

*Big6 means Big Progress
for our Students Doing Research*

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*The libraries serving our Lower, Middle and Upper School students at TAS have been engaged by our administrators to implement a specific framework to facilitate student research at TAS. It is called **The Big6 Research Process** and its use promises to enhance the instruction of skills that students in grades K-12 need for developing Information Literacy. Thus, the school puts into action a recommendation from the 2008 English Language Proficiency Audit. Since parents are so often the ones assisting students as they tackle a long-term, weighty and valuable research assignment, we hope the information presented here supports all partners in the learning process.*

As Taipei American School students progress from pre-school through grade 12, they are continually challenged to develop and use skills to do conduct research. These Information Literacy skills are vital skills for success in university, but they also enable people to find the answers to the problems they face in everyday life situation, in the workplace, and for understanding the issues that confront them as citizens. They are the essential skills for achievement and independent lifelong learning.

Imagine being a developing learner in today's stimulating but often overwhelming information environment. The new abundance of resources on the Internet is definitely exciting, however, a learner can easily experience information overload. Moreover, in the brave new Web 2.0 world, students need to be able to navigate endless sources of information (and avoid misinformation.) Since it has become so easy for anyone to post their ramblings to the Web, there appear so many places to get lost, distracted, off track, or stuck in a pothole. Using 21st century resources requires 21st century researching and learning skills.

The challenges, opportunities and distractions of today's information world are some of the reasons why librarians (also called *library media specialists* and *teacher-librarians*) work a different way than they did in schools serving earlier generations of students. Today's teacher-librarians work with classroom teachers to develop lessons and projects that help students learn how to formulate effective questions to take to the resources. We help students to discern where to begin with resources (and I don't mean "Google" or Wikipedia.) We teach how to work efficiently with "advanced searching" strategies for the Internet such as employing Boolean logic, keywords, tags and specialized search engines. We offer lessons on evaluating information for its accuracy, point of view, currency, bias and quality. We share methods to validate information, synthesize, present and cite it.

To facilitate the instruction and application of such skills, many schools adopt a "research process" like The Big6 that is promulgated school-wide for use by students. Teachers recognize that we are fortunate to participate in the habit-forming years of our learners and many students require a conscious and attentive shaping of their habits. As many teachers and parents observe, students often leap around and even skip steps in the rush to complete assignments. Sadly, students often attack their research project with a fixation on producing the final product by piecing bits of information that they haphazardly bump into on a journey that, at best, skims resources. The fun of presenting their information with the technology options of today also can also result in "surface learning" that reflects merely a "cut and paste" approach that information specialists call "moving words" (from resources into final projects.) But cutting and pasting words isn't the same as learning. There are ethical implications for the failure of students to do their own thinking and

synthesis. And more importantly, students who don't apply a step-by-step process for research risk failing to learn as much as they might if they used a more thorough and meaning-making approach.

A Research Process such as the Big6 is like a set of step-by-step "driving instructions," and combined with information literacy skills helps students to get where they are trying to go—confidently, skillfully, safely and efficiently. A skilled driver, after all, is able to look out the window, absorb the view and reflect on where his journey is taking him. Skilled researchers engage with the best resources, and get to the deep thinking and concept development that is the paramount importance of a school project.

For a number of years, **The Big6 Research Process** has been in use to varying degrees by many of TAS's teachers and librarians. But the formal adoption in Spring, 2008 of the Big6 as TAS's Research Process is significant. Formal adoption of the Big6 as a K-12 research model represents a commitment to a school-wide approach for colleagues who are co-planning research assignments and developing the supporting lessons and tutorials that students are provided. It helps parents recognize and reinforce terminology and strategies as their students move from grade level to grade level. **The Big6 are adapted for TAS's use as listed below:**

1. Ask Questions and Define the Task
2. Strategize!
3. Locate and Access Resources
4. Use the Information
5. Synthesize: Put it all together!
6. Evaluate

The Big6 steps help students to become acquainted with common terminology used to describe research so that they can better identify and break down the process of research. Armed with a common terminology, students, teachers and parents can more easily diagnose and address the specific areas where students need to acquire greater skill or an improved strategy, or work with more appropriate resources. Educators can use the framework to have more productive planning sessions that articulate (place in a sequence from grade level to grade level) skills instruction. **The Big6** is a well established Research Process that was originated by renowned educators Robert Berkowitz and Mike Eisenberg (see their web site at <http://www.big6.com/>) Lower School students are introduced to a simplified version of the Big6 as a foundation. It's called the **Super3**, and you'll see signs in the LS Library that promote work on those steps: Plan! Do! Review!

The following example is shared by our Mandarin Librarian Rose Lai to illustrate one project in which the research process connects to skills instruction. The students in *Reading & Writing4 Mandarin* class apply the Super3 process as they build a book in their Chinese New Year project. Constructing their own book about Chinese New Year reinforces "parts of a book" terminology as students build a proper title page, a table of contents, numbered pages, and illustrations with captions. Their conclusion includes a section where they cite their sources. To carry out their project, they employ the Super3 as described in these instructions to students:

Step 1 - Plan (Beginning): The Chinese New Year project is broad, so you need to choose a specific topic. You may introduce the story or legend of the New Year, what lucky words people say, what activities people do, what specific dishes people eat... etc.

Step 2 - Do (Middle): Gathering data from the library, databases and Internet to get the main ideas for writing the paragraphs. You can attach pictures.

Step 3 - Review (End): Thoughts & citation. Write down what you learned from doing this project. Record (paste) the web address of the articles & reference materials that you used.

In Middle School, information literacy instruction is supplied in library lessons and is reinforced through with Big6 web sites for long term projects that step students through the Big6 and link them to our online tutorials and recommended resources. Parents are encouraged to view the resources, models and examples at the lower right hand link here: <http://destinyweb.tas.edu.tw/common/welcome.jsp?site=201>

Ultimately, as US Librarian Dr. Candace Aiani states, “In the Upper School, direct teaching of research as a process by the teachers and the librarian is focused in the 9th grade English and Social Studies classes. Units of study in those classes are designed to cover all the research steps outlined in Big 6 and with increasing sophistication as the year progresses. Indirect teaching of research as a process continues throughout the upper grades because teachers use and expect research skills routinely in the course of their assignments. In those cases, teachers re-teach skills if needed in the context of the assignment. We are constantly revising our lessons to ensure appropriate use of information tools in teaching the research process.”

One can be sure that the terminology of the Big6 gives power and specificity to those planning meetings. We hope that this discussion encourages and equips parents to employ Big6 terminology and our library’s resources and instructional materials lessons to support their children’s development of information literacy.

Where can parents help with the integration of the skills and dispositions required for research?

The librarians strongly urge parents (and tutors) to play a “coaching” but not a “doing” role. The best way parents can assist is to become versed in the language of The Big6 and become acquainted with the resources that are introduced in each division that make research easier. Get started today. For each division, we recommend these first steps if you want to help students become better researchers:

Lower School: Get comfortable in our library, develop a love and habit of reading for pleasure, and help your child understand the different kinds of resources in the library and where to find them. Saturday library visits are a special time when parents can model their love of libraries. Children are fairly good at finding story books. But you can help them to understand, look for and enjoy nonfiction, too; in fact, they are likely to need you to lead them to those books yourself. You can sign out a stack on nonfiction books and spread them out at home within view. Don’t expect a child to read through an entire nonfiction book, but praise her if she enjoys a few pages. Praise your child for being a curious learner who ask questions and patiently help them learn where to find answers. (It’s fine to say, “I don’t know, but I can make a guess about where we might find out.”) Tour with your child the “reference section” of the library (first stop for research) so that they become acquainted with dictionaries, thesauri, encyclopedias and specialized encyclopedias there. Get the list of passwords, and take the natural curiosities and questions your child has to the online encyclopedia World Book Kids. Explain how the subscription databases (that require passwords) might be higher quality sources of information than are free web sites. And finally, nothing wins like song to enter long term memory. Learn the Super3 Song and sing it to your child to begin their memorization of TAS’ research process. <http://www.big6.com/2006/12/10/sing-a-song-of-research-turning-the-big6-into-a-tune/>

Middle School: Visit the links on the right side of our library catalog’s home page here: <http://destinyweb.tas.edu.tw/common/welcome.jsp?site=201> . We have built 6-page web sites that support several of the research projects that students are doing in middle school. They have been made available for parents online in order that parents might become better acquainted with our resources and strategies for research. Embedded in those Big6 sites are the instruction, models, tutorials and links to resources students are learning to use, and we are really promoting the use of a) going to the books in our reference section and b) using our our online subscription databases. We’d love your support to students to habituate the strategies and skills modeled at those sites. Please note the expectation Middle School teachers have that students cite their sources when students use graphics, starting in grade 6. And please praise your child for their efforts to properly cite sources as we instruct citation with great complexity as they move toward grade 9. Visit our “Citation Central” to see the tools that students are learning to use to build citations quickly and

easily (you'll wish you had these tools when you were in university!) Only through practice will students gain independence and skill with the online subscription databases; they are wonderful repositories of high quality articles, animations and sound recordings. But students are guaranteed to save time by following these suggestions.

Upper School: It's all about conversation! As students dive into complex research projects (many of them needing senior year to produce the extended essay for IB), they need a lot of conversation to internalize the new learning that will enable them to think deeply about their topic, pursue relevant questions, and draw their own conclusions. If your child is involved in research, know that it's going to be an emotional challenge to their endurance as well as, potentially, a labor of love. So become acquainted with the topic—at least enough so that you can converse, ask probing questions, encourage a critical evaluation of ideas and resources, and ensure that students are relying on the best quality resources for research. Toward that end, encourage your child to explore and use the online databases to which the school subscribes. Discourage Google or Wikipedia as the first step in research. Encourage Subscription Databases, instead, please. These are our internet-accessible “gold mines” that store hundreds of thousands of scholarly articles, graphics and videos that facilitate faster, more efficient research. And many (such as My Ebsco Host) come with “how to use this database” tutorial videos sure to bring parents quickly up to speed – just look in the help menu. If they use the databases, students will save a great deal of time and they will work with more reliable information than they are likely to find in a search of “free stuff” on the Web. Ask your child to show you what they are finding in the online databases and the tricks they use for “advanced searching.” Note that as early as 7th grade, students learn how to access, search in and store online the cyber-safe and high quality resources in the databases.

Sidebar:

Buzzwords:

Information Literacy- the capability to access, navigate, interpret and use information sources. Information Literacy Skills include, for example, the ability to access an electronic database, navigate the database by using the menu and hyperlinks, use advanced searching methods to efficiently search for resources within it, evaluate the validity and identify the point of view of various articles one locates, and provide a source citation as needed to respect intellectual property.

Research Process - a series of discreet and identifiable steps that a researcher uses to solve an information problem. It begins with analyzing the assignment (in order to understand the task ahead) and also generating the appropriate questions to take to the resources. It concludes with the publication and evaluation of a product that shares the solution to the problem or the knowledge gained.

Electronic Resources – the resources that one can access on the Internet such as web sites, subscription databases (which are vast, searchable storehouses for scholarly articles, videos and images), blogs, Web 2.0 programs and internet-based social networking tools.

Web 2.0- The more recently developed interactive Internet capacities that engage people in online collaboration. They have appeared subsequent to the Internet's initial stage, so think of these as the “second generation” resources of the Internet. If Web 1.0 provided one way expression (web pages that authors wrote and you could visit and read), then Web 2.0 emphasizes interaction (stuff you converse with, easily tag to built traffic to, and build upon. It's the collaborative Web. Here are some of the exciting Web 2.0 tools our TAS students are using:

- **Wikis** are interactive web pages that give multiple authors the access to write, edit, revise and instantly publish the page)
- **Google Docs** enable simultaneous online editing of documents by multiple authors in different locations. This space permits uploading of video content. People can conduct online surveys, process data and publish the survey results. They can also easily create web sites.)
- **Blogs** such as the ones our 7th graders are writing to post commentary and images and elicit responses from the teacher and classmates that are also posted online.

- **Social networking sites** such as Facebook are where students read post information about themselves, upload and exchange images, and generate conversations.
- **Social Bookmarking** networks such as Diigo enable people to save “bookmarks” or “favorites” online and easily tag them with keywords to share them with others.
- **RSS Feeds** allows a researcher to subscribe to continually updating feeds of information. An RSS Reader (or aggregator) stores the content in an organized fashion.
- **Multi-player games** enable people to design and assume an identity, enter and develop a virtual world online and have adventures in which they interact with others players around the globe.)
- **Podcasts** are recorded audio and video casts shared online (most of them free of charge.) Examples are news programs such as CNN Student News and lectures from universities like Princeton and Stanford. Foreign language drills and vocabulary development programs are also available through I-tunes.
- **Shelfari** (used in Upper School) where students can see the book recommendations of their teachers and potentially provide feedback, gather data about a book’s popularity, and build reading lists of their own that are stored and shared instantly online.

A short video at <http://www.youtube.com/watch?v=XwM4ieFOotA> puts many of the tools listed above in context. It can help parents get a sense of where researching and learning is headed as such Web 2.0 tools are used by more educators to harness the student’s naturally “socially” motivated brain and inclination toward “Connectivism.”

Sidebar #2

Buzzword: **Habits of Mind.** Art Costa and Bena Kallick are renowned educators who have championed a list of the habits that we can praise in children. That’s because children who develop these habits dramatically increase their ability to learn. See how many of them below relate directly to research. But don’t wait till the big research project to “catch your child in the act” when you can tell him or her, “I’m really proud of how that work there shows you are...”.

1. **Persisting**
2. **Managing Impulsivity** (*Thinking before you act*)
3. **Listening with understanding and empathy**
4. **Thinking Flexibly**
5. **Thinking about thinking** (metacognition)
6. **Striving for Accuracy**
7. **Questioning and posing problems**
8. **Applying past knowledge to new situations**
9. **Thinking and communicating with clarity and precision**
10. **Gathering data through all senses**
11. **Creating, imagining, innovating**
12. **Responding with wonderment and awe**
13. **Taking responsible risks**
14. **Finding humor**
15. **Thinking interdependently**
16. **Remaining open to continuous learning**