Liberty's Thinking Framework

A Classical Framework for Teaching Thinking

Classical education has, since ancient times, included an implicit and explicit understanding of the development of thinking. In most treatments of the progression of how to teach thinking, there are four natural steps. A recognition of these four steps, and their application to different age groups, is vital to answering questions of educational policy for both the content and assessment of schooling at each grade.

In the ancient Egyptian text from the Shabako Stone, these steps are 1) Reception – the proper use of the senses to acquire knowledge about the world around us. 2) Perception – the accurate processing of such input by mind and heart to understand the inherent patterns of the knowledge. 3) Formation – The organizing of one's perceptions into language and hence thoughts, and 4) Action – taken to bring life to those thoughts.

Many years later, the famous German poet **Johann Wolfgang von Goethe**, put forth his formula for how creativity is developed. He identified several ways in his drama "Faust," and parallels the Egyptian formula, namely: First there is the word, or knowledge. Second, the meaning or pattern. Third, the power or what we would call mental discipline or mental modeling. Finally, the act which is either problem-solving or composition, etc.

In our day, **Robert Mitchell**, the Underground Grammarian, has summarized these same steps in the following lines: "Knowledge consists of the facts, the relations between them, the thinking about them; and, the effort to understand and connect them. It is not out of ignorance that we discover understanding. It is because of what we already know that we can know more, that we can discern organizing principles, and make and test hypotheses, and act rationally." These lines tersely reiterate our ancient, proven framework for teaching thinking.

First identified is knowledge; and herein lies just one of the great values of teaching a solid core of background knowledge as put forward in Liberty's K-8 Core Knowledge Sequence. As **John Holdren** of the Core Knowledge Foundation has stated, "Without a lot of pertinent factual knowledge about an issue or problem, you can't think critically about it – you can only have an uninformed opinion.

"If we're concerned about having students think 'critically,' then we have an obligation to give them the knowledge that will make them *informed* thinkers, not mere likers and dislikers. That's why, from the early years, we should teach them a lot of factual knowledge. We should, of course, also provide frequent opportunities to discuss the facts, to analyze apparent contradictions, to challenge accepted interpretations.

"Maybe then we'll produce at least some students who develop the habit of choosing words carefully, of avoiding clichés, and resisting unquestioned orthodoxies – such as the uncritical use of a term like 'critical thinking.'

"No one, except perhaps Joe Friday, wants 'just the facts,' at least not in schools. We also want – and our students need – opportunities to use the facts, to apply them, question them, discuss them, doubt them, connect them, analyze them, verify or deny them, think critically about them. All these higher-order activities, however, rely upon having some facts to work with. Without knowing a lot of facts, you lack the solid foundation upon which to build all higher order skills. And that's a fact."

Knowledge: In Liberty's beginning grades (K-3), the acquisition of common knowledge – about a wide variety of subjects – is the primary focus of our school's Thinking Framework.

Patterns: While students naturally make inferences on their own about the relations of the facts and ideas, Liberty instructors skillfully help students make connections and see the patterns – dissimilitude in similitude, and similitude in dissimilitude. This emphasis occurs at the next level, generally grades 4-6. During these grades Liberty teachers, in addition to teaching more knowledge, specifically look for ways to train students' perceptions of organizing principles, the relations between things they have learned or observed.

Modeling: During the junior-high years (grades 7-8) Liberty's students continue to learn many new facts and their relationships, but more and more of this is independent. Because of how knowledge builds upon knowledge, schemes are quicker to form and be modeled. In junior high, mental modeling – the making and testing of arguments and hypotheses (including logic) – is explicitly and implicitly taught, and students are given ample opportunity to practice. In writing, this means essays that marshal several concepts with underlying evidence. In history, it means an effort to link the patterns of individual human nature with social influence to project explanations of future or past causation. In math, this means symbolic representation of complex problems, algebra and geometry.

American psychologist **Jerome Bruner** was referring to this third level (mental modeling) when he said, "In contrast to analytic thinking, intuitive thinking characteristically does not advance in careful, well-defined steps. It tends to involve maneuvers based seemingly on an implicit perception of the total problem. Unfortunately, the formulation of school learning has somehow devalued intuition." Using the Thinking Framework one could conclude that intuition became

devalued when the steps that lead to it (the acquisition of knowledge and its structure) were removed from the curriculum.

Theodore Sizer also refers to mental modeling when he says, "A science course, built on sheer memory work, that never gives examples of or experience in scientific inquiry would be as stunted as a course that engages in some sort of disembodied, abstract problem-solving that demands of the students no command of precise knowledge." Fortunately, in science education, Liberty embraces the more direct effort to follow the natural steps of the Thinking Framework.

Creativity: The final step involves leading students to action, or problem solving including judgment, or creativity. This is the stage at which Liberty instructors acclimatize our students for the accelerating pace of our classical, college-preparatory high-school curriculum. This final, creative stage of higher-order thinking cannot proceed apace if the other three have not preceded.

Liberty's Thinking-Framework sequence may seem obvious for its common sense. Indeed, most American high-school instructors certainly wish the majority of their students were prepared for elevated problem-solving work. In 2010, Liberty Common launched its classical, college-preparatory high school to further assist Liberty families wanting to capitalize on all of their child's academic advantages acquired through a Core-Knowledge elementary, and junior-high program.

The Core Knowledge Sequence is sometimes characterized as a less-is-more approach, meaning a fewer number of examples are tackled, but each is studied more deeply and

broadly. This can only work in a disciplined academic setting that coordinates multiple years in the classroom, and expertly stacks knowledge upon knowledge.

The coursework articulated at Liberty Common High School takes into account, and assumes to the greatest extent possible, the common background held by our students – the perception of patterns, and relationships that can only come by wide exposure to a canon of factual knowledge purposefully acquired through a learned schema, and applied to novel situations.

In this way, Liberty Common School endeavors to prepare its students for writing, trigonometry, calculus, history, economics, literature, and art – in each case, taught with a high and specific expectation of productivity. As **Peter Emberly** said, "This is an education which is without ostentation, and education which through the gradual and sequential formation of habits and talents produces a critical and impartial mind."