

A School Library Program Based on Information Literacy: A Case Study of National Experimental High School at Hsinchu Science Park

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Known as IC design and other electronic device center, Science-Based Industrial Park recruits outstanding professionals, scholars, and engineers in high technologies in Hsinchu, Taiwan. The National Experimental High School at Hsinchu Science Park (abbreviated as NEHS) was established for their young offspring. Enrolled with various students from greater Science Park Area and overseas, this school engaged in experimental teaching and educational research which was supported by the government. With bountiful educational resources, library is playing a key role in information literacy. This article stresses the importance of the information literacy and Big6 model, and introduces the school library program in information literacy at NEHS. Finally, remodeling the school library program of NEHS with Big6 model is discussed.

Introduction

Traditionally, schools taught the reading, writing and arithmetic. Literacy was captured in international census data by estimating the percentage of people who could read and write. (Murray & Kinnick, 2003) Today, learning to use technology is a clear goal in K-12 education, and schools worldwide are scrambling to add hardware, software, and connectivity and to infuse computer technology into the instructional program. But this is not enough! Students also need to see how technology boosts their abilities, how it enables them to be more effective and efficient in tasks such as figuring out what they need to do finding and using information making presentations and reports. (Elsenberg, 2001)

Science-based Industrial Park, Hsinchu, Taiwan was well known for the creating and manufacturing electronic devises all over the world. In order to supply better

working and living environment for the research and engineering people, the NEHS was found for their offspring, which include a whole school system from kindergarten to high school (from pre-K to K-12). Not only bilingual teaching but also experimental teaching and educational research are focus for the school. The school library realized the contemporary literacy is essential for the 21st century and led an information literacy program in the elementary school several years ago. With more effective teaching models and new information technologies emerged, the school library program was aligned with the Big6 approaches, and intended to join the high school curriculum.

Information Literacy and Big6

The term “information literacy” first appeared in the mid-1970s as awareness grew that information was becoming an overwhelming and unmanageable deluge. In the 1980s, people realized that computers might be useful tools for organizing and retrieving information. (Murray & Kinnick, 2003) “Information literacy” is a transformational process in which the learner needs? to find, understand, evaluate, and use information in various forms to create for personal, social or global purposes. (What is the Big6? 2004, March 11) Eisenberg gave a comprehensive concept to the Big6; it is a model of the information problem-solving process, a set of six essential 21st century skills and an approach to learning and teaching information and technology skills. (Eisenberg, 2003)

The Big6 is an information literacy model which included six stages, and two sub-stages of each stage. The components are: (What is the Big6? 2004, March 11)

1. Task Definition
 - 1.1 Define the information problem
 - 1.2 Identify information needed in order to complete the task (to solve the information problem)
2. Information Seeking Strategies
 - 2.1 Determine the range of possible sources (brainstorm)
 - 2.2 Evaluate the different possible sources to determine priorities (select the best sources)
3. Location and Access
 - 3.1 Locate sources (intellectually and physically)
 - 3.2 Find information within sources
4. Use of Information
 - 4.1 Engage (e.g., read, hear, view, touch) the information in a source
 - 4.2 Extract relevant information from a source

5. Synthesis

5.1 Organize information from multiple Sources

5.2 Present the information

6. Evaluation

6.1 Judge the product (effectiveness)

6.2 Judge the information problem-solving process (efficiency)

Technologies incorporated in the teaching and learning is essential for curriculum today. The implementation of technology through the Big6 can develop students' problem-solving, complex thinking, and information management abilities, enable students to become comfortable with technology and understand that the technologies are valuable tools to help them perform their work, focuses students' attention on using technologies as tools to extend knowledge and to individualized learning, develops an active participatory learning process in which students become self-directed learners, facilitate integrating technology across all grades and into all disciplines, and assist teachers in changing their roles from presenters of information to learning coaches who offer tools and advice. (Eisenberg, 1996)

The School Library Program of NEHS

The NEHS is a K-12 school. It was established for children whose parent works in the Greater Hsinchu Science Park Area since 1983. The NEHS now boats 99 classes, with 12 in the Senior High School Department, 15 in the Junior High School Department, 42 in the Elementary School Department, 6 in the Kindergarten Department, and 24 in the Bilingual Department. The student enrollment is 2,900 in all. And the NEHS currently has 204 teachers including 18 foreign teachers.

The library of NEHS is open forty-five hours per week and owns fifty thousand Chinese books, thirteen thousand English books, ten thousand audio-video materials, and more the two hundred periodicals. It was established at the central part of the campus. Functioned as media center of the school, the average circulation amount of the books are 1,500 a week.

Starting from kindergarten, students of NEHS are given school library program based on information literacy to gradually develop their reading, researching, and independent study skills. To deliver various services, the library constantly arranges many activities such as story time, tours of the library, reading groups, and seminars on writing project and reports, etc.

In 2001, the teachers of the Elementary School Department of NEHS and the librarians created library program which presented ten topics in the curriculum as follows:

1. Know the library
2. The courtesy of using library
3. Materials borrowing and returning
4. Books structure and copyright issues
5. Books catalog and shelving
6. Reading method
7. Know the non-book material
8. Know the reference book and the information organization
9. Library automation and information retrieval
10. Life-long learning

According to various grades, each topic peeked at one to four competencies in increasing information literacy. Designed with workbooks and activities, students raised high interests in information seeking and using library.

Remodeling the School Library Program of NEHS with Big6

With more technologies and electronic resources developed, the school library program of NEHS which focused on library utilization and reading should be remodeled. In fact, the learning process and the problem-solving of the students are not simply depended on traditional library utilization. And it is more than being able to operate a computer. Big6 model builds up essential stages and processes for information literacy. The library intends to use this model to align the school library program. Students should learn to use the full range of information technology for any subject area curriculum. At the preliminary planning, the new program will suggest to include Big6 concept in teaching. (Elsenberg, 2001) The Subjects are:

1. Task Definition: Discuss what the students are trying to accomplish and what the result might look like.
2. Information-Seeking Strategies: Consider options and alternatives. Apply criteria and explain why they chose a particular resource.
3. Location and Access: Discuss how the various search systems differ. Ask students to explain why they prefer one to another.
4. Use of Information: Apply criteria for selecting good information and discuss the reason.
5. Synthesis: Easy of use is the primary concern in synthesis.
6. Evaluation: Are the goals of learning being met? Is the process being helpful? And

are all the information and effort being meaningful?

Comparing with the past program, the library media specialist/librarian will be a role of navigator, which is to help the students solving their information problems. These skills are essential and can be transferable as basic information literacy for their life-long learning as well as living in the 21st century. Librarians will highly recommend teachers of NEHS to adapt learning and studying model as Big6. And workshops of Big6 for students will be followed. With the same structured vocabulary, students and teachers can use the same jargons while discussing the problem-solving strategies being employed in a particular learning situation. This will be collaboration between school librarians and all grade teachers, and surly this is effective way to have the Big6 model integrated to the school curriculum.

Conclusions

From literacy to information literacy, the paradigm shift represents that school teaching is more than reading, writing and arithmetic. Moreover, students can be taught to retrieve and analyze useful information, which can boost their abilities of critical thinking. As the information technologies increase exponentially, libraries are not the only resources for information. In other word, the library program should consider more critical factors to explore students' learning abilities. The Big6 provides a conceptual approach for helping students learn and use technology in effective method. And the library program can use it as a standard for remodeling for progress.

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