NANJING INTERNATIONAL SCHOOL

SMART CLASSROOMS Into the Future

NIS Three Year Technology Plan

Summary

Educators, students and parents must be well versed in the 21st century skills to be successful. The purpose of this technology plan is to provide a framework in which further integration of technology will continue to enhance learning and individual development.

With this in mind, Nanjing International School (NIS) believes that technology should be integrated into the overall learning experience of each student. All students will have suitable access to relevant technologies supporting learning and achievement. The school has developed a technology plan for the next three-years to meet NIS educational goals in a creative and innovative manner.

This plan has been developed to inform discussion about the use of technology in teaching and learning. The plan will support necessary infrastructure requirements (hardware, software, personnel).

The NIS Technology Plan describes the process in which we will integrate computers and related technology into the curriculum. For each goal the Technology Plan outlines the objectives that will support the mission of NIS. The plan identifies the method for routine review and revision to insure continued alignment of technology with curriculum development and the school's Mission. The plan will be reviewed annually and specified areas may be reviewed more frequently..

Plan Introduction

By implementing this three-year education and technology plan, we believe that technology will play a central role in continuing to improve student achievement. Teachers understand that the wise use of technology can enrich learning environments and enable students to achieve dynamic life skills. Educators must critically analyze the potential benefits of technology for learning and employ it appropriately so that students will apply enhanced strategies for solving problems using appropriate tools for learning, collaborating, and communication. NIS will provide

appropriate access to various technology tools to help students meet NIS standards and demonstrate their knowledge in innovative and creative ways. As a school we believe that a combination of essential conditions are required to create learning environments conducive to powerful uses of technology, including:

- Vision with support and proactive leadership
- Educators skilled in the use of technology for learning
- Assessment of the effectiveness of technology learning
- Access to contemporary technologies, software, and telecommunications networks
- Technical assistance for maintaining and using technology resources
- Community partners who provide expertise, support, and real-life interactions
- Ongoing financial support for sustained technology use
- Policies and standards supporting new learning environments

The resulting learning environments should prepare students to:

- Communicate using a variety of media and formats
- Access and exchange information in a variety of ways
- Compile, organize, analyze, and synthesize information
- Draw conclusions and make generalizations based on information gathered
- Know content and be able to locate additional information as needed
- Become self-directed learners
- Collaborate and cooperate in team efforts
- Interact with others in ethical and appropriate ways

NIS Vision of Technology

Technology supports the NIS Mission Statement by providing the infrastructure, tools, and education to enhance student learning, expression, differentiation, communication and creativity. NIS will integrate technology from Pre-K to grade 12. Technology helps promote high quality learning enabling students to learn and express their ideas through creative and innovative means. Technology allows the diverse NIS population to access curriculum in an individualized manner.

Note: this plan is an on-going evolving document that will be continually adjusted according to the needs of NIS and the changes of technology.

Infrastructure

How does infrastructure impact on student learning?

Statement : Infrastructure supports student learning through ensuring a robust wireless network, communications system, appropriate software and technical support as required.

Now: Where are we now. In June 2009 we finished the first year of Macintosh transition.

First Step: Students grades 6-11 with Macbooks, 4 trolleys, TA's on Macs and distributed printing system.

Second Step: Increasing services on servers, all school including Admin on Mac.

Hardware	School Year 2008-09	First Step	Second Step
Transition to Macintosh	Servers, Teachers, Grades 6-8	6-11, Classrooms, modify labs 09-10	
Backup Systems	(2) 4 Terabyte RAID	(4) 4 Terabyte RAID	
Network and Internet Access	School Year 2008-09	First Step	Second Step
Website	Existing website not meeting needs Offsite causes issues of support and updating	Website companies involved 08-09 Onsite test server Main portal for all electronic offerings	09-10 On site, local support Modifications as necessary
Technical Support	School Year 2008-09	First Step	Second Step
MacBooks- Staff	Teachers only	09-10 Teachers and TA's	
MacBooks- Students	Grade 6-8	Grade 6-11	Grade 6-12
Software	School Year 2008-09	First Step	Second Step
Adobe License	Design Only in 08-09	09-10 Add Web Licenses	
Electronic Resources	School Year 2008-09	First Step	Second Step
Student/faculty laptop ordering system	Not electronic	09-10 via website to accounting	
Facilities	School Year 2008-09	First Step	Second Step

Server Room Changes	difficult to check out equipment, offices at back	Rearranging to provide for customer service at walk in window Resign existing office space for additional personnel, equipment repair	
PYP lab	Dell laptops 21	09-10 PC Desktops, Dells to Trolley	
MYP lab	Switch to PYP; add furniture and storage facilities for Lego and MYP instructor	Equipment from MYP lab 2008-09 will be redistributed	
Phone System	limited dial in, no voice mail	08-09-Upgrade SmartTalk system for voice email, and SMS to mobile phone	
Equitrac Printers	3-printers; 2-multi printers Teacher only (08-09)	On site print shop-additional printers Teacher and Student (09-10)	
ID Card (Multipurpose)	08-09-Introduce to Staff	09-10 Use by all (Library, Food systems, Printing)	
Tools	School Year 2008-09	First Step	Second Step
Trolleys	2-Dell-20 each, 1-HP-10	08-09 1Mac@20, 1Mac@10, Add 2@20 late April 09	09-10 Additional 2@20
Lab	MYP and PYP	09-10 - MYP lab switch places with older PYP lab. PYP lab is bookable by any PYP teacher for any time.	
Classroom iMacs	PC (5 per room - school mandate) Admin rewriting the charter to provide flexibility of laptop use	Begin iMac or Laptops into classroom stations - Probably MacBooks for grade 1- 5 iMacs for younger students	
Human Resources	School Year 2008-09	First Step	Second Step

Apple Tech Support	1 database, 1 network, 2 Outsource (Mac systems, Apple Support), 1 coordinator, MYP teacher	09-10 add 1 tech integrator add 1 outsourced Apple Support	(10-11) Add 1 tech integrator coordinator splits to Director, ET and IT coordinator duties
Integrator & Curriculum Support	Part time (very small time :)	1 integrator (09-10)	2 integrators (10-11)

Professional Development

How does professional development of parents, staff, students and the wider community impact on student learning?

- encourages conversation about learning using common ideas and language
- increases the number of viewpoints that can inform on pathways to success
- facilitates student learning through effective pedagogical use of technology

Statement : The purpose of professional development in Technology in the NIS community is to improve student achievement in all curricula areas while equipping the community with those practical skills required to effectively research, organize, create, collaborate and communicate.

Now: (June 2009) We have introduced a large number of tech tools in the community. Converting these tools into effective pedagogical instruments is now the key issue.

First Step: The first step in getting to our goal is clearly delineating those instruments/practices that will enhance student learning and achievement

Second Step: Recognizing that, with constant turnover in our community, we will always have members who span the range of uptake, and that sustainable practices need to be developed that will account for continued learning by all.

Teachers	School Year 2008-09	First Step	Second Step

• Teachers must be well versed in the 21st century skills that students need to acquire to be successful. Teachers should be able to make relevant and useful choices about when and how to teach them, and whether or not students are making progress toward their personal demonstration of accomplishment. • Students should be engaged in relevant and contextual problem-based and project-based learning designed to apply 21st century skills and that is provided using a multi-disciplinary approach. Teachers must design curriculum that applies to students' current and future lives and leverages the power of Web 2.0 and other ubiquitous technologies. • Teacher designed assessments used in the classroom should increase relevant feedback to students, teachers, parents, and decision-makers and should be designed to continuously improve student learning and inform the learning environment. Sharing successes by teachers. Observe effective use of technology in different classroom. Program where coverage given so teachers can cross-pollinate ideas.	INSET opportunities for skill development and project creation. After school classes offered for skills development and curriculum modification. Personal technology goal created by each teacher for Appraisal.	Decide on common tools that all teachers are expected to develop proficiency. (developing ranking vocabulary- emergent, developing, proficient, mastery) Personal technology goal created by each teacher for Appraisal (create a project using technology for the class) Develop a rubric and people track their own progress on it using not used, emergent, developing, proficient, mastery as key indicators and share their progress at appraisal interview at the end of the year. Provide clear expectations (and methods of appraisal) of the standards to be achieved by all teachers in these common tools with *individualised* timeframes. Technology Integrator to work with staff hired full time. Provide pedagogical support on the school, department and individual level in the effective use of these tools. For example: continued inservice opportunities, 1-1 training, model teaching, collaborative teaching, collaborative environments set up, sharing successes, mentoring, etc. For tech innovators provide pathways for extension for those teachers "ahead of the curve."	Effectively integrate these innovators in a clearly described professional development relationship with teachers less knowledgeable or confident in technology. Set department standards/practice/ pedagogical expectations through collaboration between the SAC and the department. Consider offering courses (limited in space) after-school that need to be applied for and take the place of one ASA for instructors and participants

Administrative Staff	School Year 2008-09	First Step	Second Step
Administrators must be well versed in the 21st century skills that students need to acquire to be successful	INSET opportunities for skill development and project creation. After school classes offered for skills development and curriculum modification.	Decide on common tools that all administrators are expected to master. Provide clear expectations of the standards to be achieved by all administrators in these common tools with *individualised* timeframes. Develop methods of appraisal for teacher standards. Technology Integrator to work with staff hired full time. Provide pedagogical support on the school, department and individual level in the effective use of these tools. For example: continued inservice opportunities, 1-1 training, model teaching, collaborative teaching, collaborative environments set up, sharing successes, mentoring, etc.	Model effective technology practices when communicating with staff, students and parents. Admin must understand technological vocabulary and concepts. Spend some time understanding the domino effect of top-down tech decisions.
Administrators must monitor the design of curriculum that applies to students' current and future lives and leverages the power of Web 2.0 and other ubiquitous technologies.	Do we do anything now?	Investigate methods for review/ modification of curriculum to include effective technology use.	Set department standards/practice/ pedagogical expectations through collaboration between the SAC and the department. Document results and practices.

Schools should create a culture that supports and reinforces innovation for student learning and leverages the creativity and ingenuity of every adult and student in their environment to solve their unique problems. Additionally, the teaching and learning environment should generate the continuous development of those skills.	Hire teachers with evidence of willingness to learn technology and use innovative structures for student learning.	Investigate methods for creating a culture of innovation for student learning.	Establish expectations for creating a culture of innovation for student learning.
Create an effective system to investigate data for evidence of success or the need for support or change.		Investigate methods for analysing data for evidence of success or need for support or change.	Establish methods for analysing data for evidence of success or need for support or change. Review methods and change as needed.
Students and educators need 24 by 7 access to information, resources, and technologies that engage and empower them to do background research, information and resource gathering, and data analysis, to publish with multiple media types to wide and varied audiences, to communicate with peers and experts, and to gain experience and expertise in collaborative work.	Work with IT department to determine needs, resources and plans to make this happen.	Hold an end of year review with IT department and admins to determine successes and changes necessary to improve performance.	Create an action plan for continued review and improvement.

Technicians	School Year 2008-09	First Step	Second Step
Technicians must be well versed in the 21st century skills that students need to acquire to be successful	INSET opportunities for skill development and project creation. After school classes offered for skills development and curriculum modification.	Decide on common tools that all technicians are expected to master. (Must be familiar with software used by teachers and students.) Provide clear expectations of the standards to be achieved by all technicians in these common tools with *individualized* timeframes.	
Students and educators need 24 by 7 access to information, resources, and technologies that engage and empower them to do background research, information and resource gathering, and data analysis, to publish with multiple media types to wide and varied audiences, to communicate with peers and experts, and to gain experience and expertise in collaborative work.	Provide training opportunities as needed.	Conduct an end of year review to determine successes and ways to improve technician roles. Investigate ways to broaden the support network. Geek squads, teacher experts, etc.	Create an action plan for continued review and improvement.

Students	School Year 2008-09	First Step	Second Step
Students must be well versed in the 21st century skills that students need to acquire to be successful. This includes Creativity and Innovation, Communication and Collaboration, Research and Information Fluency, Critical Thinking, Problem Solving, Decision Making, Digital Citizenship and Technology Operations and Concepts and the Transdiciplinary Skills of the IB.	Initial training sessions. New student training session In class skill development.	Identify individual student learning styles. Use tools to enhance and support these styles. Investigate options for purchase by parents of laptops for use exclusively in school. Geek squad of students run by a teacher available 2 times a week after school (CAS hours offered) PYP kids and MYP/DP 2 day conference/workshop on using technology. Investigate methods for teaching skill development. (Tech Integrator collaboration, mini-sessions, conferences, in-services, homeroom) School will put resources into Ilife, Iwork, Inspiration Competency awards for programs at different grades Investigate method for determining equality of skill development for all students. (Who is responsible for making sure that different skills are addressed?) Investigate methods for efficiently bringing technology skills of new students up to speed. Provide methods for ensuring that all students know how to use the current electronic communication systems.	Additional pathways for students looking for extension, perhaps through clubs, ASA or specific task related training. Establish (and review) methods for teaching skill development. (Tech Integrator collaboration, mini-sessions, conferences, in-services, homeroom, etc.) Establish (and review) method for determining equality of skill development for all students. (Who is responsible for making sure that different skills are addressed?) Establish (and review) methods for efficiently bringing technology skills of new students up to speed.
Wider Community	School Year 2008-09	First Step	Second Step

Parents must understand the reason for technology use within the school.	Work with parents to achieve buy-in to technological innovations at NIS. Provide opportunities to receive and provide clear communication on the current tech implementation and future goals.	Explore methods for sharing technology successes of students with parents. Communication of expectation parents/students as far as the electronic community and use Parent training Provide methods for ensuring that all parents know how to use the current electronic communication systems. (Such as iCal, emails, blogs and wiki) Provide opportunity to accompany students to a technology workshop.	Create opportunities for parents to become a valuable and interactive part of the electronic community.
	Create a common language and vision for tech integration in curricula through workshops and presentations. (including examples of student work)		
Office Staff	School Year 2008-09	First Step	Second Step
Office staff must be competent in using current tools necessary in their job.	Send to training on an 'as needs' basis.	Develop in-house methods for continued skill development.	
Mentoring	School Year 2008-09	First Step	Second Step
		Investigate various models for mentoring. Set up effective mentoring schemes. Volunteer tech mentors	Review mentoring schemes.
Teaching Materials Archive	School Year 2008-09	First Step	Second Step

Archive of teaching materials		SAC responsible for making sure that units of inquiry are documented and current. Teachers must leave behind adequately documented materials. Introduce curriculum mapping software.	
Professional Portfolios		Investigate options for professional portfolios.	

Curriculum

How does curriculum impact on student learning?

Statement : Curriculum provides the content, scope and expectations of material formally studied at NIS. Although Technology has its own curriculum, the use of technology in all subjects to support student achievement will be documented in Subject curricula.

Now: We are currently (June 2009) getting approval for the SLO for grades PK - 5.

First Step: Develop SLO for MYP and determine who will be responsible for these outcomes.

Second Step: Develop and implement a system for assessment of SLO.

Pedagogy	School Year 2008-09	First Step	Second Step
Written curriculum	scope and sequence of skills in pyp in myp (pretty good start here) Ann curriculum documents	look at what other schools or organizations have: ISTE, MCREL, EARCOS, Tianjin, ASFM, State and National standards, other IB schools connections anyone? Minimum usage required? Expectation multiply as technical expertise increases. Map out skills that enhance student learning, Example: ween students off magic garage band and use regular garage band	Specific skills need to be taught so that technology can be seamlessly used in subject areas. Unit to be written up with integration of technology tools evident and for what purpose. This information to be stored on Data Center for easy access

Curriculum integrators	Limited release time Ann	Integrators start to sit in on team meeting and help plan units	Subject specific software/sites/ hardware needs to be team-taught
netizen skills	No documentation in place as yet for these issues.	Issues of cyberbullying, copyright infringement, internet etiquette, the lids of computers when someone is talking...?	
Research and development	Make a small team that will look at innovative technology uses which may include software, hardware and pedagogy. Ask for funding from technology budget.	Team research and meets to discuss findings and presents options to technology committee team provides in-service for products that are approved.	Possible expansion with additional teachers and students
Strategic Priorities	School Year 2008-09	First Step	Second Step
Student self sufficient and persistent in solving tech problems	students wait for teacher and may not even ask for help. “It does not work.”	Getting students to ask classmates and teacher for help to solve simple problems: Establish a geek squad within a class (C&S points) make an MYP class in advanced tech problem solving. Some sort of commendation for helpfulness in tech (PUR - positive).	train the students to attempt to solve tech issues with different strategies
Student typing skills	wide variety of typing levels, most do not have proper touch typing skills some teachers in PYP are using Typing Master Online	All grade levels need minimum proficiencies. This can be part of homeroom program for the senior school (might not have the time). Big push in PYP. Transient nature of student body means something needs to be done in MYP.	
Technology Priorities	School Year 2008-09	First Step	Second Step
Use of all the subject specific windows software that has been bought in the past	Thousands of dollars of software cannot be used due to switch to the mac platform. Programs bought for previous versions of Mac OS are a problem (do not run on Leopard).	SACs responsible for ordering compatible software	All future software purchases should be Mac if possible, but with Parallel/ VMware will still give us the option of running windows programs. Move away from CD/local install software. Move to web-based if possible.

PD	Write curricula guided by SET and SAC's. Atlas will provide wealth of materials and examples.	Apple learning interchange- who wants to do the research?	
Policy for copyright.	In place in AUP		
Assessment Data	School Year 2008-09	First Step	Second Step
School will be a source of multimedia. There are schools out there that have awesome resources and we should strive to be one of them	some classes are starting to put resources on Youtube, etc. Students learning how to make music in GarageBand, learn how to find royalty free music and pictures.	Educate for copyright especially background music for movies/ presentations and photos. Apple Learning Interchange. Issues of safety accountability, etc.	
Typing test need to be used	some classes are using the typingmasters	Provide differentiated instruction including additional homework practice.	
• ISA Results (Grades 3-10) • MYP and PP Results - not ISA related • DP Results- not ISA related	Data has been collected across three testing periods and analysed in comparison to world scores and like schools.		To implement strategies for improvement.
Focus on Literacy	School Year 2008-09	First Step	Second Step

Reading and Writing	Literacy is identified as an area needing improvement (ISA testing)	Specify particular skills to address. Possibly consult coordinators to advise specific skills for improvement. Tech Group to make a plan to improve these skills through technology.	Implement technologies appropriate to student learning needs with input from sub-committee teams.
Research Skills	PP is identified as an area needing improvement (2008 results)	Specify particular skills to address. Possibly consult coordinators to advise specific skills for improvement. Tech Group to make a plan to improve these skills through technology.	Implement technologies appropriate to student learning needs with input from sub-committee teams.

ESL

How does ESL impact on student learning?

Statement : NIS has an 80% ESL student body, and the taught curriculum will show evidence of technology used to support student achievement, including differentiation according to language needs.

Now: (June 2009) Explore different ways in which technology can be used to support our ESL students and parents.

First Step: Trial various methods for using technology to support ESL students and parents.

Second Step: Implement successful methods for using technology to support ESL students and parents.

Teachers	School Year 2008-09	First Step	Second Step

To share useful information to parents and students using technology.	Currently, some classes communicate via email, some have Wikis or blogs, and some communicate via the telephone or notes home. StudyWiz is not universally used because some parents, teachers and students fail to use it on a regular basis. Some parents have better written English than spoken and would like increased written communication via emails.		Technology will be used to support student learning as evidenced by Unit Plans showing differentiation as required AND the effective use of teaching methodologies: • Identifying similarities and differences • Summarizing and note taking • Reinforcing effort and providing recognition • Homework and practice • Nonlinguistic representations • Cooperative learning • Setting objectives and providing feedback • Generating and testing hypotheses • Questions, cues, and advance organizers
To provide information in such a manner that a wider range of parents are able to view and access it well.	At the moment, the bulletins and some notices are translated into Korean. Korean website section	Google Translate. supporting a wider range of home languages using this website? Check out this website:	

To support vocabulary acquisition through the use of technology.		Wikis and Blogs have hyperlinks to online dictionaries where students can click on subject-specific vocabulary words. Investigate visual dictionaries and thesaurus.	
To support verbal communication through the use of IT-directed collaborative projects.		Creating movies and websites as a joint venture improves verbal communication	
Parents	School Year 2008-09	First Step	Second Step
To have a clear understanding of how technology is being used throughout the school's whole curricula	Parents unsure of how IT is being integrated throughout the different classes and particularly in the PYP.	Technology committee to look at ways of collecting data and promoting access to information on how classes are using IT	
To be knowledgeable about outside IT resources, and to understand their usage, in assisting students at home and away from teacher support.	Parents would like advice on supporting their children's learning at home.		
To be able to easily access information about student homework and assessments using technology.	Parents would like more training on StudyWiz.	Survey on viability of studywiz vs individualised blogs and Wikis?	Have a Korean link of first page of web site that would link to all Korean versions of school documents
Support Staff	School Year 2008-09	First Step	Second Step
To support ESL learners by stocking IT resources in home languages.	There is currently a budget for both home languages and specifically for Korean language support. This may need to be utilized more effectively.		

Financial & Strategic Planning

How does strategic planning impact student learning? NIS has embarked on an aggressive plan to completely support the 1:1 initiative (1 laptop for each student). This goal includes all technical infrastructure, hardware and software systems, technical support and technology integration specialists.

Statement : Mobility is the key to the computing future in our school. Increased presence of laptops instead of desktops where feasible.

Now: (June 2009) In place: laptops for grades 6-8 and all teachers, network infrastructure, some data systems and some distributed printing systems.

First Step: Expand laptop program to grades 9-11, laptop trolleys for checkout, implement Atlas curriculum alignment software, install more printers, and add tech integrator,

Second Step: Whole school on Mac platform, review teacher policy on ownership of laptops, review use of PYP computers and review necessary personnel.

Policies	School Year 2008-09	First Step	Second Step
1:1 laptop program	2008-09 Grade 6-8	2009-10 Grade 6-11	2010-11 Grade 6-12
Macintosh Servers in place	2008-2009	Continue with present setup	Additional as needed
Technology Support Personnel	2008-2009 Full Time Tech Coordinator	2009-10 Add additional tech integrator	2010-11 Additional as deemed necessary
Day to Day Support	2008-2009 2 Full time NIS staff 2 Full time SolutionKeys staff	Continue as set up	Possibly adding IT manager
Platforms (PC and MAC) - Entirely move from PC platform to Mac in 3 years	2008-2009 Acquire laptops for teachers Add 3 trolleys of 20 Macbooks for checkout	2009-10 Additional Macbooks for TA's Some admin moving to Mac	Migrate remaining admin staff to Macintosh platform; Using Parallels software for PC emulation as necessary for legacy software
Database systems	2008-2009 Admin+, FileMaker, StudyWiz, FINACS	Continue to evaluate the effectiveness of all systems and bring them into sharing of data as much as possible	Same

Distributed Printing	2008-2009 Introduce Equitrac printing	2009-10 Continue to introduce more centralized printing to students and teachers. Reduce and eliminate many individual printers	Same
Teacher Ownership of laptops	2008-2009 School Supplied	2009-10 Allow/Encourage purchases of laptops by teachers	2010-11 All new hires must enter school with personally owned Macintosh

Review and Evaluation

How does the review and evaluation of the technology three year plan impact on student learning?

- maintains a focus on student learning needs
- necessitates an examination of assessment data
- ensures that the mission statement is true

Review process will address each part of the plan and provide evidence.

Statement : Review and evaluation ensures that the implementation of technology at Nanjing International School is effectively supporting student achievement.

Now: (June 2009) Develop planning committee, sub-committees to address sections of the plan, and submit plan for approval.

First Step: Review plan around Feb 2010, modify existing items as necessary and further plans.

Second Step: Continual review, modification and addition.

The Technology Committee 2008-09

Aaron Thompson	ASAC Science PYP teacher
Amy Keus	Music Specialist teacher K-12
Andrew Messom	SAC English B/ESL, MYP teacher
Ann Martin	Technology Integration teacher
Bill Clark	MYP English B teacher
Billy Martin	Director of Technology
Jillian Eyre-Walker	ASAC Technology, PYP teacher
Candace Taylor-Weber	PYP teacher
Niki Swart	PYP teacher
Renee Stewart	PYP Assistant Coordinator, PYP teacher
Richard Swart	Principal
Russel Fleming	SAC Science, MYP/ DP Physics teacher
Tracy Garrett	SAC Language B, MYP teacher

The Technology Committee will have ongoing communication and input recommendations to SET.