This has been a long day for all of you, and you have made the time to come here. I feel deeply honored and deeply privileged to be here with all of you. I do want to thank Dr. Yuriko Nakamura for making this possible. She was a prized student of mine, and I am very pleased to accept her invitation to talk with all of you. This is my very first trip to Japan, and to be here has been a dream come true. So thank you very much for coming. I've paced my talk, and I will try to move through the slides quickly so there will be time for questions.

My talk is titled, “School Librarians as Learning Specialists,” and I’ve sub-titled this, “Working Collaboratively in the 21st Century School.” As Yuriko and Dr. Wertheimer mentioned, I’m from the
University of Hawaii, and I'm very happy to have Dr. Noriko Asato here who will also be doing the interpretation and translations for me.

I'd like to start off by saying something about why we need change. When Dr. Branch spoke, she got us right into talking about inquiry as a way of teaching and a way of learning. I want to step back from that point for just a minute, and ask, why do we need to have inquiry teaching or inquiry writing in our schools? What’s the reason for this? The context for change, I think, is very critical. When we say we’re graduating our students, what do we expect them to be able to do? These are essential questions for us to ask. Based on the answers, there are implications for schools. What must our schools do to make it possible for our students to succeed? It’s within this context for the change that we need to define the role of ‘learning specialists’ in our schools. The idea of no longer working in isolation is a very critical part of the change needed in schools today. What has happened before is we’ve worked in egg cartons — isolated in our own classrooms, in our libraries. But what is happening today is the need for team-ness, and so that is a concept we need to work on.

**ORGANIZATION OF TALK**

Continuing on with the organization of my talk, I will discuss why librarians are very important learning specialists and how they can help students overcome gaps in learning. Questions we
need to ask are: What can students not do well? What can librarians help students to do better? I will conclude my presentation by providing two brief examples of librarians who are striving to be learning specialists in their schools in Hawaii. I will connect my presentation to what Dr. Branch was talking about, which is the importance of a culture of learning in a school, and how collaboration is a very important part of that concept today. At the end, I will open it up for discussion and questions.

**CONTEXT FOR CHANGE IN EDUCATION**

Let me start with the context for change. We talk about a global society — a world society. We realize technology has a lot to do with the way in which we live, the way in which we work, the way in which we play. In a videotape created by Karl Fisch entitled, “Did You Know?” he mentions a lot of different change factors in the world today, and I have just taken four of these factors to share with you. The first two deal with the place of technology in the world today, and how it has transformed how we look at things, and how we deal with things. Technology information doubles every year. It’s phenomenal. People perform 3 million Google searches every month. Imagine
that! And this has impacted the kind of world our students enter to find jobs. Fisch says that the top 10 jobs in 2010 will not have existed 10 years ago, and that today’s graduates will hold as many as 10 to 14 different jobs by the time that they’re age 38. What this tells us is that we cannot teach them to be static learners — people who leave our schools with a certain amount of knowledge and that’s all they expect to know — because they’re going into a world where they will have to deal with fast changes, be adaptable, and be responsive to shifting needs.

NEEDS OF OUR 21ST CENTURY GRADUATES

This leads us, then, to look at the skills that our graduates really need. All of what I’m sharing with you today is based on my teaching experiences and my research over the last 35 years in the United States. What I’m looking forward to here in Japan, is to find out more about your culture and the way that you look at your graduates and the kinds of school systems that you have here. Regardless of the standards we address in the United States, and it seems to be quite similar in Canada, certain themes float to the surface in all of them.

The first two bullets in my slides are conventional standards. The first bullet
refers to basic reading, writing, and computational skills. The second bullet refers to disciplinary knowledge: the knowledge of literature, of history, of science, of mathematics, and so forth. But the remaining bullets define the 21st century graduate. To elaborate, today’s graduate must have fluency, the ability to use and to work with technology, the ability to use and work with various forms of media, and the ability to use and create information — these are extremely critical skills in today’s society. The bottom line is that 21st century graduates must be critical thinkers. They have to be people who don’t always have to have answers given to them; they have to be able to seek the answers on their own. They have to be able to solve problems. They also have many opportunities to work together in schools and businesses and at home. Social skills are, therefore, important. Being able to get together and construct knowledge, work on projects and perform tasks as a group or as a team — those are social skills. Young people must also be ethically responsible to one another as human beings. They must also be able to use information in ways that show that they are responsible citizens. The bottom line is developing self regulation: we want to develop a generation that can go out into the world and know how to deal with problems and know how to work with diverse peoples. These are all very important and challenging skills to develop.

CHANGING MODELS OF EDUCATION

If these skills and dispositions define the successful 21st century graduate, we must consider the implications for schools. Educators today are saying that so much of education is still being conducted in schools that are built on 19th and 20th century models of schools, and that we must move into 21st century models. For
the next two slides, I’d like to talk about and describe what changes are necessary.

First, 19\textsuperscript{th} and 20\textsuperscript{th} century schools still believe in fragmented learning, where you have separate classes for science, math, social studies, and so forth. Increasingly we are striving for more integrated, conceptual structures. Project-based learning and inquiry learning that Dr. Branch spoke about moves into this arena of integrated, conceptual knowledge. While class work that involves memorization, drill, and exercise has a place in the curriculum, we must emphasize more critical thinking, where students are actually asking questions and moving beyond simply rote learning. Importantly, rather than simply using textbooks for all of their assignments, students should have access to a variety of resources from the library, community, and world. While working alone is still a prized part of what we do in education, we want students to also work on tasks that require collaboration in teams or small groups, where they pool their expertise, bring together their knowledge, and build something better than any one of them could do alone.

Moving on, teachers will always grade student performance. In 21\textsuperscript{st} century schools, however, students also take a look at what they are doing and participate in what we call assessment — being

### Changing school models 1
- Fragmented learning to integrated, conceptual knowledge
- Memorization and drill to critical thinking
- Exclusive use of textbooks to use of diverse resources
- Working alone to cooperative knowledge construction

### Changing school models 2
- Grading of results to continuous assessment of work in progress
- Emphasis on breadth to focus on depth of learning
- Limited technology to technology infused environments
- Teacher as information provider to guide and facilitator
able to view their own work in progress and determine what they are doing well and where they might improve. Assessment is a very critical part of what Dr. Branch was talking about in inquiry learning.

The emphasis is not on breadth, not trying to cover the whole textbook so much as addressing important concepts in the textbook that require deeper investigation. Is there a way that we can find a balance of breadth and depth? This is the tension and challenge we face.

From limited technology in many of our 20th century classrooms, we are moving towards technology infused environments in classrooms, libraries, and school computer labs, where students have access to a range of applications and exciting opportunities to do social networking, to organize and retrieve information, and to create knowledge. This is what we want to strive toward in 21st century schools.

Finally, it is important that teachers not be simply information providers, but also guides and facilitators. There are times when they do have to stand up in front of a class and lecture. We all have to do that. But in addition, we want to make time in the curriculum, so that we have that opportunity to work side-by-side with a student who is trying to get something done. That balance is what we’re trying to achieve in the 21st century school.

LIBRARIANS AS LEARNING SPECIALISTS

Given this is what we want to see happen in 21st century schools, let’s now talk about the role of the learning specialists. Allison Zmuda and I wrote the book, Librarians as Learning Specialists. We introduced the concept of learning specialists because we realized that there were individuals within a school, at
At least in the United States, that do not have regular classroom assignments, but they actually teach and work with all of the students and teachers in the school. They have academic qualifications similar to the teachers’ qualifications.

The following are examples of learning specialists in schools in the United States. Technology resource coordinators are teachers who take care of the computer labs in a school. Other teachers bring their students to the lab and the computer teacher does the teaching. We also have reading coaches and math tutors, who help students with problems in reading or math. In elementary schools, frequently we have science resource teachers because many elementary school teachers do not have adequate training in science. When one teacher has that experience, he or she is taken out of the classroom and helps different classes working on science projects and lessons. Finally, we have school librarians who service entire school populations. All of these people are examples of learning specialists.

The concept of collaboration
between learning specialists and teachers is critical. Teaching teams work together to identify common objectives that they wish to achieve in the classroom and in the library. They also explore ways to cooperatively evaluate and assess whether or not students meet those objectives. Importantly, they actually start to plan units and projects together. They establish a timeline: when shall we do what and who will be doing which part of the teaching. When this starts to happen, you actually have collaborative teaching occurring.

Why is the school librarian a critical learning specialist? Research studies conducted in the United States and elsewhere in the world overwhelmingly indicate that while students are computer literate to a certain extent, they are not necessarily information literate. They have little knowledge about how information is organized. Some high school students haven’t learned how to access information in a resource as basic as an encyclopedia. Many students have great difficulty in conducting information searches because they do not understand the concept of keywords very well. They frequently have very limited proficiencies in the vocabulary of a discipline, i.e., the language of science or math. I remember just a few minutes ago, Dr. Branch said it took eight 80-minute sessions to get 15-year olds to understand the background information for their research. If they don’t have that foundational information, it’s very difficult for them to come up with the keywords that they need.

Students are often unable to craft intelligent, relevant queries —

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### Potential contribution of school librarians

- Address gaps in student learning
- Limited understanding of how information is organized
- Restricted ability to conduct effective information searches
- Inability to form intelligent and relevant queries
- Difficulty evaluating and selecting resources to meet information needs
questions that address what they want to know and do. In addition, they have tremendous difficulty selecting the most relevant hits when they perform Google searches and come up with 1000 hits. Which ones are the best? They don’t know how to go about figuring that out. These are all gaps in student learning.

School librarians, I feel, are eminently qualified to help students overcome these learning gaps. In Hawaii, school librarians must successfully complete a master’s program in library and information science to be certified. In addition, they must have completed a teacher training program. As part of their overall preparation, they gain skills in information search and retrieval. They’re also trained in knowledge organization and information management. Importantly, they also become proficient in the use of information and various information technologies. When they are employed in schools, they are expected to be knowledgeable about the total school curriculum. They must know what the teachers are trying to accomplish in the schools. Because of their formal training, school librarians are ready to work with teachers in helping students become more information literate.

**EXAMPLES OF TEACHER-LIBRARIAN COLLABORATION**

Now I think it’s time for me to share two quick examples from Hawaii of teacher-librarian collaboration.

The first example is from Waikele Elementary School where the students were studying insects of various kinds. Kindergarten
students (age 5) discovered a strange bug on the school playground, and they got very excited about this. They had the teacher bring it in a jar into the classroom, and all of the students wanted to know, “What is this?” “Is it dangerous?” “Will I die if it bites me?” The teacher immediately saw a connection to the science standards the class was studying so she had three students volunteer to form a research team. They called themselves the “bug detectives.” The teacher involved the librarian, and the three students went off to the library to do their search.

They could not find any information in the library to identify this bug, so the librarian said, “I will help you write an email message to a bug scientist (entomologist) at the University of Hawaii.” They sent the message along with a photo of the bug. Next day, the scientist wrote back, “I have the answer for you. The bug is called an assassin bug.” The students were fascinated. They wanted to find more information about this bug, and so the librarian helped them collect information from the
community.

By the time they were finished with information gathering, they were so excited, it was not enough to just let their classmates know what they had found. They wanted to let the entire school know what they had found. The librarian and the teacher worked together with these students, and they produced a one-minute videotape with the help of the video coordinator. This videotape was shown on closed circuit television to the entire school. For the rest of the year, everyone in the school was on the lookout for the bug including students, teachers, janitors, and administrators. This is an example of the librarian serving as a learning specialist, working closely with the teacher and with the students to help them find the information and construct their own knowledge.

The second example is from Kapolei High School, a large school of about 2300 students. All students belong to different academies. For example, there is a science academy, graphic arts academy, and so forth. In the science academy, the students are expected to work on projects in either the life or the
physical sciences. The science academy teachers work very closely with the students in selecting topics that meet curriculum standards. The topics must also be interesting and relevant to the students. The teachers collaborate with the school’s two librarians, who help the students locate and connect with community information resources including scientists, doctors, nutritionists, and other science professionals.

Both librarians are respected teacher-partners at Kapolei High. In this photo on the slide, you see one of them working with the students on note taking skills. The students also learned how to access information on the Internet. The librarian also taught them how to organize their notes so that they were able to use the information for their final projects. Many of the students in this class made display boards similar to the one shown in this slide. The girl in this particular slide is a surfer, and she had a research project that dealt with surfing wax for surf boards. The librarians also helped the students critique their display boards to make sure that they were complete,
attractive, and accurate. All of the projects were brought to the school library for public viewing and judging.

Here again, then, we have librarians serving as learning specialists. They work with the teachers from the beginning of the projects. They help students gather the information, organize that information, evaluate that information, and then ultimately create final products.

BUILDING A COLLABORATIVE CULTURE

What I’ve been trying to describe is the importance of nurturing a collaborative culture in a school. This involves everyone who works with students as well as the students themselves. A culture in a school is made up of some very complicated tangible and intangible factors. It requires that people have a shared vision. It requires that they have commonly held beliefs. It requires that they believe that they can work together to perfect practices to achieve the outcomes that they want. Learning specialists are extremely important team members and leaders in a collaborative community. At Kapolei High School, for example, the two librarians are considered leaders in the school. They actually coordinate study groups with the teachers.

In a collaborative culture, members are always addressing the learning goals of the school. They ask: Is the curriculum producing the results we want? They recognize that the curriculum must be tied to some standards of measure, whether they originate in the
Summary: nurturing a collaborative culture 2

- Require strong administrative support for specialists and collaboration
- Allow time for information exchanges
- Provide opportunities for training
- Provide adequate resources
- Encourage feedback and progress reports
- Recognize achievements

district, the region, the state, or the province. The important thing is that they are not focusing on themselves as teachers or adults, but they are focusing on students and their products and performances and ways to help them achieve the learning goals. Success comes from drawing on the expertise of every single member of the instructional community. They interact and plan for quality instruction. They work with one another in a continuous cycle of reflection, improvement, action, reflection, and further improvement. This becomes a spiraling experience to build excellence.

I must take a moment here to talk about the importance of administrative support to make this kind of culture work in a school setting. We need administrators who will allow time for this kind of information exchange, for these meetings, for these discussions, for this kind of planning to take place. We need administrators who provide training opportunities when staff members are not too sure about something and they need assistance. They must provide adequate resources and space, encourage feedback and reports on progress. Administrators may not actually be present at these meetings; however, they must keep informed about what’s happening, and they must recognize and reward achievements.

CONCLUSION

Today’s graduate has to be more than learned. That graduate must be equipped for lifelong learning. If the world is changing as
rapidly as I mentioned at the beginning of my talk, our students need to think on their feet, to make thoughtful changes when changes are necessary. It’s important that they know the subject content. It’s important that they understand and appreciate the knowledge of the past, but they also must be the ones that forge the future. They’re the ones that are going to create the new knowledge, and that is what we need to equip them for. In order to help students succeed, teachers can no longer work in isolation. In 21st century schools we must work collectively and collaboratively to support our students. Thank you very much.

**Selected references**

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