quality Producer
- Skillful Communicator
- Self-Directed Learner
- Responsible & Contributing Member of the Community
- Effective Life Manager

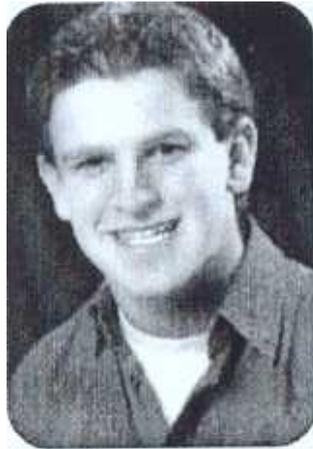
Quality Producer - A person who has the skills to meet the needs of the work environment and attitudes to function productively.



The fifth grader will

The eighth grader will

The graduate will



Quality Producer

Characteristics
and
Outcomes



<p>1. Demonstrate knowledge, skills and attitudes of the elementary language arts, mathematics, science and social studies core curriculum.</p>	<p>1. Demonstrate knowledge, skills and attitudes of the middle school core curriculum in language arts, mathematics, science and social studies.</p>	<p>1. Master academic skills.</p>
<p>2. Explore career choices and understand the value of work.</p>	<p>2. Recognize talents and interests which may influence career choice.</p> <p>Understand the personal and economic value of work.</p>	<p>2. Recognize and appreciate work as an economic necessity as well as a means of personal growth and satisfaction.</p>
<p>3. Identify roles and participate in directed cooperative groups.</p>	<p>3. Exhibit cooperative behaviors to achieve a goal in a directed setting.</p>	<p>3. Exhibit cooperative behaviors in a team.</p>
<p>4. Use guidelines to assess and reflect upon one's own work.</p>	<p>4. Value quality of work and develop standards.</p>	<p>4. Define and assess quality of work.</p>
<p>5. Understand benefits of various technologies.</p>	<p>5. Select and use effectively technology for a given task.</p>	<p>5. Be technologically literate and use available technology effectively.</p>

Skillful Communicator - A person with developed forms of self-expression who speaks, writes, creates images, and listens in order to communicate effectively with individuals and groups.



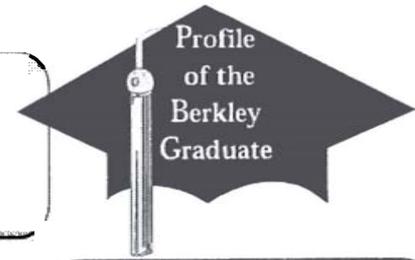
Skillful Communicator

Characteristics
and
Outcomes



The fifth grader will	The eighth grader will	The graduate will
1. Select, use, and combine effective ways to communicate.	1. Use and evaluate communication techniques.	1. Select and demonstrate verbal and nonverbal communication techniques to express an idea.
2. Organize thoughts and ideas to communicate to a familiar audience.	2. Evaluate communication effectiveness. Organize thoughts and ideas to communicate to a variety of audiences.	2. Communicate clearly and concisely.
3. Speak confidently to a familiar audience.	3. Speak confidently to a variety of audiences.	3. Speak to one or many people with ease and confidence.
4. Recognize effective listening skills that enhance verbal communications.	4. Practice effective listening skills that enhance verbal communications.	4. Demonstrate active listening skills.
5. Use writing to convey ideas and respond to a variety of verbal and non-verbal sources.	5. Effectively write for multiple purposes and audiences.	5. Write skillfully for personal expression and to convey information.
6. Demonstrate the ability to follow directions and problem-solve situations using a manual.	6. Comprehend and problem solve using manuals and technical materials.	6. Read, understand, and apply technical information.
7. Use problem solving and conflict resolution strategies.	7. Recognize issues and communicate effectively with individuals and/or groups to resolve problems.	7. Use communication to facilitate problem solving and conflict resolution.

Responsible & Contributing Member of Communities - A responsible person who participates as an interdependent member of diverse local, state, and national communities as well as the global society.



The fifth grader will

The eighth grader will

The graduate will



Responsible and Contributing Member of Communities

Characteristics and Outcomes



<p>1. Know the rights guaranteed by the Constitution and how government works.</p>	<p>1. Understand the rule of law protects individual rights and serves the common good.</p> <p>Participate in the process of school and local government.</p>	<p>1. Know and exercise rights guaranteed by the Constitution.</p>
<p>2. Recognize and show respect for cultural similarities and differences.</p>	<p>2. Demonstrate socially appropriate behavior within multicultural settings.</p>	<p>2. Interact respectfully with individuals and groups from diverse backgrounds, races and cultures.</p>
<p>3. Acquire knowledge to make informed decisions on identified issues.</p>	<p>3. Recognize issues facing local, state, national and world communities.</p> <p>Use decision making process to evaluate issues.</p>	<p>3. Make informed decisions on issues facing local, state, national and world communities.</p>
<p>4. Understand various roles and responsibilities for self and others.</p>	<p>4. Understand, recognize and fulfill roles and responsibilities within the family, school and local community.</p>	<p>4. Understand, recognize, and fulfill roles and responsibilities within the family, school, local community, state, nation, and world.</p>

Effective Life Manager - A person who conducts his/her personal, and professional life through planning, setting priorities and goals, efficient time management and effective action.



The fifth grader will ⇒ The eighth grader will ⇒ The graduate will



Effective Life Manager

Characteristics and Outcomes



The fifth grader will	The eighth grader will	The graduate will
<p>1. Self-assess achievement with standards.</p> <p>Set goals and develop and implement a plan for achievement of a personal short-term goal.</p>	<p>1. Use data to develop goals for personal assessment of academic, social and physical skills.</p> <p>Set goals and develop and implement a plan for achievement of a personal long-term goal.</p>	<p>1. Assess his/her abilities, skills, knowledge base, and feedback from others, in order to set goals for continual improvement.</p>
<p>2. Acquire and organize information to support a premise.</p>	<p>2. Acquire, organize and use information to demonstrate various perspectives.</p> <p>Use several methods to make decisions (group or personal).</p>	<p>2. Acquire, organize, and use information in order to make decisions.</p>
<p>3. Distinguish healthy and unhealthy habits.</p> <p>Identify a plan for wellness.</p>	<p>3. Access valid health information source:</p> <p>Recognize myths and marketing strategies related to health issues.</p> <p>Develop and implement strategies for improving wellness.</p>	<p>3. Acquire and evaluate information on health issues and take action(s) that positively affect(s) both physical and mental health.</p>
<p>4. Develop and use a schedule to complete short-term and long-term assignments.</p>	<p>4. Use a personal schedule effectively.</p>	<p>4. Assume responsibility for productive use of time for personal, professional, and leisure activities.</p>
<p>5. Develop criteria and evaluate personal accomplishments.</p>	<p>5. Develop a portfolio of personal and academic accomplishments.</p>	<p>5. Demonstrate confidence in personal actions, pride in accomplishments, and enthusiasm about pursuits.</p>

Why Are We Here?

In Leander ISD, everything we do and every learning activity is focused upon meeting our district purpose and vision, and upon guiding our students toward acquiring the skills and competencies listed in Leander ISD's Graduate Profile. This is the singular purpose of our existence.

LISD Purpose

The purpose of Leander ISD is to educate each student to be successful in an ever-changing world.

LISD Vision

Each Leander ISD graduate is prepared with the knowledge, academic foundation, and life skills to be a productive learner, an effective communicator, and a responsible citizen.

GRADUATE PROFILE

To be academically prepared, each LISD graduate:

- has the knowledge in mathematics, science, and social studies necessary for problem solving, communicating, and reasoning.
- participates in the literary, visual, and performing arts to enrich his/her daily life.

To be a productive learner, each LISD graduate:

- demonstrates self-discipline, sets goals, uses time wisely, and always tries to improve.
- demonstrates logic, critical-thinking skills, creativity, and the ability to solve problems.
- manages information by acquiring and evaluating data, organizing and maintaining records, and using technology to find and process information.
- demonstrates skill in managing systems and resources, such as money, materials, space and people.

To be an effective communicator, each LISD graduate:

- reads proficiently from a variety of sources for knowledge and enjoyment.
- listens attentively and critically, and responds to speakers appropriately.
- writes and speaks correctly, effectively and fluently, adapting to different audiences and purposes.

To be a responsible citizen, each LISD graduate:

- understands the value and rewards of work.
- understands the nature of economics and consumer finance as it applies to everyday living.
- contributes to community or school service organizations.
- makes and evaluates decisions based on ethical principles and respect for the law.
- understands world issues and current events, identifies the rights and obligations of citizens, and participates in the democratic process.

Each LISD graduate:

- makes wise career decisions based on self-knowledge, educational and occupational exploration, and career planning.
- fosters personal health habits and self-worth.
- demonstrates interpersonal skills needed to work effectively in teams, manage conflict, lead in community and business, and be an effective parent.
- reads and learns for enjoyment, fulfillment and breadth of knowledge.



Leander Independent School District
Tom Glenn, Superintendent

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Debra Farris Alan Hill
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HISD GRADUATE PROFILE

The Houston Independent School District is committed to giving Houston's children the world-class education they need to compete and succeed in the 21st-century workforce and in higher education. HISD has worked with representatives from higher education, the local business community, and educational organizations to identify the knowledge and skills that a student should possess to graduate from high school fully prepared to pursue additional education or to begin their careers. Those attributes are described in the "HISD Graduate Profile."

EFFECTIVE COMMUNICATOR

Students will master the basic skills of reading, writing, comprehending, listening, and speaking that are critical to daily life. They will communicate with others in an articulate, effective, and efficient manner.

PROFICIENT PROBLEM-SOLVER

Students will make good decisions, handle problems and challenges, and think logically. They will interpret and process information, assess the current and desired situations, anticipate the potential outcomes, and solve problems.

INDEPENDENT WORKER AND THINKER

Students will set priorities and goals; identify, assess, and apply available information; and create options, develop plans of action, and monitor and evaluate their progress.

COOPERATIVE TEAM MEMBER

Students will use effective leadership and group skills to develop supportive and cooperative relationships with other students, teachers, and members of the community. They will understand and respect the contributions of diverse cultures.

EFFICIENT TECHNOLOGY-USER

Students will use technology to research, develop, and complete classroom assignments and projects. They will demonstrate basic knowledge of computers and software.

KNOWLEDGEABLE ABOUT WORLDWIDE ISSUES

Students will have a basic knowledge of world issues, foreign affairs, history, politics, and geography. They will be aware of current events and be able to discuss issues affecting America and the world.

RESPONSIBLE CITIZEN

Students will contribute their energy, time, and talents to improving the welfare of themselves and others. They will have a sense of social responsibility and participate in the democratic process.

CULTURALLY AWARE

Students will demonstrate knowledge of cultures and regions beyond the borders of the United States.

