Inquiry Inspires Original Research

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The Core Curriculum State Standards state:

 "To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas, to conduct original research in order to answer questions or solve problems, and to analyze and create a high volume and extensive range of print and nonprint texts in media forms old and new. The need to conduct research and to produce and consume media is embedded into every aspect of today's curriculum. In like fashion, research and media skills and understandings are embedded throughout the Standards rather than treated in separate section."

We all agree with these Core Curriculum State Standards (CCSS) that to be ready for college, workforce training, and life in a technological society, students need a whole range of research skills. We are pleased to see that research is integrated throughout the Common Core. The AASL Standards use the term inquiry rather than research. (AASL, 2007) Although Inquiry is implied throughout the CCSS document, research is the term that is used. Are inquiry and research the same thing? This question is causing some concern in among school librarians and stirring debate in the school library community.

Common Core Standards Define Essential Research Abilities

Let's analyze the use of the term "research" in the CCSS to see how research is described in each part of the statement and then consider where inquiry fits in.

"Students need the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas…."

This is very good news for school librarians. The CCSS recognize the importance of the skills and abilities that librarians have been developing with their students over the years. Now the Standards are bringing these abilities to the forefront as essential for students to be ready for college, the workforce and daily living. It takes more than simply gathering information and reporting in traditional research assignments. The Standards allude to the deep learning process that involves understanding, evaluating and integrating information and ideas to share with others. School librarians' special expertise makes

them essential partners in developing these complex skills. Librarians and teachers will need to collaborate in a learning team to meet this Standard.

Students need "to conduct original research in order to answer questions or solve problems…."

Original research is the important concept in this Standard. "Original" implies that each student is capable of conducting research that results in his/her own learning rather than a "copy and paste" product. The goal of answering questions or solving problems through research implies a whole range of research skills for responding to the entire spectrum of questions and problems. At one end of the continuum are questions that can be answered by simple fact finding. At the other end are problems that call for extensive research to gain in-depth understanding. Students need to be able to conduct original research, tailoring skills to the question or problem at hand and matching to each phase in the research process.

Students need "to analyze and create a high volume and extensive range of print and nonprint texts in media forms old and new…."

Here we have two goals in one –" to analyze and to create". First, is to analyze an extensive range of multiple sources in various types of media. Negotiating the world of online information and ideas in "new" media without neglecting the insight and wisdom found in the "old" media of books both fiction and informational texts. "New" media encompasses the online world of information on the Internet, and vast connections opened through social media, as well as the new forms that visuals are taking. While students are gathering information from an extensive range of multiple sources they need to be able to analyze what they are gathering to reflect on what it all means. Second, they need to be able to create products in new and old media forms for sharing their learning.

Students need "to produce and consume media is embedded into every aspect of today's curriculum."

The importance of embedding research into every aspect of the curriculum is stressed in this Standard. No longer is it adequate to view research as isolated assignments after "the real work" of the curriculum is done. Today's students need to use and create media in every aspect of the curriculum as their normal method of thinking, learning and communicating.

"Research and media skills and understandings are embedded throughout the Standards rather than treated in separate section."

Research and media skills, what librarians call information literacy, are not taught as a separate subject. Research and media skills are tied to understandings and are fully integrated into the subjects of the curriculum as a way of learning in today's schools.

The CCSS validate what school librarians have been developing over the years. The Standards bring information literacy to the forefront of the curriculum as essential in the information technological society.

Research is Embedded into Inquiry

Now to the question of how inquiry and research work together. How is research embedded into inquiry? Where does research fit into the inquiry process?

Inquiry and research are not synonymous but are inextricably tied. The debate needn't be about research or inquiry but rather how the two are related. Inquiry is a way of thinking and learning in the information technological society. Inquiry is a frame of mind for the 21st century learner that leads to research at every turn. Research is embedded in inquiry. Inquiry inspires authentic, meaningful research. Research is an essential component of inquiry learning.

(insert Figure 1 – Inquiry-based Research)

Inquiry is grounded in curiosity. Young children entering school are curious about their world. Unfortunately this natural curiosity often diminishes as they proceed through the grades. While schools are often accused of stifling this natural curiosity, inquiry develops a child's curiosity as a way of thinking, learning and creating. Research is an integral part of inquiry as a means of acting on initial curiosity to find out more.

An inquiry approach to learning opens multiple opportunities for research. A "let's find out" attitude permeates the information technological school.   However, every question that comes up does not require an extensive research process. Some can be answered by a simple fact finding search. Other complex, multifaceted problems require sustained research that leads to deep understanding. An environment of inquiry enables students to learn the difference between simple and complex questions and the type of research to address their questions.   They learn the whole range of research and media skills developing their own research process that leads to deep understanding and producing media to share their learning.

Inquiry-based Research vs. Traditional Research Assignments

The research abilities described in the Standards are developed through an inquiry environment that pervades learning throughout the curriculum. The inquiry-based research described in the CCSS are embedded across the curriculum and developed over time in an inquiry environment. There is a vast difference between inquiry-based research and traditional research assignments, as shown in the following chart.

Traditional Research Assignments:

- Assigned
- Template approach
- Predetermined questions
- Report style
- Fact finding emphasized

Inquiry-based Research (described in CCSS):

- Original research embedded in curriculum

- Process driven
- Student identified questions
- Deep learning stressed
- Creating and sharing new knowledge

Inquiry-based Research and the ISP

Traditional research assignments treat research as a simple fact finding activity. My research on the Information Search Process (ISP) describes the sequence of stages students' experience in extensive original research (Kuhlthau, 2004). Studies of their thoughts, actions and feelings in the process of learning from a variety of sources reveal that the stages require different types of research skills. The early Exploration stage calls for browsing, skimming and scanning to get an overview of what's there and to dip into a few sources to get ideas for formulating a focused personal question. The later Collection stage calls for more thorough searching and deep reading to build a full understanding of the focused question. Exploratory browsing and "dipping in" in the early stages of the research are very different from comprehensive searching and "digging deep" needed in the later stages of the research process. Students get into difficulty when they skip the Exploration and Formulation stages and try to move into the Collection stage too early in the research process. Each stage of the ISP requires different, but equally essential, research skills. First students need research skills to build background knowledge and explore ideas for formulating a focus. After forming a focused question they are ready to collect information specifically related to their focus. The focus provides the "guiding idea" for their research.

Personal interest increases after Formulation when learning deepens as students create new knowledge. The most productive research begins with curiosity that promotes persistence for seeing through the confusing, uncertain early stages of the research process to create deep personal understandings.

Guided Inquiry for Designing Inquiry-based Research to meet CCSS

The Standards define research proficiency by stating what students need to achieve but do not address how to do it. An inquiry approach provides an environment for encouraging original research for answering questions and solving problems that develop the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas. But how do we do it?

(insert Figure 2 – Guided Inquiry Design: a framework for Inquiry-based Research)

Guided Inquiry incorporates research as a natural phase in learning to answer questions or solve problems. Guided Inquiry Design, based on the stages of the ISP, provides a framework for a learning team of teachers and librarians to guide their students in eight phases of the inquiry process. The early phases, **Open,** to stimulate curiosity, and **Immerse**, to get ideas and build background knowledge, are followed by three phases of research, **Explore, Identify** and **Gather**. In later phases of **Create**, **Share** and **Evaluate**

students produce media to communicate their learning. Students learn "to gather, comprehend, evaluate, synthesize information and report on information and ideas" with continual guidance, assessment and evaluation throughout the inquiry process. They use a "high volume and extensive range of print and nonprint texts in media forms old and new" in every aspect of the curriculum. (Kuhlthau, Maniotes & Caspari, 2007; 2012)

Inquiry is a frame of mind that opens the child to learning through research and leads to deep understandings. Inquiry inspires meaningful original research embedded into today's curriculum that develops proficiency in the research and media skills and understandings required in the Core Curriculum Standards.

References

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science and Technical Subjects. Available at http://www.corestandards.org/
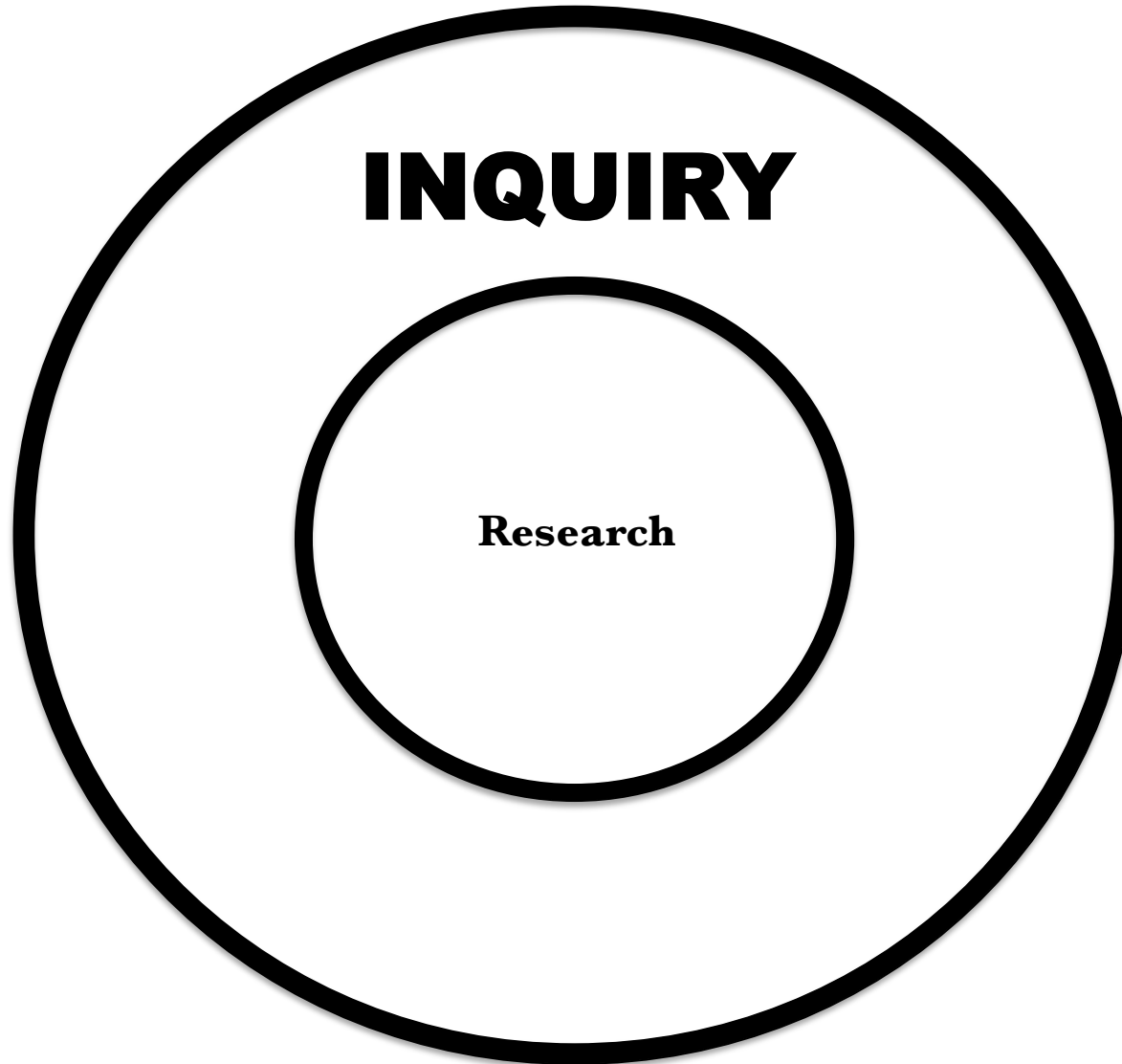
American Association of School Librarians. *Standards for the 21st Century Learner*, Chicago: American Library Association, 2007.

Kuhlthau, Carol, Leslie Maniotes and Ann Caspari. *Guided Inquiry: Learning in the 21st Century, Libraries* Unlimited, 2007.
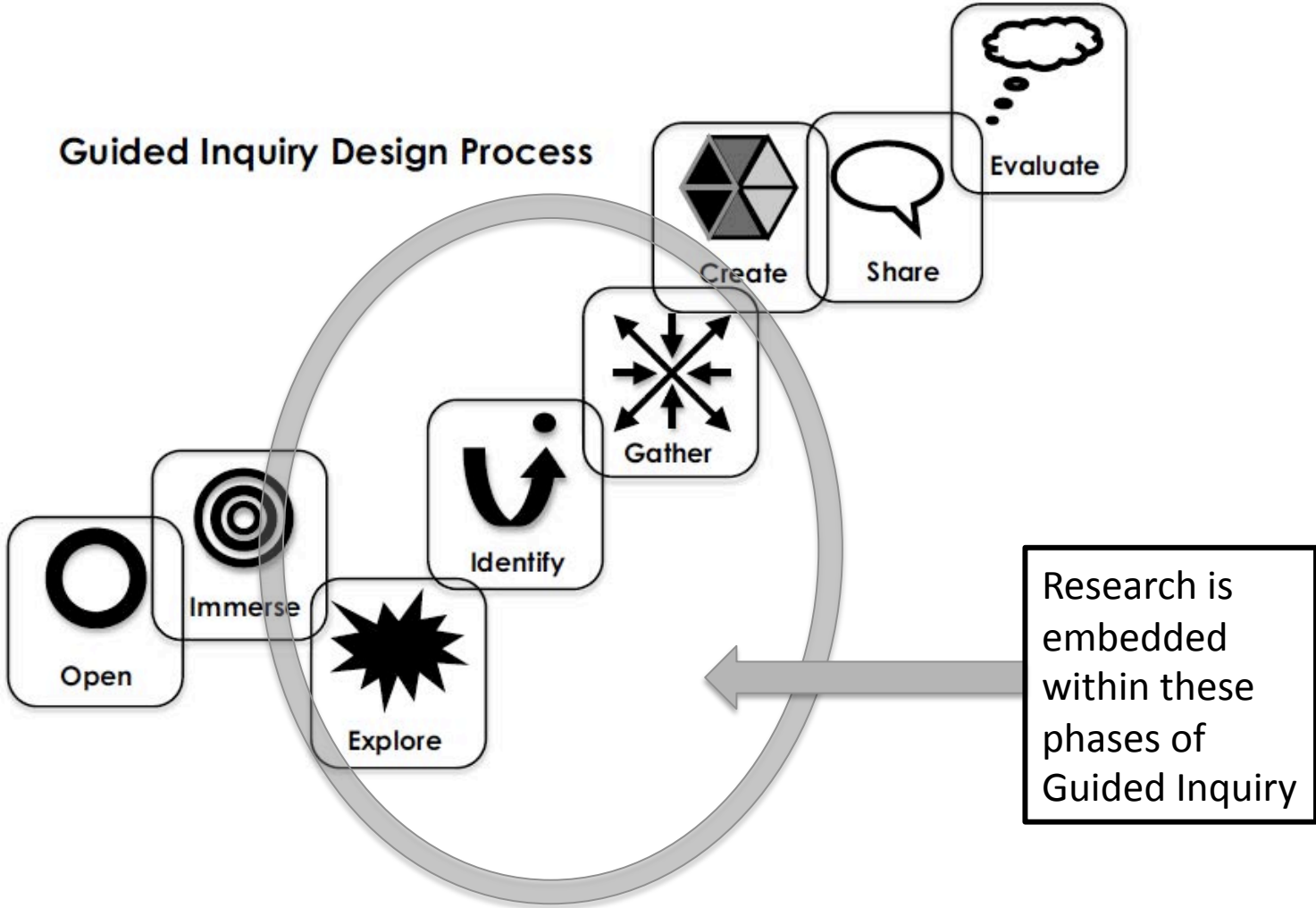
Kuhlthau, Carol, Leslie Maniotes and Ann Caspari. *Guided Inquiry Design: A Framework for Inquiry in your School,* Libraries Unlimited, 2012.

Kuhlthau, Carol. *Seeking Meaning: A Process Approach to Library and Information Services,* 2nd ed. Libraries Unlimited, 2004.

Inquiry-based Research

INQUIRY

Research

Guided Inquiry Design: A framework for inquiry-based research

Guided Inquiry Design Process

Open · Immerse · Explore · Identify · Gather · Create · Share · Evaluate

Research is embedded within these phases of Guided Inquiry

Kuhlthau, C.C., Maniotes, L. K., Caspari, A.K. (2012) Guided Inquiry Design: A framework for inquiry in your school. Libraries Unlimited: Santa Barbara, CA.