

FEATURE

# MAKING



G.I.D.

# THE SHIFT

## From Traditional Research Assignments to Guiding Inquiry Learning

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### What Is the Traditional K–12 Research Assignment and Why Won't It Go Away?

It's Tuesday afternoon, and a teacher walks into the school library at 3:10 p.m. just as the busses are leaving. The teacher tells the school librarian that she would like to have her class come to the library tomorrow to do research on invasive species. She is making a list of plants; each student will pick one to research. Students will need to find five sources and take notes for a six-page research paper. Because the teacher can't spare any more classroom time, one school library visit will be learners' sole chance to get the information they need for the project. The teacher has to move on to the next unit by Friday.

Does this scenario sound familiar to you? This is an example of an educator suffering from Traditional Research Syndrome (TRS). We're kidding, but think about it. So many K–12 teachers still hold the traditional research mindset, and this is their go-to assignment to get research into their units and

courses. In *Ban Those Bird Units* David Loertscher, Carol Koechlin, and Sandi Zwaan offer a remedy for these traditional assignments; unfortunately, too few teachers have read the book!

The traditional research assignment is a common approach for teachers unaware of an inquiry process. In the traditional assignment, on the very first day that the work is assigned, students are given a topic or asked to choose a topic from a prepared list. They are given the parameters of the assignment, the number of sources required, the number of pages, and when it is due. At this point, they visit the school library, are briefed on how to find and cite sources, and given some time to start collecting information. After this visit they are expected to complete the assignment on their own.

Why is this still teachers' expectation? In typical schools of education teachers do not learn in their teacher education courses about the research process—not in any content

area or at any level, undergraduate, postgraduate, or advanced degrees. So, naturally, teachers are simply relying on their own experience in school to direct their approach to research. Relying on "the way it was always done" continues to maintain the gap between what we know about how students learn through research and assignment design. Although teachers have good intentions, they don't realize that their traditional research approach is actually not supporting student learning. We know that the traditional assignment design actually runs counter to students' experiences as described in the Information Search Process (Kuhlthau 2004).

### Studies Opened a New Way of Looking at Research Assignments

Back in the 1980s my (Carol's) studies were born out of a true need to improve students' experience in learning through research. At the time, I was a school librarian in a high school and sought a better way to interact with students to

support their learning in research assignments. At that time, the information age was looming in the future, and I wanted to find out why traditional research assignments weren't more successful or effective learning experiences for students. The outcomes were often shallow with students reporting facts without giving much thought to the meaning and, sometimes, copying directly from the texts. However, I knew that research had the potential to be a powerful learning experience given the right conditions.

What I discovered, as I examined how students went through a traditional research assignment, was the process we now call the Information Search Process (ISP) shown in figure 1 (Kuhlthau 1985, 1989). The original study looked through the lens of the students during research. The process marked the thoughts, feelings, and actions of students in six stages and

how these thoughts, feelings, and actions interplay across time within the context of a traditional research assignment.

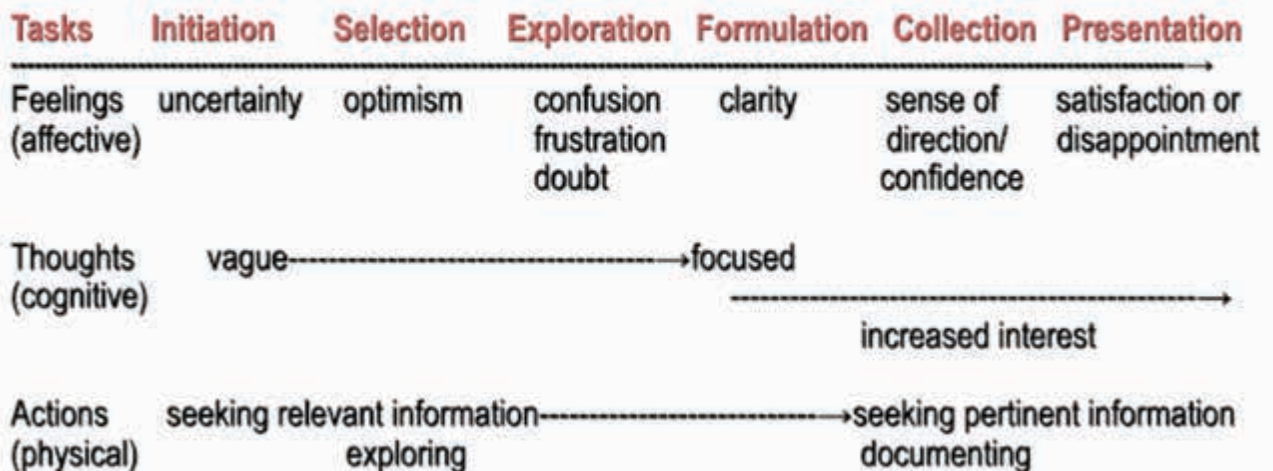
One important finding was the difference between two stages of learning in the research process, exploration and collection. After students have some essential questions or big ideas, learners enter an exploration stage in which they need to browse broadly on the general topic and to dip into a few sources to explore in preparation for forming a focused question to pursue. Once they have formulated a focus for their research, they are ready to enter the collection stage and to gather information that specifically addresses their focused questions. An authentic research question or thesis statement comes toward the middle of the research process after exploration and before collection, rather than at the beginning.

These same studies also showed what can go wrong with research assignments. Without exploring and formulating a focus that identifies a clear question to pursue, students get mired in the collection stage of research and end up merely reporting on disconnected facts. As one student lamented, "I don't think I ever acquired a focus...I thought I could just smush it all together. It didn't work out" (Kuhlthau 2004). Traditional assignments don't allow for the complex, constructive process of learning through two important phases of research: exploring and collecting. Typical assignments limit students' ability to learn from a variety of sources and often result in a simple copying exercise.

### Why Is the ISP Important Now?

We are now living in the information age. Although no one could have predicted back in the 1980s that thirty years later we would all be walking around with little computers

## MODEL OF THE INFORMATION SEARCH PROCESS



(Kuhlthau, 2004, p. 82.)

Figure 1. Model of the Information Search Process (ISP).

that can answer most factual questions, we got a lot of predictions right. One insight was that people would have a vast amount of information available to them, and students would need to know how to do research in all parts of their lives: for work, for everyday living, and for active citizenry.

We continued to learn about students' research process in later studies of the ISP conducted through the 1990s to the present (Kuhlthau 2004; Todd, Kuhlthau, and Heinström 2005). These were years of extraordinary advances in information technology that made the process of learning from a variety of sources of information even more important. These studies not only confirmed the original findings but also revealed the importance of understanding the thinking and emotional process involved in making sense in the increasingly pervasive, complex information environment.

**An authentic research question or thesis statement comes toward the middle of the research process after exploration and before collection, rather than at the beginning.**

## Standards Call for Research at All Ages

Current standards, including the Common Core State Standards (CCSS), recognize that research has become part of everyday life and a basic skill for all students. The Common Core State Standards require research at all ages. According to the CCSS Initiative:

“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 in separate sections” (2014).

AASL's *Standards for the 21st-Century Learner* (2007) introduce inquiry in the information age as a way of learning that encompasses research. Research is embedded in inquiry. (For full discussion see Kuhlthau 2013.) Inquiry takes us out of the traditional research assignment mindset and forces us to think more broadly about learning.

## Research Is Embedded in Inquiry Learning

We need to recognize the relationship between research and inquiry. Research is embedded

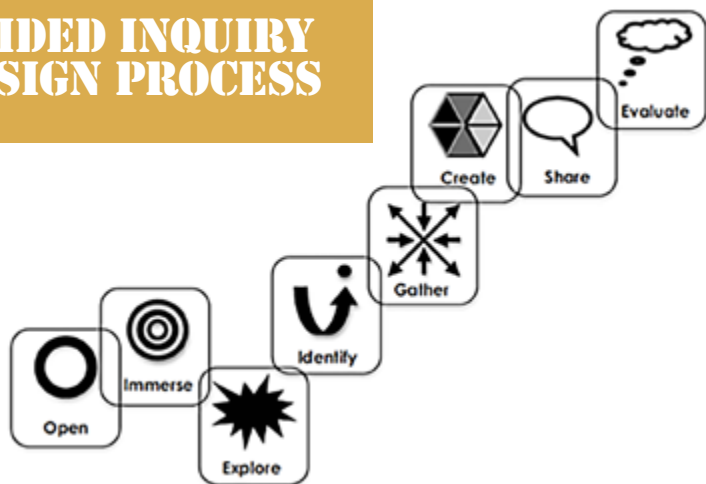
in inquiry learning. Through inquiry, students discover real questions about academic topics; these questions blossom into research. In this context, inquiry supports students in building deep understandings within the content of the curriculum. The extensive research that comes out of inquiry allows students to create products worth sharing.

The ISP describes the stages that students experience in the process of learning from a variety of sources of information. The ISP indicates where students need guidance and what kind of guidance would be helpful. Based on the ISP findings, we developed a design framework to support teachers and school librarians to guide student learning through research within the inquiry context. We call this framework Guided Inquiry Design (Kuhlthau, Maniotes, and Caspari 2007, 2012).

## Framework for Designing Inquiry Learning

Guided Inquiry Design (GID) is a framework for designing inquiry learning experienced in eight phases: *Open, Immerse, Explore, Identify, Gather, Create, Share, and Evaluate*. First, students' curiosity is opened to a broad topic (*Open*) with an essential question on curricular content. Next, the whole class builds background knowledge about the general topic by visiting a museum or immersing in some other enlightening experience, such as reading a book together or viewing a film (*Immerse*). Once each student has found some personally interesting ideas to investigate, learners are ready to begin the exploratory phase of research. They begin to explore these ideas by browsing broadly, dipping into a few sources, and reflecting on what they find (*Explore*). After taking

## GUIDED INQUIRY DESIGN PROCESS



Kuhlthau, Carol C., Leslie K. Maniotes and Ann K. Caspari. 2012. *Guided Inquiry Design: A Framework for Inquiry in Your School*. Libraries Unlimited.

Figure 2. Guided Inquiry Design framework.

some time to read and reflect they stop to formulate a focused question that is interesting and important in the context of the essential question (*Identify*). After they have identified a research question they are ready to gather information that specifically addresses the focus they are pursuing (*Gather*).

*Explore*, *Identify*, and *Gather* are the phases of research that support students in creating something new that they can present and share with others (*Create* and *Share*). In the last phase of the inquiry process, to consider where they may go next, students reflect on their own learning, both on the process of how they learned and on the depth of understanding of content they have gained (*Evaluate*). That is the full cycle of inquiry, and it requires expert guidance along the way.

Inquiry takes time, reflection, and persistence—it can't be rushed to get to the next unit (Maniotes 2013). Through inquiry, students engage in research around interesting ideas and important questions

within an area of study in the curriculum. When that learning is guided, students are supported and not overwhelmed. Through inquiry students engage in discovery, ask real questions about academic topics, and are interested to learn more and to share with others.

### Guided Inquiry Scenario

What would the traditional research assignment on invasive species look like if it were designed using guided inquiry? The following example shows how research is embedded within the Guided Inquiry Design process.

**Open:** The teacher and school librarian form a learning team to collaborate on the design of the inquiry unit. To heighten students' curiosity about big ideas and essential questions, the inquiry is opened with an image of local invasive species, such as Kudzu vines taking over a building. As the image is displayed, the coteachers pique students' interest by asking what is happening here and guide them to wonder about the implications.

**Immerse:** Next, the learning team immerses the class in the topic to build their background knowledge by visiting a location to observe the impact where an invasive species has taken over. The educators invite a local expert to talk about particular invasive species in the area, inviting students to consider the local plants and animals that are replaced by invasives and to think about the impact on a larger scale. Students are guided to note interesting ideas about local ecology, invasive species, and impact—ideas that they want to know more about.

**Explore:** Then each student uses resources in the school library and digital collections to explore the ideas that most interest that person. Learners are guided to dip in and reflect broadly and accumulate ideas, questions, and connections to the topic. Only *now* is each student ready to identify a specific question to research and learn more about.

**Identify:** The learning team gives students time to pause and ponder and review their learning to come up with the questions that will drive their research. Some examples of students' research questions are:

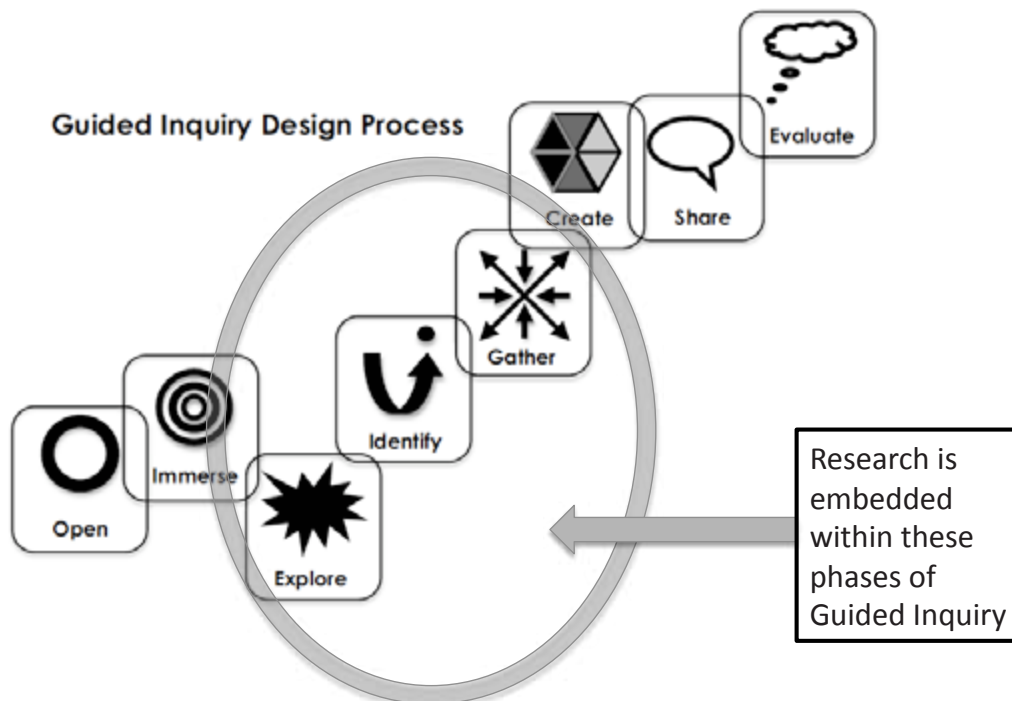
- How does a particular invasive plant affect the surrounding area?
- How is a particular animal affected by an invasive plant species?
- How can an invasive plant affect local birds?
- How are insects affected by the invasion?
- What potential damage might a particular native plant incur from an invasive plant?
- Is there a benefit to planting natives?
- Are there ways to stop invasives?

These questions are authentic and are born out of students' real interest in the topic.

**Gather:** Next, time is set aside to gather information on their questions as students begin to think about what might be important information to share with others. The students in this inquiry are surprised to discover that many of their family members and neighbors do not know about invasive species and local plants. Together students decide that to make people aware of the benefits of local plants and animals and the dangers of invasive species, a public information campaign will help spread the ideas learned.

**Through inquiry students engage in discovery, ask real questions about academic topics, and are interested to learn more and to share with others.**

## GUIDED INQUIRY DESIGN: A FRAMEWORK FOR INQUIRY-BASED RESEARCH



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.

Figure 3. Research embedded in inquiry.

**Create and Share:** Students create a multimedia public information campaign to showcase what they have learned about local invasive species. They share their multimedia presentation at a community night and invite the expert from the *Immerse* phase. For access to a synthesis of the information that students have discovered, the multimedia presentation lives online at a website about local and invasive species.

**Evaluate:** In the final phase of the project, the learning team evaluates each student's learning of content and process. The students reflect on what supported their learning and what was challenging. They think about the ways they overcame challenges and how they learned through inquiry—strategies that they can apply to their next research and inquiry project.

The process described above requires a shift from making research assignments to designing learning experiences. The next section describes six attributes of inquiry to keep in mind during the design of learning experiences that rely on inquiry.

## Six Important Attributes of Inquiry

How is inquiry learning different from traditional research assignments? Traditional research assignments go against the grain of the learning process that we know from Kuhlthau's extensive research. Guided Inquiry Design readjusts the learning sequence to align instruction and guidance to support deep learning. So we can say that inquiry is a way to learn and that research is an essential part of this process. Inquiry has six integral attributes that shift the learning in K–12 schools:

- Inquiry promotes and supports academic research at all ages.
- Inquiry is learning-centered not product-driven.
- Inquiry recognizes and supports the emotional aspect of learning.
- Inquiry is carefully and intentionally designed.
- Inquiry is driven by students' high level of questioning.
- Inquiry goes beyond low-level fact finding to deep understanding.

### **Inquiry promotes and supports academic research at all ages.**

AASL standards call for an inquiry approach to learning in K–12 schools, and CCSS requires research for all ages throughout the curriculum. An inquiry approach to learning promotes authentic, original research. Research is embedded in the inquiry process as illustrated in the figure 3 chart of Guided Inquiry Design.

**Inquiry is learning-centered not product-driven.** Many traditional research assignments have the goal of developing a product rather than a learning outcome. Unfortunately, some of the most elaborate and impressive products have little evidence of student learning. However well intentioned, these assignments are drawn from a traditional research mindset. Grant Wiggins and Jay McTighe's *Understanding by Design* (1998) clearly showed that effective learning begins with a clear learning goal not a culminating activity. A transferable goal of inquiry is for students to learn how to learn through an inquiry process. As students engage in inquiry and reflect on their own learning through inquiry, they come to recognize the process as their own way of learning. Another goal is for students to learn and practice literacy, social, and information literacy skills and content knowledge in an authentic context.

### **Inquiry recognizes and supports the emotional aspect of learning.**

Empirical studies from the library and information science field describe the emotions as well as the thoughts and actions students experience in constructing deep learning from a variety of sources of information (Kuhlthau 2004). Without adequate guidance, students commonly experience anxiety and frustration when they expect to be in the collection stage of research and find themselves in the exploration stage. Guidance in handling the uncertainty of the exploration stage is particularly helpful for learning in the research process. Inquiry provides the emotional satisfaction of building personal knowledge and sharing learning. Studies found that students' interest increased when they built personal knowledge and that they experienced emotional satisfaction in sharing their learning with others in the class.

### **Inquiry is carefully and intentionally designed.**

All educators would benefit from reading widely in the inquiry literature, particularly the work of school library experts: Barbara Stripling (2010), Jean Donham (2010, 2014), Violet H. Harada and Joan M. Yoshina (2004), and others, such as the authors of chapters in *Inquiry and the Common Core* (2014), edited by Vi Harada and Sharon Coatney. Different perspectives on inquiry help us build a broad view, deepen our understanding, and add to our inquiry repertoire. These experts' ways of looking at inquiry are complementary and help to expand what we know about inquiry learning. Our own work in *Guided Inquiry* lays out the foundation for guiding inquiry based on the research of the ISP (Kuhlthau, Maniotes, and Caspari 2007). The GUID framework (Kuhlthau, Maniotes, and Caspari 2012) will help you intentionally design a complete program of inquiry that incorporates research for K–12 students.

### **Inquiry is driven by students' high level of questioning.**

At the opening of the inquiry process an essential question stimulates curiosity in a broad topic that leads toward a learning target. Jeffrey D. Wilhelm has defined essential questions as those “that probe for deeper meaning and set the stage for further questioning” (2014, 38). Through the inquiry process students ask many questions as they immerse in background knowledge, explore interesting ideas, and identify their own research questions to pursue for deep learning.

### **Inquiry goes beyond low-level fact finding to deep understanding.**

Many traditional research assignments are fact finding and reporting activities. Reports are sometimes useful, but these assignments are not inquiry-based. It is important to see the difference between a report of facts and research for understanding. In a study of school librarians in New Jersey, Ross Todd (2012) found over 90 percent of library instruction was teaching access and evaluating sources; under 60 percent of library instruction focused on skills that lead to deep understanding, such as forming one's question and integrating information into one's own knowledge.

Jean Donham in her study of college readiness in Iowa found three troubling themes emerge from her analysis. Lacking in undergraduates' readiness for college research were: “information literacy, especially initiating inquiry; academic writing, especially citing evidence in support of a thesis; learner dispositions, especially curiosity, open-mindedness, self reliance, and perseverance” (2014). The shift from traditional research assignments to guiding inquiry is essential for moving students beyond simple fact finding to deep learning.

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**Without adequate guidance, students commonly experience anxiety and frustration when they expect to be in the collection stage of research and find themselves in the exploration stage.**



## School Librarians' Expertise and Knowledge of the Research Process

School librarians have special expertise in the inquiry process and how research fits into that process; this expertise makes them indispensable partners on the learning team. Since teachers are not taught about the research process in their teacher education courses, it is up to school librarians to share their knowledge of the process. This special expertise can be a major contribution to students' learning in school and establishes the school librarian's value in design and collaboration in inquiry learning.

School librarians know the inquiry process like language arts teachers know the writing process and science teachers know the scientific method. A middle school librarian explains that by internalizing the ISP she is able to apply it in her work with teachers and students. "I always have the process in the back of my mind. When I work with students I think about where they are in the process. Are they before formulation and need guidance to explore interesting ideas or after formulation and have identified a focused question and are ready to collect and gather specific information? It makes all the difference on how I guide them" (LaDawna Harrington, Woodbridge Middle School). She also describes the process to students at the beginning of a project so they know what to expect. School librarians and teachers that know this process and hold it in their minds can instinctively encourage and support teachers in their shift from traditional research assigners to designers of inquiry learning experiences for students.

The inquiry process is the knowledge of the library field situated in the body of school library research. Using this knowledge school librarians are able to collaborate with teachers at a high level to impact learning, learning design, and the learning environment of the whole school. School librarians can be leaders in inquiry learning because they know the research process and are able to help teachers design better learning experiences for students, experiences that support their learning through research.

## Curing Traditional Research Syndrome (TRS)

What could shift the traditional research assignment mindset in your school? What conversations might you have to shift teachers toward an inquiry learning approach? Start by reading and discussing the inquiry literature. Talk about the Information Search Process studies with your teachers, particularly

emphasizing the difference between the exploration and the collection stages. By scheduling several visits to the school library for each class, you can support teachers' revising assignments to accommodate these two stages. Organize faculty book groups to read together about Guided Inquiry Design and reflect on how it could work in your school. Consider the inhibitors as well as the enablers to implementing inquiry learning (see Kuhlthau 2004, 149–52). Set up a three-year plan for shifting toward inquiry learning.

All across the country educators are working to shift toward inquiry. It may seem as if other people have this transformation down pat and are way ahead of you. Don't be discouraged! We have found that the shift takes time, commitment, and thoughtful planning. Be one of the innovators and join in curing TRS in your school.

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twenty-five years in education, she has served as a curriculum and professional development designer and facilitator as well as a K–12 literacy specialist in rural and urban Title One schools. In her spare time Leslie is a national consultant on the Guided Inquiry Design approach and leads teams through professional development to support implementation and grow capacity for inquiry in schools and districts. Her published works include *Guided Inquiry: Learning in the 21st Century* (Libraries Unlimited 2007) and *Guided Inquiry Design: A Framework for Inquiry in Your School* (Libraries Unlimited 2012) along with numerous articles.



**Carol C. Kuhlthau** is professor emerita of Library and Information Science at Rutgers University, where she directed the graduate program in school librarianship, rated number one in the country by U.S. News & World

Report. She is founding director of the Center for International Scholarship in School Libraries at Rutgers University, where she serves as senior advisor. Her published works include *Libraries Unlimited's Seeking Meaning: A Process Approach to Library and Information Services*, 2nd ed. (2004), *Guided Inquiry: Learning in the 21st Century* (2007), and *Guided Inquiry Design: A Framework for Learning in Your School* (2012). She is internationally recognized for her ground-breaking research on the information search process and the ISP model of thoughts, feelings, and actions in six stages of information seeking and use.

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