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Identifying strategies for engaging
and maintaining engagement of high school distance education students through e-learning technologies

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Introduction

Online learning has transformed the delivery of distance learning in Australia over the past decade. Most online schools have been on a journey of self-discovery, learning from their own successes and failures. These findings in some cases are shared between small pockets and networks of schools but there is a need to collaborate on a larger scale. iNACOL (International Association for K-12 Online Learning) in the US is helping to address the need to combine knowledge and develop standards.

In New South Wales a culture of collaboration is developing amongst the distance education network of schools. This culture needs to be extended to a national approach with the advent of the Australian Curriculum to avoid duplication of resources. Australian distance education schools need to look to the US and Canada where the sheer scale and momentum of the online K-12 community can provide valuable insight and lessons.

In 2009-10there were 1,816,400 enrolments in K-12 online courses in the USA, 92% of which accessed these courses from brick and mortar (face-to-face) schools (iNACOL 2012). The blend of online and face-to-face study is seen as ‘the new normal’ and common mantra for many schools is now, ‘anytime, anyplace learning’.

Technology is not a silver bullet but it can help automate some tasks to free teachers to do what they do best:

* + Answer complex questions
	+ Foster conversation
	+ Delve deeper into topics
	+ Mentor.

This paper will seek to identify the commonalities in the various online learning journeys of 6 virtual schools across the USA and Canada. It will highlight how these schools

* + recognise and address the unique set of skills required of the online teacher;
	+ use the power of technology to connect and build a sense of community;
	+ design courses to sustain engagement;
	+ collect and analyse data to evaluate and refine courses; and
	+ enlist students to enhance the success of their peers

A New Breed of Teacher

The skill set required of an online teacher is significantly different from that of the teacher in the face-to-face classroom. This skill set is not being adequately addressed or developed within current teacher training undergraduate courses. This is not likely to change until online learning becomes a more widespread option for students across the education system.

In 2011 Marzano Research Lab conducted a survey of online learning involving 1828 students, 141 teachers at 23 sites in 12 US states. Students criticised online learning where the teacher becomes a passive observer. Teacher engagement in online learning processes was found to have the strongest relationship to student achievement outcomes, wherein the time a teacher spends actively logged into a learning management system (lms) and the results of their students are correlated. Teachers who did not engage at all and spent 0 hours online aligned with an average student test result of 61.8%, while those who spent an average of 530 hours per year (across all courses) had students achieving at an average test result of 80.6%. The study supports the importance of active teacher engagement.

The online teacher needs to be tech savvy and adaptable to the ever-changing online learning landscape. They need to be prepared to move beyond the traditional 20th Century concept of the classroom. The effective online teacher acts as a coach who guides the student through the learning process. Online teaching needs to be viewed as a unique role for which one specifically applies, involving specialised training and a defined set of expectations.

This need to recruit teachers with a defined skill set is being addressed by a number of online schools in the USA and Canada. Every school that I visited recognises the teacher as the key to a student’s success with online learning. Most schools have implemented careful selection processes to ensure they employ only the most suitable teachers.

At North Carolina Virtual Public School (NCVPS), the teacher is likened to a coach who empowers their students and sets high expectations. The school has an ethos that ‘no significant learning can take place until there is a relationship’. At NCVPS teachers are required to have State certification in online teaching. All teachers work part time in the evening as they are usually full time teachers in face-to-face schools.

A teacher interested in employment with NCVPS will work as an unpaid mentored teacher assistant for a semester shadowing an experienced teacher in the delivery of a specific course. The mentor teacher recommends the teacher assistant for employment if they are suitable for the role of online teacher. If employed, they can then teach that particular course for the following semester. Teachers are trained for any new course that they teach. A benefit for the teacher is that they have access to the resources for use in their face-to-face classroom.

Mountain Heights Academy (MHA), formerly the Open High School of Utah, has a rigorous recruitment process. Positions are advertised, however, submitted resumes are not read. A standard email is sent to all applicants. The email congratulates the applicant on being successful in progressing to the next stage and asks them to submit a sample online learning object that they have developed. This usually brings 300 applications down to 10. The submissions are then evaluated and reduced to three candidates. The submissions are evaluated on creation time, whether the learning object is engaging without too many external links, and how the teacher presents on video.

At Abbotsford Virtual School (AVS) new teachers pay $250 to complete a 14-hour online teaching certification course provided by the school. The course is spread over 3-4 weeks including two evenings and one full day. Teachers then have up to a year to create an authentic online learning module, which is marked using a rubric. Most teachers create the module within a three-month period.

Florida Virtual School (FLVS takes into account an applicant’s technology skills and personal teaching philosophy.

FLVS teachers receive training on how to provide authentic feedback to students. Teacher ‘on-boarding’ is a process that introduces new teachers to the online culture and expectations. Teachers attend head office for a week, broken up as follows

* + School culture and student training
	+ Technology and systems
	+ Learning management system and course training
	+ Student information system.

The teacher then completes a 5-day home practicum experience where they share a group of students with an experienced teacher.

Social Learning - Connecting and Communicating

The majority of today’s students are engaged with social media tools. There is a need to move away from the ban and block approach to one that takes advantage of these tools as a medium for education. Seventy eight percent of students who encounter a problem online would prefer to discuss the issue with the teacher face-to-face or through web conferencing facilities (Marzano 2011).

MHA uses social media as an integral part of the learning process. Teachers and students are expected to be online during a standard four-hour period every weekday morning. During this time conversations are conducted through multiple chat windows where students consult peers and teachers for support with their work. The school has developed a strong sense of a learning community. Teachers connect with their students via social media (Twitter), email, text, instant messaging (Google Chat and Moodle), phone calls and the virtual classroom (Adobe Connect and Scribblar). Students come into the online room as needed. The remaining 4 school hours each day are used by teachers to contact and support less proactive students. Teachers each have a cell phone for contact with students. Every student and teacher has a pen tablet to use with Scribblar. Students can meet each other in Scribblar to work on problems together. Google Apps are also used for collaborative tasks.

Teachers at NCVPS are required to make voice contact with every student at least once a week. Teachers are expected to provide feedback that complies with the REPLY model.

* + Responsive (a quick turnaround time)
	+ Effective (meaningful and include areas of improvement)
	+ Positive (maintain a positive tone)
	+ Learning (link to preceding and forthcoming work)
	+ You (personalised)

FLVS has an ‘onboarding’ approach where students are made to feel unique from the start. Students receive a ‘welcome to the school’ phone call. Teachers are expected to make contact with each student’s parent/caregiver once a month. At FLVS38% of students choose to communicate with their teacher via text messages. Teachers also use Facebook and Twitter with their students. VOIP phones provided to teachers and a set value is allocated per pay. Instant messenger is always open. Teachers are available to students from 8am-8pm, 7 days a week. Courses run over 365 days per year. At FLVS teachers are required to adhere to a 48-hour turnaround time for marking and a 24-hour turnaround to respond to student contact.

At AVS teachers use Moodle and Skype to connect with students. Teachers have a lot of autonomy with the allocation of their time but are asked to publish their available hours in each course and be available to students two nights a week. Teachers at AVS are expected to respond to student messages within 24 hours, and instant message, email, or phone students who have not been engaged for two weeks.

At NSVS teachers are expected to hold an e-chat with each class once a week for a minimum of half an hour. E-chats are recorded and students who can’t attend an e-chat session are expected to reschedule with the teacher. A student can enter the virtual classroom at any time during office hours for support. The teacher is notified via a sound and message that a student is in the room requiring help.

VLN has a high level of social media integration. Each teacher at VLN has a Facebook account (separate from their personal one) for communication with students regarding courses. The school has a standard for this account where the teacher identifies himself or herself using their first initial and last name. . Teachers also use Skype, Google+ and Twitter to connect with students. Students are able to have their own blog within the school’s learning management system. This promotes a sense of identity within the online learning community.

Drawing Them In and Keeping Them There

The degree of course flexibility varies a great deal from school to school. Some schools provide courses tailored to the needs of individual students. Others give teachers the opportunity to customise their courses for their students to add a sense of their own personality. Courses that contain content that has been customised to suit individual needs and learning styles achieve higher results (Marzano 2011).

FLVS allows little room for modification but invests a great deal in high quality design and evaluation. A library of learning objects is available across courses addressing common content. Courses follow a mastery model so that students cannot progress to the next stage until they have mastered the previous content. Students can work at any pace although there is a ‘standard’ pace.

At FLVS lessons include sub-tabbed interfaces to avoid scrolling. Required vocabulary for each lesson includes rollover definitions and an audio pronunciation feature to assist the students. Courses often have a professionally designed visual motif or theme to lead the student. Some courses are non-linear and give the student the power to choose their modules. For example, the English 12 literature course opens to a cinema foyer with 4 themed fictional film posters. The posters are gateways to module content. The students are required to complete 2 units of their choice out of the 4. In this particular course each module deals with a different novel and accompanying texts. When the student selects a particular poster/theme, they are taken to a visual representation of the module’s learning path. The system keeps track of where the student is up to in the module and will take them directly to the next task to be completed with subsequent logins. Each module consists of between 10-24 lessons depending on the difficulty of the texts and tasks. At FLVS teachers initially found non-linear courses problematic at first but have become accustomed to them.

General course design guidelines include the ‘chunking’ of text to break it up for the students on the screen and improve readability. The student is able to navigate to a table for each module which includes the name of each lesson, whether the lesson has an assessable task (although everything is assessed in a project or exam) and the time expected to complete the lesson. The inclusion of the expected time taken allows the student to plan their study according to their available blocks of time. Courses are designed to include as many auditory, visual and kinaesthetic activities as possible. The next stage for FLVS is the development of adaptive courses.

AVS is currently piloting a new model where students complete a mastery test at the beginning of each module. If the student scores over 80% they automatically move to next module.

NCVPS has a clear framework for course design. Each week’s work consists of four 90 minute lessons. Students in North Carolina study fewer than average subjects at a time but each course only runs for a semester. NCVPS has a set of standards that are adhered to when courses are created. These are a compilation of the iNACOL standards as well as the school’s additions. NCVPS has piloted conditional release (using Moodle). The program was successful and is now being implemented.

At NSVS each day’s work is presented using an html template, which has the consistent sections:

* + Introduction
	+ Things to Know
	+ Things to Do, and
	+ Submit.

At NSVS Course developers are encouraged to include the following elements in their courses:

* + Experimental interaction
	+ Personalisation, and, where appropriate
	+ Humour

At MHA MoodleRooms has been set up with both groups and groupings within a course. This allows for students working at different levels to see different versions of the same course. Each course has weekly introduction videos and a number of weekly instructional videos. Podcasts are included as well as interactive Articulate tutorials.

MHA prides itself on ensuring that there is a personalised feel to each course. Teachers include a lot of videos. There is a short introductory video each week and a number of instructional videos throughout each course. This enhances a sense of one to one tuition for the students.

Mountain Heights Academy is a leader in following the four R’s of open education:

* + Reuse
	+ Revise
	+ Remix, and
	+ Redistribute.

MHA publishes many of their courses as open courseware with Creative Commons attribution. The Academy sees value in sharing content and ideas with other educational institutions to enhance the learning experiences for their students and allow teachers to focus on what they do best – connecting with and coaching their students.

Evaluating Courses

One of the great strengths across most of the schools was the data analysis employed to evaluate and improve courses.

At FLVS students provide feedback on courses, and student focus groups are an important part of the course development process. Students are also able to rate learning objects using a star rating system. That data is then filtered to curriculum specialists who supervise the courses. Teachers are asked to identify questions that are commonly raised by students and see why these aren’t being effectively addressed within the course.

Even with an increasing number of course providers many schools still develop their own content. iNACOL has developed a rubric for the assessment of online courses which seems to be the touchstone for any online course evaluation.

At NSVS teachers evaluate courses by asking the question, ‘what are common mistakes?’ Focus groups are held with students to assist with course development. Students also evaluate courses through exit surveys.

At MHA students complete course evaluations and regular polls within MoodleRooms in each course. These are combined with data about each learning object (access times and completion rates) to further refine and improve courses.

Student and Peer Support

A number of schools recognise the need to implement well-structured peer support mechanisms. This provides a less intimidating form of support to new students and empowers existing students, enhancing their sense of worth, responsibility and community.

NCVPS in particular has developed a very effective peer support program, established following findings that students are more likely to ask their peers for help than a teacher. Students act as a help desk agent for their peers. New students have a virtual buddy who provides support and advice across subjects.

Each student-to-student chat is logged and there are clear guidelines for online interaction. If the guidelines are breached, privileges are revoked.

Students can only become tutors if recommended by a teacher and need to have successfully completed a course. The program has more than 60 peer tutors who are volunteers. The school employs an instructional leader exclusively to manage the peer-tutoring centre.

Peer tutors gain certificates from State Director the US Department of Education – Volunteer Service Award. This allows them to build up their community service hours for graduation. There is also a peer tutor of the month award.

Some of the key benefits of the program are:

* + It is student centred:
	+ It identifies subject areas that need support
	+ Data is brought back to the development teams to improve courses.

There is a set of course materials in Moodle that need to be completed by the peer tutor. The peer tutors have developed the course content. Two teachers monitor and deliver the course.

The peer tutors set up a tutoring schedule for when they are available to their tutees.

Each course has a peer tutor button, which is used to alert the peer tutor of the need for contact. Students maintain contact with one tutor.

Conclusion

The opportunity to study at least some courses online should be available to all students. There is an opportunity for distance education schools to develop high quality, engaging courses and materials and make them available to all Australian students. The advent of the Australian Curriculum provides an opportunity for Australian distance education schools to work together in progressing the creation and delivery of quality online course materials.

NSW distance education schools are moving toward an increased percentage of online courses while working to achieve a consistent approach. All of the schools visited recognise the importance of specific training and skills required for effective online delivery. Appropriately skilled teachers need to be targeted and trained to design, deliver and engage our students especially in NSW where distance education is predominantly a provision for students already disenfranchised and disengaged from education.

The restrictions of DEC need to be relaxed to allow distance education schools to harness the power of social media tools to connect and engage students who are already socially isolated. These tools allow for collaborative learning experiences which enrich and deepen discussion and understanding of the curriculum, and open the door to anytime, anywhere learning. They have the ability to create learning communities where students share a sense of responsibility for the learning process.

The loss of the Centre for Learning Innovation in NSW has seen an increase in demand on teachers in distance education schools to develop their own online resources. Despite moves towards better collaboration between schools, professional learning must be provided for teachers in the design of effective online materials. Distance education schools should have access to instructional design professionals and training so that more staff are empowered to become involved in the design of online learning experiences.

Mechanisms need to be established to evaluate existing online courses to enable refinement using back end data from the learning management systems combined with embedded feedback features. Teacher training and time should be allocated to these tasks.

While distance education schools in NSW are predominately focused on students with higher support needs than the US and Canadian schools that I visited, there is much that we can learn from their journeys. Online learning can potentially re-engage and re-connect our students, empowering them with the skills for life-long learning. To advance online learning, teacher recruitment needs to be targeted, training and support needs to be provided, data analysis processes improved and the opportunities potentially provided to connect through social media unlocked.

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Acknowledgements

I would sincerely like to thank the following people for their time and hospitality.

Mountain Heights Academy (formerly Open High School of Utah), West Jordan, Utah, USA

* + DeLaina Tonks – Director,
	+ Sarah Weston – Technology and Curriculum Director
	+ Emily Anderson – Curriculum Specialist/Assistant Director
	+ Laura Hansen – CTE Teacher

Florida Virtual School, Orlando, Florida, USA

* + Claudine Townley – Director, Florida Virtual School Global
	+ Lori Gully – Senior Manager eSolutions Products
	+ Cecilia Lopez – Chief Market Development Officer

North Carolina Virtual Public School, Raleigh, North Carolina, USA

* + Tracy Weeks – Executive Director
	+ John Brim - Assistant Director, Chief Operations Officer
	+ Jason Forsythe - Learning Management Systems Administrator
	+ Nathan Thanos - Advanced Technology Specialist
	+ Jennifer Nobles - Curriculum Director
	+ Karen Creech - Curriculum and Instruction Division Director
	+ Michelle Lourcey - Curriculum and Instruction Division Director
	+ Leslie Fetzer – iNACOL National Online Teacher of the Year 2012
	+ Tammy Pearson – Office Manager

Nova Scotia Virtual School, Halifax, Nova Scotia, Canada

* + Sue Taylor-Foley - Director of Learning Resources and Technology
	+ Sarah Hainsworth - Coordinator, Distributed Learning
	+ Guy Aucoin - Instructional Lead
	+ Courtney Hildebrand - Interface Web Designer for E-Learning
	+ Peter Oldrieve - ICT Consultant
	+ Eric Therrien - ICT Consultant
	+ Stephen Power - Computer Service Officer

Abbotsford Virtual School, Abbotsford, British Columbia, Canada

* + Brad Hutchinson – Principal
	+ Mary Stobbe – Vice Principal

Vancouver Learning Network, Vancouver, British Columbia, Canada

* + Cindy Gauthier – Principal
	+ Chris Rozitis – Physics Teacher