

Polaris

A Guiding Star
of 403 Skills
for Homeschooled
Children

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Royal Fireworks Press
Unionville, New York

Contents

Purpose	2
Categories of Skills and Behaviors	3
The Cognitive Domain	4
Information Acquisition	5
Organization.....	6
Research.....	7
Critical Thinking	8
Analysis.....	9
Synthesis	11
Evaluation	12
Problem Solving.....	13
Creativity	15
Fluency.....	16
Flexibility.....	17
Originality	18
Elaboration	19
Communication	20
Listening	21
Interpretive.....	22
Verbal	23
Nonverbal.....	24
Interpersonal	25
The Affective Domain	26
Motivational Development.....	27
Curiosity.....	28
Imagination	29
Risk Taking.....	31
Personal Growth.....	32
Decision Making.....	33
Coping with Failure	34
Positive Self-Concept.....	35
Critical Acceptance	36

Purpose

The purpose of *Polaris* is to aid you in homeschooling your child. It is important for you to recognize that there are two kinds of instruction: one is the material to be learned, and the other involves the acts of learning, processing, manipulating, and communicating the information, together with the processes of maturing and growing up. The material is important, but the development of the skills necessary to take that material and make good use of it are critical. In the end, your child's fundamental base of knowledge is less significant than his or her ability to acquire, process, manipulate, and communicate information. *Polaris* is aimed at helping you to identify these processes by articulating them as a set of skills and behaviors.

We believe strongly that the starting point in education is the individual child. Each child is a unique learner with different strengths and weaknesses. Too often, publishers of textbooks and providers of curricula believe that their material is what is important and that your duty is to cram as much of it as possible into your child. We do not think so. We urge you to start by thinking about what your child is good at and what he or she is not good at. Then you can develop a plan of education that builds upon strengths, addresses the important weaknesses, and helps your child grow into an adult who is able and eager to continue to develop intellectually and emotionally.

Polaris provides a series of lists containing 403 skills that are grouped into several categories. The cognitive skills are laid out in a roughly sequential fashion. You will see that only one subcategory in the first section—research, a part of information acquisition—is provided by ordinary textbooks. Everything beyond that must come from a variety of materials and special instruction. These are the more complex skills, and they should be the essential goals of your homeschooling.

The emotional growth and maturity of your child are central to his or her well-being, as well as to his or her education. Too often educational materials focus solely on the cognitive acquisition of knowledge. This excludes the essential emotional core of your child from the educational process. Your child's emotions need to be taken into account, and therefore personal growth and maturity are essential parts of the skills we list in this guide.

We hope that *Polaris* will provide you with a true guiding star in the education of your child.

Thomas Milton Kemnitz

Categories of Skills and Behaviors

The Cognitive Domain

Information Acquisition

Organization
Research

Creativity

Fluency
Flexibility
Originality
Elaboration

Critical Thinking

Analysis
Synthesis
Evaluation
Problem Solving

Communication

Listening
Interpretive
Verbal
Nonverbal
Interpersonal

The Affective Domain

Motivational Development

Curiosity
Imagination
Risk Taking

Personal Growth

Decision Making
Coping with Failure
Positive Self-Concept
Critical Acceptance

The Cognitive Domain

Educational learning and activities are commonly divided into three domains: cognitive, affective, and psychomotor. The psychomotor domain pertains to physical skills and is not addressed in this book. The distinction between the cognitive and affective domains is that the former is intellectual and the latter is emotional. Both of these domains play an important part in a child's academic performance.

In order to advance intellectually, children need to learn how to find information, then to think critically and creatively about it, and finally to communicate their knowledge and ideas effectively. Hence, the cognitive domain in *Polaris* is divided into four areas: information acquisition, critical thinking, creativity, and communication.

Children must begin their learning experiences with the acquisition of information. They must assemble their knowledge base so that they have a foundation upon which to further their knowledge and build ideas. To do this, it is important for them to be able to arrange their time and resources. *Polaris* presents these skills in the section on information acquisition, which includes the subcategories of organization and research.

Educating children, however, is more than simply providing facts for them to memorize. It involves teaching them how to manipulate those facts to create new ideas and solutions. An essential goal of education is that children learn to process information productively—to think critically about what they have learned. Children must be able to examine the dynamics and interrelationships of ideas, to combine them, and finally to assess them. Critical thinking—divided into the subcategories of analysis, synthesis, evaluation, and problem solving—comprises the second section of *Polaris*.

Once children have learned how to think critically about facts and ideas, they must acquire the capacity to create new structures, to impose a unique order upon ideas and materials, and to be prolific in thought. The subcategories of fluency, flexibility, elaboration, and originality encompass these abilities, and they all fall within the broader category of creativity. An individual who displays these characteristics is much more likely to deal with intellectual and personal problems effectively.

Finally, the ultimate goal of a knowledgeable, critical, and creative thinker should be to share ideas with others. Since the communication process is complex, *Polaris* divides it into listening, interpretive, verbal, nonverbal, and interpersonal subcategories.

Information Acquisition

In order to function effectively in a rapidly changing world, children need to learn how to acquire information from a variety of sources and in a variety of formats. To do this, they must learn how to utilize management skills—how to arrange time and materials to the best advantage. This requires establishing and achieving realistic goals, working within a specified time period, and applying oneself to a given task. The child must also become familiar with his or her learning style and work habits. Without these skills, children will fall short of working up to their potential.

Once children have established goals and timelines, the research subcategory helps them develop the capacity to use various sources of information effectively, whether those sources are books, the internet, or people. This subcategory also deals with the compilation and interpretation of data.

Critical Thinking

The basis for *Polaris*'s critical thinking section is Benjamin Bloom's original Taxonomy of Cognitive Skills, which was published in 1956. That taxonomy included three lower-order thinking skills and three higher-order thinking skills. The higher-order thinking skills were analysis, synthesis, and evaluation. In 2001, the taxonomy was revised and the levels restructured and renamed. Synthesis was removed, evaluation was dropped a level, and creating was added as the pinnacle of higher-order thinking. Although creating is certainly a valuable skill, the original higher-level thinking skill of being able to synthesize information from various sources to form a new idea is still essential to critical thinking. In order to reach full potential, a child's thinking must reflect an ability to analyze, synthesize, and evaluate information. In *Polaris*, creating is given its own section, which immediately follows this one.

Analysis is breaking down an idea into its component parts. It establishes a hierarchy that serves to clarify the relationship of the parts to the whole. Analysis also serves to identify the structure and organization of an idea.

Synthesis is combining elements or parts to form a whole not previously evident. Synthesis involves creative thinking because the development of the end product, tangible or intangible, is the result of a different and original integration of already-existing elements.

Evaluation is the final step in the critical thinking process. It involves assessing the effectiveness, value, or accuracy of ideas and making judgments about them according to defined criteria. Evaluation is most effective when it is objective; children who learn to evaluate objectively will be in a position to make good decisions when dealing with real-world problems.

Although not originally part of Bloom's Taxonomy, problem solving is an essential critical thinking skill, and it has been added to this section of *Polaris* as the summative skill of analysis, synthesis, and evaluation. It takes the child through a series of steps: identifying a problem, hypothesizing and assessing solutions, implementing the selected strategy, and judging the effectiveness of the solution. The skills involved in these steps are detailed precisely and present an approach to problem solving that is applicable in many situations.

Domain: Cognitive
Category: Critical Thinking
Subcategory: Analysis

Analysis is identifying the parts of an idea, as well as recognizing the relationships and organization of those parts.

The child will:

- Explore complex concepts or problems
- Break down a whole into its component parts
- Explore the facets of an idea or issue
- Sift information in order to clarify an idea or issue
- Trace the origins of an issue
- Identify the main idea of information presented in written form
- Identify the main idea of information presented in oral form
- Identify the main idea of information presented in nonverbal form
- Identify the purpose of information provided by an author or speaker
- Distinguish between fact and opinion, offering valid justification for either
- Distinguish between observations and inferences
- Detect the inference or bias of a particular source
- Distinguish between relevant and irrelevant ideas
- Distinguish between credible and unreliable sources
- Differentiate between logical and illogical arguments
- Detect logical fallacies in information and arguments
- Differentiate between implications and statements of fact
- Distinguish between questions of truth and questions of validity
- Differentiate cause and effect from other sequential relationships
- Recognize the relationships among ideas and data
- Distinguish conclusions from the statements that support them
- Recognize the implications of an idea or issue
- Examine the implications of an idea or issue

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Creativity

Creative minds have contributed significantly to the advancement and well-being of humankind. Societies without the foresight to nurture creativity abandon the opportunity to progress.

The creative behaviors described in this section fall into four subcategories: fluency, flexibility, originality, and elaboration.

Fluency means the ability to produce a wide variety of ideas. Fluent individuals produce ideas easily, and those ideas are diverse. People who are fluent can be described as mentally prolific.

In flexibility, ideas are permitted to overlap and change form in kaleidoscopic fashion. A flexible person is open to alternatives and is willing to draw upon many resources.

Originality is the ability to generate new and unusual ideas. For this skill to be developed, an individual must extend thinking beyond conventional patterns. An original thinker demonstrates ingenuity and receptivity.

An elaborative individual seeks to add detail, fill in gaps, and apply finishing touches. Often the addition of one small aspect gives an idea its final form or makes a product effective. Elaborative thinkers are concerned with enhancing, embellishing, and enriching their ideas.

Communication

Communication is a complex process covering a wide spectrum of behaviors. People communicate continually, even when they are not using a written or spoken language. The quality and kind of communication in which one engages determines to a large extent his or her effect on others.

Polaris deals with communication by dividing it into five subcategories: listening, interpretive, verbal, nonverbal, and interpersonal. The sections on listening and interpretive relate to the receiver of a communication. These behaviors stress that a listener or viewer needs to absorb information accurately in order to translate it effectively.

Verbal and nonverbal skills are concerned largely with the communicator. The former encompasses both the spoken and the written word; the latter includes all non-linguistic modes as expressed through visual, aural, and tactile means.

The interpersonal subcategory addresses the interaction of both the communicator and the receiver. It becomes a more complicated endeavor because it calls for a coordination of two different kinds of skills—those of transmission and those of reception.

A key part of communication is written communication. However, unlike the other subcategories within this section (and within this book), written communication encompasses skills that are specific to a discipline—that of language arts. As such, written communication, while certainly not unimportant, is not included in *Polaris*.

The Affective Domain

The cognitive domain is the obvious area associated with learning and the acquisition and manipulation of knowledge. The affective domain, then, is the area that is inconspicuous but that is no less important to learning. Children—and adults too—do not learn nor remember much that is not important to them, that does not affect them in an emotional way. What we enjoy, what excites us, what moves us, what drives us, what pulls at us—that is what we retain long after the textbook is closed and other information is forgotten.

Polaris pays particular attention to the development of the affective domain. Although it appears as a separate domain, it is inextricably related to the cognitive domain. People learn more when there is an affective element to the learning. Conversely, individuals never function affectively without a cognitive base. Feelings and values do not and cannot exist in a vacuum. They must be tied to some content; therefore, they involve cognitive skills.

This section of *Polaris* tries to bring affective behaviors to the surface so that they can be examined more easily. The skills in the affective domain will set the stage for improved cognitive skills. A child who has a positive, healthy self-image will approach learning with enthusiasm and vigor. To serve this end, *Polaris* divides the section on the affective domain into two parts: motivational development and personal growth.

Motivational Development

We want our children to be motivated to learn. At times adults may need to employ the use of external motivators for children, such as grades or rewards for achievement, and sometimes reluctant learners may need to be enticed to enter a subject that may at first seem uninteresting to them. Such forms of persuasion can be effective in leading children to areas of study that are important for their intellectual growth and development.

Although external motivators can be valuable, our children are at their best when they are self-motivated. Developing the initiative to seek out intellectual challenges is a quality as important as being able to meet those challenges. Children who are restricted in the quality and quantity of their thought because they lack motivation are hindered from reaching their true potential.

Motivations to learn and explore new knowledge and ideas include curiosity—an eagerness to explore and understand—and imagination—the creation and visualization of mental images. If these internal motivators are coupled with a willingness to undertake tasks that have uncertain outcomes—that is, risk taking—then they can be conducive to intellectual growth.

These categories complement the categories within the cognitive domain. They are the stimulants that draw out and direct the intellectual abilities of children.

Personal Growth

We want our children to grow into happy, successful adults. This is the overriding goal of every parent. The last section of *Polaris* contains skills and behaviors that are helpful in achieving that end. They are organized into the subcategories of making decisions and coping with failure, with the end results of a positive self-concept and a critical acceptance of the interdependence of individuals and the child's place in the web of humanity.

Domain: Affective
Category: Personal Growth
Subcategory: Positive Self-Concept

Having a positive self-concept means developing and maintaining a realistic and sympathetic self-awareness.

The child will:

- Become aware of the need to be independent in thought and action
- Appreciate his or her special talents and abilities
- Appreciate the value of his or her work and ideas
- Share feelings and ideas with others
- Assess personal preferences
- Set standards and goals appropriate for his or her ability level
- Gain confidence in his or her ability to convey personal goals and standards
- Develop belief in his or her ability to succeed
- Put criticism into perspective
- Put his or her acceptance by others into perspective
- Accept the value of constructive discontent within him- or herself
- Believe in the individual's power to influence his or her own destiny
- Become aware of the effects of the physical environment upon an individual
- Become aware of the effects of the social environment upon an individual
- Develop a critical appreciation for the physical environment
- Develop a critical appreciation for the social environment
- Defend his or her rights and individuality