Evolution of the NESA and World Virtual School Projects

By Ken Paynter

Introduction

Invention, it seems, not only emerges because of the push of necessity, but also because of the pull of *inspired vision*. And fruitful invention, it seems, is not necessarily the work of a genius, but often rather the work of *collective genius*. The evolution of the NESA Virtual School and World Virtual School Projects should be review with these decisive factors in mind.

Genesis of the NESA Virtual School

During the 2001-2002 school year, the International School of Islamabad faced three major evacuations. In the fall, the school attempted to maintain academic continuity by using a combination of teachers' web pages and email, which proved very difficult. During the second and third evacuations later that year, they made use of the learning management system (LMS), *Blackboard*, hosted by students at the Thomas Jefferson High School for Science and Technology in Alexandria, VA. During these events, the school was able to provide better academic continuity as Blackboard enabled teachers to assign and collect homework, and to coordinate various community activities, and so the Islamabad school was ultimately able to finish out the school year successfully.

Following on this success, Dr. Bea Cameron of the Office of Overseas Schools, and David Chojnacki, NESA Executive Director, proposed a pilot project of schools sharing a learning management system for educational emergency purposes (NESA Teachers Conference; Spring, 2002). Six schools were selected to participate (ACS Abu Dhabi, AES New Delhi, AS Dubai, AIS Dhaka, ACS Amman, and WBAIS Tel Aviv). At JOSTI (Jefferson Overseas Schools Technology Institute in Alexandria, VA) in June, 2002, several application service providers (ASPs) were interviewed by representatives from the six schools, and ultimately Blackboard was selected as the "best fit" LMS platform. The NESA Virtual School (NVS) Project was underway.

NVS Formative Years

The first three years of the NVS Project were fully subsidized through a grant from the Office of Overseas Schools, and Dr. Cameron emphasized an "organic" approach in which schools were encouraged to try things out and see what worked best. Support included not only the cost of the Blackboard ASP, but also included meetings held twice a year at the NESA Administrative and Teachers conferences for two computer system administrators from each participating school. In the first year, the system administrators were additionally funded for a special meeting in August in Abu Dhabi for training to explore and establish user and course naming conventions necessary for sharing the system successfully.

In the spring of 2003, the Second Gulf War erupted, and the schools in Amman and Tel Aviv used the NVS system extensively and very successfully during a two-month embassy evacuation. In June of 2003, again at JOSTI, system administrators from six additional schools met for training with the experienced system administrators from the original six schools. The project expanded to involve twelve participating schools. Bi-annual meetings began to focus on setting and sharing goals of each school to use NVS and on the strategies to attain them.

What was apparent from the outset was that the effectiveness of the system as an emergency tool was directly related to incorporation by teachers on a regular basis. Consequently, many schools focused on setting baseline standards for use (such as posting course descriptions, regular homework, and related internet links), and some schools also devised incentives for teachers to use NVS, such as pay bonuses.

Another practice developed to ensure readiness was an online "fire drill"—first by having students stay home and teachers conduct online classes from school with support from tech staff—and later by holding a "virtual school day" (and a professional day) where both students and teachers stayed at home. As an additional incentive, the NVS group was able to arrange for post-graduate credit for teachers and system administrators to learn about using the system.

NVS Matures

At the end of the third year of the project, as planned, the NVS schools were to decide if they were ready to assume all Blackboard application service provider (ASP) costs. After some deliberation, all 12 schools agreed to pay (up to) $6k/yr for the next three-year cycle. NVS participation rose to 15 schools the following year and to 18 schools soon thereafter. Clearly, the value of the project had been established.

The NVS Project group was beginning to realize the important value of meeting regularly—not only to work out the logistics of the project, but to collaborate as peers, to trade notes, and to share professional experiences. The group often found itself engaged in dynamic and informative discussions about school computer/networking and teacher training policies and practices related to, but also beyond, the scope of the NVS project. A "landmark" combined meeting held in Muscat in 2005, of NVS System Administrators and School Directors, led to the collective realization that NVS schools could each adopt a robust "no closure" policy, thanks to the guaranteed continuity the NVS system could provide.

NVS Serves as Emergency Continuity Tool

Since 2003, the NVS Project has served schools on an emergency basis through delays and closures because of political turmoil in Riyadh, Dhahran, Beirut, and Kathmandu. In Damascus, where the school was shut down on very short notice in early November, 2008, the NVS Project helped students who needed to finish the semester to make the transition to new schools more successfully. (NVS is happy to welcome Damascus back this year into the project.). At the beginning of the 2009-2010 school year, an H1N1 emergency enveloped most of the Saudi peninsula and some surrounding regions, and many schools were closed or faced voluntary/recommended absenteeism for up to five weeks. NVS proved very useful once again in sustaining curricular momentum.

NVS Fosters the NESA Virtual Science Fair

Emerging from an impromptu lunchtime brainstorming session in 2003 about the possibilities of using online resources to enrich a traditional science fair, and then piloted as a proof of concept at the school in Tel Aviv in 2004-2005, the NESA Virtual Science Fair (NVSF) was officially rolled out through the NVS Project to regional participants during the 2005-2006 school year. E-mentors from over 50 universities in the US, Europe, and Israel worked with over 600 NVS Middle School students. Now in its sixth year, and expanded to include a 5th grade science fair component as well, the NVSF project continues to clearly demonstrate the power of collaboration within a well-organized network of schools. NVSF has been such a successful and informative project model that it has helped to spawn several other compelling collaborative ideas within NVS, including a speech contest and a video festival.

The World Virtual School—From Concept to Reality

As soon as the NVS Project demonstrated its utility and sustainability, the next question was whether it could be scaled to a global level. In exploring and presenting this possibility at regional conferences over the years, there had been an ongoing effort to identify and simplify the key motivational and functional aspects of the NVS Project. The description below, found on the current World Virtual School (WVS) site, represents a statement of mission, which evolved relatively early on to describe these basic elements of this concept...

"*The World Virtual School Project (WVS) is sponsored by the U.S. Department of State Office of Overseas Schools to assist participating schools and regions in terms of curriculum quality and continuity, opportunities for collaboration, progressive professional development, and resiliency in the face of natural or man-made emergencies. This unique project is premised on the assumptions…*

schools value the integration of relevant and effective online resources for their varied learning communities;

schools value working regionally to collaborate and to share perspectives and methodologies, and to consider and nurture best practices;

schools value their integrity in the face of adversity, and seek cost-effective and reliable means of assuring continuity of operation" (http://global.wvsgeo.org).

The first attempt at combining regional services occurred in 2006, when the AISA region (which had been using Blackboard on its own since 2004 in a project closely modeled after the NVS project) combined its services with the NVS Project on the same Blackboard server. The two regions were reasonably successful in managing their users and courses for the following two years, but this experience brought some technical limitations of the Blackboard system to light that cast serious doubt on its feasibility for building a global network.

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Inspired by the proven success of the NVS project, representatives from all eight of the international schools regions were convened in June, 2007 at JOSTI for the first WVS Network Project meetings. The meetings were based on a three-year agreement to explore those key elements mentioned in the WVS definition above – once again "organic" in nature, allowing the agenda to follow the combined wishes and wisdom of the group. These first sessions focused on comparing the Blackboard LMS platform and its potential for scalability to a global level, to the Moodle LMS platform or perhaps even some other online systems. The conclusions were essentially that Blackboard was awkward in many respects, had known and serious limitations, and was very expensive. It was also recognized that the less costly Moodle was not yet ready for enterprise level use by a global consortium. The WVS group agreed to generate, deploy, and analyze a survey of regional constituencies to see what they thought about the utility of learning management systems. This WVS survey of schools indicated that three factors were particularly significant in the successful adoption by a

NESA & WVS, *cont'd page 22*►

NESA & WVS,

continued from page 21 ►

school of an online learning management system—reasonable cost, effective training, and sufficient and reliable bandwidth.

In the 2008 second year meetings, the Blackboard vs. Moodle question was put aside and the WVS Project group instead focused on generating and sharing examples of successful collaboration within each of the regions. A website was created expressly for the purpose of gathering and sharing this information, with the idea that the emerging cross-fertilization of ideas and usage patterns would guide the WVS group towards developing effective global collaborative tools.

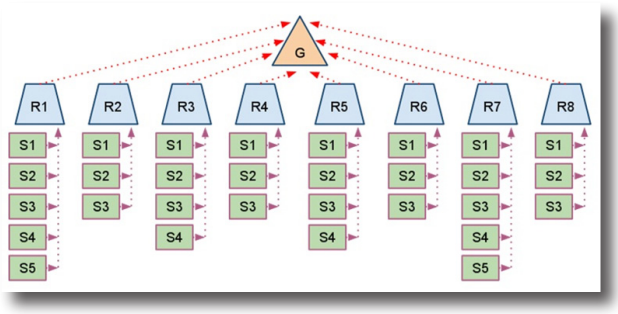
In the 2009 third year meetings, the WVS Project group reviewed and evaluated examples of regional collaboration that had been collected over the previous year. The WVS group also considered the dramatic developments of the Moodle LMS platform, especially its administrative tools and networking capabilities—providing very powerful, cost-effective, and elegant solutions for connecting schools online. It became clear that the potential for a global network was coming into place.

Plans for a fully functional WVS Network based on Moodle were conceived within weeks after these WVS meetings. In the fall of 2009, The NESA Virtual School group decided to migrate from Blackboard to the Moodle LMS platform, starting in 2010-2011. Their reasons were for overall improvement of the system, and to be able to join the WVS project. In February 2010, at the AAIE conference in Boston, four of the eight international regions (NESA, MAIS, CEESA, and TRI-A) participated in a presentation of the WVS Project and then agreed to a three-year collaboration to launch the WVS Network.

In the 2010 fourth year meetings of WVS, the group reviewed the rapid evolution of the WVS Network plan, and focused on the very real possibility of all eight regions joining the project in some capacity within the next year.

What Is the WVS Network?

Stated as simply as possible, the WVS Network is comprised of interconnected regional clusters of schools which are cost-sharing offsite ASP Moodle service. The schools are connected to a regional services site for purposes of regional coordination,



and the regional services sites are connected to a global services site for purposes of global coordination (Cf., Network Diagram).

Each school has a fairly high level of administrative autonomy, but also complies with regional requirements, and each region has a fairly high level of autonomy, but also complies with global requirements. The most prominent of the global requirements are that the ASP services selected by the regions demonstrate a high degree of reliability, and that all schools in the WVS Network participate in a periodic survey of readiness in terms of academic continuity of operations.

From the viewpoint of an individual school, what is provided is the opportunity for shared resources with any other school or group of schools in the WVS Network. From a regional perspective, the network allows for both regional coordination and cross-regional collaboration. From a global perspective, there is standardized information and protocol across the entire network and the ability to monitor school readiness. Collaborative projects can be readily facilitated between schools, or as regional or even global endeavors.

The Office of Overseas Schools is now helping to fund this WVS Network in much the way that the NVS Project was developed, by focusing on regional and inter-regional meetings and coordination, but leaving most of the actual cost burden for the Moodle services to the schools themselves. Since high quality Moodle ASP service is considerably less expensive than Blackboard, the entire project is much more accessible and attractive to many schools. The tremendous added value of having regular face-to-face meetings, as practiced in the NVS project, is nurtured as a central component of the project.

Conclusion

The World Virtual School Network is in a fledgling stage (with 38 participating schools), and interestingly the NESA Virtual School Project (with 18 of these schools) is also redefining itself while completing its metamorphosis from Blackboard to Moodle. The success of the NVS and WVS Projects reaffirms for educators the *necessity of invention*, the power of *inspired vision*, and the transformative potential of *collective genius*—all focused on providing educational communities with exciting and valuable opportunities—and resilient means—to communicate and to learn within their schools, within their regions, and now within a global network of schools.■

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