

We summarize these distinctive characteristics of authentic intellectual work as **construction of knowledge**, through the use of **disciplined inquiry**, to produce discourse, products, or performances that have **value beyond school**.

Construction of Knowledge

Skilled adults working in various occupations and participating in civic life face the challenge of applying basic skills and knowledge to complex problems that are often novel or unique. To reach an adequate solution to new problems, the competent adult has to “construct” knowledge, because these problems cannot be solved by routine use of information or skills previously learned. Such construction of knowledge involves organizing, interpreting, evaluating, or synthesizing prior knowledge to solve new problems.

Disciplined Inquiry

Construction of knowledge alone is not enough. The mere fact that someone has constructed, rather than reproduced, a solution to a problem is no guarantee that the solution is adequate or valid. Authentic adult intellectual accomplishments require that construction of knowledge be guided by disciplined inquiry. By this we mean that they (1) use a prior knowledge base; (2) strive for in-depth understanding rather than superficial awareness; and (3) express their ideas and findings with elaborated communication.

- **Prior knowledge base.** Significant intellectual accomplishments build on prior knowledge that has been accumulated in a field. Students must acquire the knowledge base of facts, vocabularies, concepts, theories, algorithms, and other conventions necessary for their inquiry. This is usually the central focus of direct instruction in basic skills.
- **In-depth understanding.** A knowledge base of value to students involves more than being familiar with a broad survey of topics. Knowledge becomes most powerful when students can use information to gain deeper understanding of specific problems. Such understanding develops as one looks for, imagines, proposes, and tests relationships among key concepts in order to clarify a specific problem or issue.
- **Elaborated communication.** Accomplished adults working across a range of fields rely upon complex forms of communication both to conduct their work and to present their results. The tools they use—verbal, symbolic, and visual—provide qualifications, nuances, elaborations, details, and analogies woven into extended narratives, explanations, justifications, and dialogue.

Value Beyond School

This third criterion indicates that significant intellectual accomplishments have utilitarian, aesthetic, or personal value. When adults write letters, news articles, organizational memos, or technical reports; when they speak a foreign language; when they design a house, negotiate an agreement, or devise a budget; when they create a painting or a piece of music—they try to communicate ideas that have an impact on others. In contrast, most school assignments, such as spelling quizzes, laboratory exercises, or typical final exams, have little value beyond school, because they are designed only to document the competence of the learner.

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