

# From Research to I-Search

Creating Lifelong Learners for the 21st Century

By Lynn Bruno



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# FAQs about I-Search

## 1. Why are research skills important?

The ability to conduct research with fidelity is undeniably a life skill that not only benefits students when working for an academic grade, but in everyday decisions of varying degrees of importance. From something minor like choosing a new recipe for the evening's meal to more critical and life-determining decisions such as committing to a lifelong relationship, the ability to conduct reliable and purposeful research is an essential life skill upon which happiness is closely linked. The act of researching incorporates many skills that are required in the Common Core State Standards (CCSS) to raise the rigor of middle grades education to compete "in a twenty-first-century, globally competitive society" (2010, p. 3).

Throughout the process researching and writing the I-Search paper, students apply lifelong learning skills in authentic ways. The strategies, attitudes, skills, and processes required by the I-Search paper are universal and essential when engaging in a world filled with the unknown. Skills necessary for today's children to thrive and prosper in tomorrow's world are:

- To know the important questions to raise
- To know how to seek reliable sources that hold the answers
- To listen to others with an open mind
- To identify values and biases and consider alternative points of view
- To construct knowledge and develop understanding around big ideas
- To develop the confidence to add your voice to world conversations

If we as teachers are to prepare our students effectively, then teaching these skills is essential.

## 2. What is an I-Search paper?

A research process called I-Search was conceived by the late Ken Macrorie, who challenged the conventional hallmarks of writing instructions based on formulas and objectivity. Instead, he promoted recognizing the integral role of the writer's interests and experiences in good writing. *An I-Search paper differs from a traditional research paper in that valuing the writer's engagement with the content replaces the traditional value of remaining objective.* It recognizes the researcher's life context informs and shapes his or her opinions and the body of knowledge he or she constructs as a result of that research. The I-Search paper becomes a physical documentation of the act of researching, and the process has as much importance as the product. I-Search requires the researcher to identify what he or she already knows about the topic, what questions he or she would like answered, what knowledge others hold on the topic, and how that new knowledge has enriched and changed his or her understanding of the topic.

Some key elements of the I-Search are

- **Purpose.** Teachers focus on the cognitive processes students use to synthesize information and hold them accountable for communicating their thinking.
- **21st century skills.** Students demonstrate 21st century skills. They develop a critical curiosity about a topic, identify the relationships between events and ideas to develop a deeper meaning, open their minds to different perspectives, draw on learning relationships, monitor their strategies, and build their resilience.
- **Change in focus.** In schools, most assessments of research are based on the final written product—the research paper. As a result, students focus their energy on the writing of the paper, giving short shrift to the actual act of researching. The act of research often results in students skimming sources and working diligently to avoid plagiarism. The idea that research is about creating new knowledge by drawing from what others have learned is often lost in the pursuit of a grade.

When I taught research in my literacy class, my 8th grade students went through the motions of researching a topic by focusing on the end result—unfortunately perceived by them to be roughly based on the 5-paragraph essay. They often took notes from one or two sources and rearranged the words in, more often than not, an unsuccessful attempt to avoid plagiarism. Both the students and I (in assessing them) saw this as a chore. There was no joy in the pursuit of knowledge, the discovery of answers, or the creation of new questions. In fact, there was rarely any evidence of something new being discovered, and most of the synthesis and analysis of information remained superficial.

- **Higher order skills.** Grouping by ideas rather than sources gives students valuable practice in synthesizing. Students learn that in a formal research paper, each paragraph is grouped by ideas as opposed to sources. At the middle school level, students tend to organize their writing around sources, much like they do in the Research Journey part of the I-Search paper. However, this does not promote the synthesis of information and how it changes understanding, the purpose of a research paper. By requiring a shift to grouping paragraphs by ideas at the end of the Research Journey, students are able to clearly see the difference between summarizing and synthesizing information. The What I Have Learned section, therefore, contains an introduction with a formally stated thesis, body paragraphs addressing that thesis and organized around big ideas, followed by a conclusion.



### 3. What is the structure of the I-Search?

Macrorie’s outline of the I-Search paper reflected the actual process of research and provided a framework that placed the emphasis and value on the process of searching. As a college professor, he was not constrained by addressing the CCSS or the developmental needs of young adolescents. I adapted Macrorie’s framework to address those needs but remained faithful to the purpose and goal—to teach students that it is the learning that is important.

Many young adolescents struggle with organization and pacing of their work and require assistance in structuring and planning longer pieces of writing. Chunking each section provided my students the opportunity to breakdown a complex assignment into manageable pieces. Perhaps more importantly, it provided the opportunity for my students to recognize the cognitive processes and corresponding actions needed to delve into a topic deeply enough to emerge in the end with new eyes. The framework that I use has been shaped by the feedback I have received from my students over the years and follows the following format:

1. **What I Know**—highlights the importance of background information, personal experiences, biases, and assumptions the student holds prior to conducting research. *The knowledge identified here does not need to be correct or accurate.* Realizing what false assumptions are held and how those assumptions can contribute to misunderstandings is essential to the learning process. This section satisfies the narrative element alluded to in the CCSS and that plays a critical piece in the development, analysis, and synthesis of knowledge. Unfortunately, what students think they know is a piece that often remains unknown to teachers, yet leads to misunderstandings and faulty assumptions.
2. **What I Want to Know**—the critical piece to the I-Search paper; the foundation on which all else is built. I spend a great deal of time walking my students through exercises designed to identify their curiosities and guiding them through the process of categorizing those curiosities into topics or disciplines that will both focus the student’s research, while allowing for the breath of discovery. This is where students write the all-important guiding question from which they will later draft a thesis.
3. **Research Journey**—a review of the sources discovered during research; addresses skills of vetting sources, identifying how they found the sources, and determining criteria for their credibility. They then summarize the sources’ information and the evidence used by the authors to support any conclusions. They conclude with a paragraph identifying how the knowledge in these sources has confirmed, challenged, supported, or altered their own understanding of the issue.

4. **What I Have Learned**—synthesis of information they have gathered. There are two options here. (1) In Ken Macrorie’s I-Search paper, students continue to write this section in first person. I have followed this suggestion in the past with good results. This is a good option for teachers concentrating more on their content areas than fluidity in writing and parenthetical citations. (2) Due to the expectations of the high school with regard to writing, I have more recently required that the writing of this section reflect a formal research paper and shift from first person to third. This provides not only a wonderful opportunity to demonstrate how writing changes when shifting person, but also allows for the instruction of formal writing techniques such as academic transitions and parenthetical citations.
5. **Reflection**— Because reflecting on the process allows my students to identify the value of this process and an opportunity to share with me how to improve the process, I require a separate paragraph in which they share what they learned and what they found valuable and not so valuable during this unit of study.
6. **Works Cited**—I use the website EasyBib. Throughout the process students are counseled to input all sources they use into EasyBib so that this final step is easily accomplished by exporting their citations to a Word document. The biggest challenge is to develop the habit of securing a citation as a first step, not a last one.

#### 4. How does the I-Search relate to 21st century skills and lifelong learning?

Dr. Ruth Deakin-Crick and her colleagues at the University of Bristol in England (Crick, Broadfoot, and Claxton, 2004) identified, condensed, and named seven domains of lifelong learning, all of which are embedded in an I-Search. I specifically teach students to be aware of those seven domains as they research so that they can strengthen their abilities in the areas in which they are weak. The seven domains and the areas each is practiced in I-Search are:

**Domain 1.** The *Changing and Learning* domain identifies an underlying belief system that is key in determining how individuals perceive their capacity to learn and change over time. What part do they believe their choices and actions play in their ability to learn? In other words, do they believe that learning is genetically predetermined, or do they feel that, no matter their heritage, through hard work, they can learn? A result of students’ hard work on an I-Search paper is tangible evidence that they are capable of changing and learning and is identified in the reflection at the end of the process.

**Domain 2.** *Critical Curiosity* addresses the level of curiosity an individual holds toward learning new things and digging deeper into topics of interest. Does the student tend to ask questions directed toward developing a deeper understanding? How often does he or she independently research a topic of interest? This component of lifelong learning refers to an inherent drive to gain knowledge regardless of the presence of a material incentive



(i.e., grade). In the I-Search process, identifying a research topic of great interest and maintaining that interest falls in this domain.

**Domain 3.** *Meaning Making* is a student's ability to anchor new concepts and ideas to known context in order to establish a broader and deeper foundational understanding on which to build knowledge and create new ideas. This is demonstrated by those students who instantly recognize the connectedness of the world; they readily connect ideas to events. They have a holistic approach to learning and tend not to departmentalize information, seeing relationships across content areas. In the What I Have Learned section of the I-Search paper, students describe how their research supports, changes, and expands the information they began with in the What I Know section of the paper.

**Domain 4.** *Creativity* refers to a student's ability to "think outside the box" rather than reference a talent for, say, music or art. In this case, creativity means a propensity for divergent thinking. Is the student playful enough in their learning to bend the rules? To explore the spaces between the given and the possible? In the I-Search process, synthesizing new information and forming new perspectives about their topic challenge students to think in creative ways.

**Domain 5.** *Resilience*, or the emotional response to difficulty in learning, provides strength for lifelong learning. Does a student react to challenges by internalizing them as personal failings, or does the student face the challenge and seize the opportunity to grow as a learner? The I-Search process is based on the fact that students lack information on a topic and must continually figure out what more there is to learn; it strengthens students' ability to identify and seek answers to questions.

**Domain 6.** *Strategic Awareness* addresses how reflective an individual is about his or her approach to learning. A strong lifelong learner develops the habit of not only determining the answer to questions, but also takes action to change strategies when it is evident that they are not yielding the desired results. A student with strong strategic awareness uses a multitude of approaches with intention. During the I-Search process, students follow specific time lines and processes for managing new information and constructing new knowledge.

**Domain 7.** *Learning Relationships* recognizes that learning occurs both in isolation and in community and that each contributes something invaluable to the process. To develop understandings, one needs time for independently processing information. Working through concepts, answering questions, and solving problems in the safety of one's own company is essential to learning. At the same time, working with others and hearing their interpretations and perceptions helps to expand and broaden personal knowledge by providing alternative lenses through which to see. Knowing when each is needed and how each enriches learning is key to becoming a strong lifelong learner. In the I-Search process, students learn how critical this domain is to research as they peer-edit, interview experts, and request assistance from the teacher, librarian, and technology specialist.

By purposefully developing pedagogy designed to strengthen and develop strong learning profiles for our students, educators can create learner-centered classrooms built on relevant curriculum that simultaneously delivers meaningful content while it creates robust lifelong learners fully prepared to succeed in the 21st century.

## 5. How does the I-Search strategy align with characteristics of the 21st century classroom?

A 21st century classroom rests on three core foundational principals: authenticity, autonomy, and time. Ask anyone what factors were present when they think back on a lesson learned well, and chances are, these three elements were present.

**Authentic learning** is learning that occurs while doing meaningful work. When students engage in work that piques their interest and holds a specific purpose that is valued, then the learning is authentic. Although students need not immediately realize the value of their learning, they must be convinced that the knowledge they are seeking is essential. That requires the teacher's ability to identify the applicability of the knowledge to life and the student's ability to see the possibilities that the future holds, no easy task, for sure. However, there is no doubt that we learn best when we can see a useful application of the knowledge in our own lives and the work or skills involved are connected to an authentic need to know.

**Autonomy.** Critical to understanding is *autonomy* in learning, and it is best expressed through the domain of Meaning Making. Autonomy is the ability to develop a broader and deeper understanding of a topic by building on past experience and knowledge. If we have the autonomy to make our own choices in how we learn, and whenever possible, what we learn, we are able to take ownership of that learning and draw from and build on what we already know. In so doing, we become personally invested. The child and his or her personal intellectual, psychological, and sociological experiences are critical to the learning. The ultimate goal of the teacher in the 21st century remains the same as those teachers that came before—to guide their students toward becoming fully participatory and engaged citizens, capable of debating complex issues and making decisions for the good of all (Brown, 2006; Mondale and Patton, 2001; Springer, 2006).

**Time.** But, perhaps the most important aspect of learning something well is the time to do so. It is, arguably, the most difficult piece to provide students because time is finite. However, effective and valuable learning occurs when students have enough time to research, learn, process, create, and apply their newfound knowledge. Maurice Holt, in his 2002 article, *It's Time To Start The Slow School Movement*, likens the narrowing of the curriculum and the 'drill and kill' focus on reading and math prompted by the NCLB legislation to fast food dining. He calls for opponents to adopt the same approach of the slow food movement used in France in reaction to the growing presence of fast food restaurants. Holt argues that if life is getting more complex, then it is important that we