2017-2018 Yukon Education Learning Networks: Empowering and Engaging Others in an Inquiry-Based Professional Learning Network Celebration of Learning Discussion Template

Yukon Education
School: Jack Hulland Elementary School
Inquiry Team Members: Valerie Ireland

Your focus for this year: In one sentence, what was your focus?

How to effectively use my role as a specialist teacher at JHES to engage others in ADST; this is two-fold: student learning and support of their needs and interests as 21st century learners and promoting ADST to the staff for their professional practice.

Scanning: Briefly summarize your scanning process. How did you use the four key questions as part of the scanning process? What did you notice about the experiences of your learners that were most important to your team? How did you use the principles of learning in your scanning process?

This year, my role is .7 PE teacher and .3 Curriculum Support Teacher. Where PE is straightforward, the Curriculum Support position is more complex. It was created to provide extra assistance with implementing the redesign at JHES with a focus on ADST. I was fortunate to get this role as it shows the importance placed on ADST when given .3 FTE as a specialist that can support learners in this specific area.

I used the four questions during informal conversation with students in the hallway and in transition times. Overwhelmingly, students seemed unaware of what was going on in their own learning and most said their learning was going wherever their teacher was going. Almost every student talked about ADST in some capacity (robotics, STEM, hands on learning, etc.) as something they were interested in or enjoyed at school. Usually the conversation would lead to students asking me to come to their classroom to do instant challenges or technology because they know it is an area that I am interested in.

Initially, I scanned by putting only student learners in the center. As the year carried on, I realized that a mini re-scan was needed with adults as the learners. I shifted my view as it became apparent that without teacher buy-in, there would be limited exposure and experiences with ADST for the students. I began to see the differences in the wide range of willingness to try new things and adapt to the new ADST standard in the redesign. I decided the best place to begin to build connections was with staff that were most keen and make the learning and projects visible to increase awareness to others.

Focus: In a few sentences, explain why you selected this area. What changes were you hoping to obtain for your learners?

I am grateful to been given a position this school year where I have the flexibility and latitude to assist, deliver and support project-based learning in ADST. I have been part of the Learning Network with Mike Snider for two years and have learned an incredible amount about ADST from members of the group. Their comradery and dedication to a common goal of 21st century learning has led to professional and personal development. It is my opinion that technology

education and ADST is not as accessible, visible and supported at our school as it could be. This year is an opportunity to provide much needed support for teachers to approach using more ADST in their classrooms, especially given it is mandatory for reporting. Seeing what is encouraged in our Learning Network vs. what is actually being done on the 'kid level'; I feel there is a gap meeting ADST standards and where we could be. I am also drawn to this area from my experiences with my own sons as I play with them at home with drones, coding, robotics and design thinking as a natural way that children learn and relate to one another in 2018. I see my ten-year old 'communicate' with his friends in radically different ways than I did with my friends in 1986. I chose this area of inquiry this year because I want to engage others in ADST and felt that I had a rare opportunity to show the value an extra specialist position can make in a school.

Hunch: Describe your hunches about the ways in which practices at the school may have been contributing to the experiences of your learners that were of concern to you.

My hunch after scanning and focusing is that our JHES students don't feel like teachers are meeting them where they are at as 21st century learners, especially with ADST. Their interests don't mesh with the priorities of the teacher. On the other hand, evidence from talking with teachers, they seem frustrated that there is a lack of resources. Accessibility of technology is the main constraint to ADST in our school. Experiences of the learners, or lack of ADST (especially technology) is a direct correlation to the lack of equipment and access to resources. Other teachers are resistant to change and hesitant to learn new technology (time and lack of knowledge). With the redesign and demands of education, it seems that teachers are more stressed and overextended. They are, understandably, prioritizing the basics of reading, writing and mathematics. I think there is a misinterpretation of role and definition of ADST, especially design thinking and use of technology in the school. According to analysis of internet history in our computer lab, a portion is being used for non-curricular, downtime activities, such as Cool Math Games, streaming music and watching videos. In one breath, teachers who are keen to use technology are frustrated because it is not available, on the other hand, data shows the misuse of technology or underutilization. My position this year has afforded the opportunity to be an extra set of hands, assistance and energy to promote ADST and the design process, but also been a realization that access is a huge issue and barrier to ADST delivery.

New professional learning: What new areas of professional learning did you explore? What resources were most helpful? What specific designs did you use to support the learning of your colleagues?

Resources that were most helpful were Mike Snider and the members of my Learning Network group. I not only learned new technology and ADST concepts, but also shared ideas about how other schools organize their technology programs and how others with tech teachers allocate their time.

The two areas of professional learning that I explored most in this inquiry were coding and design thinking. Learning and discussing ideas about design thinking at our Learning Network meetings helped me to tailor design processes for different audiences, abilities and age groups. There are many different types of cycles and diagrams for design thinking on the internet, but I found that depending on the project, timeline, age and dynamic of the group, the design process should vary. For instance, I found that the young learners find the word 'ideate' to be confusing, so I would use different language to simply, such as 'ask', 'imagine' or 'think'. Or using a more primary- based process for an older group of students who would find age appropriate process too overwhelming. Coming up with group-specific templates for students to plan, create and

reflect were well-received, as well as bringing handouts and posters to classrooms for visual reference.

I have been exploring Apple resources for my own professional development so that I can pass on my learning to the students (Swift Playgrounds and general Apple technology). I spent many hours of my professional development time learning more about coding on code.org and set up 6 different classes to during Computer Science week with the intent of gradual release so teachers could continue to use it throughout the year. Through my position, I've advocated for coding to be used to meet goals of ADST, as well as problem solving for math curriculum and Core Competencies.

Taking action: Describe strategies you and your team decided on and how your actions worked out. Be as specific as possible – so that other teams can learn from your experience.
Consider also gather evidence of your innovative actions using the following table as a guide:

Seven Principles of Learning in an Innovative Learning Environment		
What works for learners?	What this means for LEADERS	My evidence ...
Put learners at the centre	Leaders must be relentlessly curious about what's going on for students in the system. Student learning is the driving force, but students aren't the only learners. In an innovative learning environment, everyone is a learner, including teachers, support staff, formal leaders, parents and others.	Gap/motivation for new things between kids as learners and adults as learners. I found that the youngest 'learners' were more willing to take risks and learn new things. Seemed to be adults and leaders that were more resistant to change and adapt to 21st century principles.
Emphasize the social nature of learning	Leaders collaborate, cooperate, and support networked learning.	Know your learner so you can adjust methods, delivery, groupings, etc. to make for a positive experience
Understand that emotions are central to learning	Leaders understand and apply the dynamics of social and emotional learning. They are attuned to their own emotions and motivations, and to the emotions and motivations of others—including the positives, like satisfaction and self-efficacy; and the negatives, like helplessness and anxiety. They understand how emotions affect performance.	Make sure that all children have a role that they are comfortable with, especially if working in a group. Have more than one adult to facilitate projects; always an extra adult to help regulate social emotional issues when they arise.
Recognize individual Differences	Leaders understand the dynamics of their team members, including their strengths, interests, experiences, and gaps in learning. They draw on these differences and help everyone in the system to develop through carefully designed professional learning.	Every teacher is different and come with unique experiences and opinions of technology. For example, one teacher I spoke with said that 30 minutes a week with Reflex math in the lab is

		enough for ADST. Although this meets some tech goals, it is not ADST. However, her perspective is still valued for the positive that it does bring. Just as we meet kids where they are at, getting staff members to be part of the learning community means meeting them where they are at too.
Stretch all learners	Leaders stretch themselves and others, but they avoid overload or stress that diminishes performance.	In my .3 position this term, this is an area where I was not successful. I overloaded with trying to cover too many different learners, groups and classes. Reflection at the end of the year is greatly needed to reorganize the position to be more effective.
Use assessment for learning	Leaders set clear expectations while being open to new possibilities. They continually assess what is working and where the gaps are. They always consider qualitative data as well as quantitative data. They seek and give meaningful feedback to promote learning.	Having open lines of communication, time for reflection and an open attitude to adjust when things aren't working as planned.
Build horizontal connections	Leaders are connectors. They connect activities, ideas and people, in and out of school. Their connections include partnerships in the community, with other schools, and with organizations at a distance.	Kids are wanting to share with families (bring home passwords, adding new tech presented to their xmas lists, work on projects at home). Kids were more accepting of new learning opportunities. Attempts to offer new learning at PD session or collab time were not well received or encouraged. This is where having more than one person in the learning community could help make for more connections and involvement.

Checking: Summarize the differences you made. Were they enough? Were you satisfied? What did you use as baseline - and change - evidence? How much richer are your learners' answers to the four questions?

I think the biggest difference that I made this year was to make learners more aware of ADST within the school. Being an advocate and encouraging good practices for design process and technology use was a common theme. One idea that is supported by my administrator is to have a gradual release when teaching new things to learners of all ages. For teachers, that would mean helping in classrooms with new things until the teacher was confident to take over. For example, working with our grade one class to teach coding with hands-on learning and through code.org until the teacher became more comfortable to take over some of the program herself. For students, this looks like the students becoming the experts. For example, the grade 4 class is now prepared to be student leaders for teachers and other classes when they need assistance with Tinkercad and 3D printing. One project that is still ongoing is the grade 6/7 and grade 1 buddy class coding project where the older students have learned Scratch and are helping the younger students with Scratch Jr. as alternative to buddy ready each week.

Some of the projects completed this year so far include:

- Robotics club with grade 6 boys at recess
- Mr. Wondga's grade 4 class - 3D printed model of a First Nation fish camp (collaborated with Ms. Lafreniere, Southern Tutchone Teacher)
- Stop Motion and iMovie with Ms. Bell's grade 4 class on our Character Education theme of respect for assembly presentation
- STEM challenges using design process with various grades in the school and making display that are visible in hallways and parent nights
- Stop Motion/art/language arts/science with Mrs. McKenna's grade 1 (Over and Under the Snow)
- Destination Imagination pilot project with Ms. Willson's grade 5 class (In collaboration with Johnny Wells – DI Classroom Experience)
- Code.org with various classes for Hour of Code
- Coding with Ms. Clark's grade seven class (move from block coding to Swift)

I think that even though we had some successful projects and staff collaboration, one area that could use more improvement is the use of technology. Evidence of this can be seen by viewing the history on the computers and how much time is spent on non-educational 'free time' or how often the lab or mobile lab is underutilized when a common complaint of teachers is the lack of computers. This would require more time management, communication and organization between adults. Evidence gathered by informal discussion with staff at the beginning of the year revealed the same frustrations as in April; access to technology in our school is inconvenient, limited and unequal.

I did not see much change in the answers to the four questions, but I think that has to do more with a lack of metacognition on the part of the student (difficult for most young children to accurately define where they are going with their learning). Question One seems to be the easiest for students to answer because it is based on their opinion and experience (more concrete). Other questions involve more metacognition and mature thinking so answers were all over the map (more abstract).

Reflections/Advice: Finish by sharing what you learned from this inquiry, where you plan to go next, and what advice you would offer other schools with a similar interest.

My big takeaway from this inquiry is that JHES is working toward 21st century learning, and there is room to grow to meet the students where they are at. Something that would help would be a full-time technology or ADST specialist on staff to assist in classrooms and be a central person to ensure accessibility, fairness and organization for technology. A wish list would include a significant increase in the number of devices in our school, but given our limited resources, a better managed system needs to be in place to increase efficiency. With two months to go in the school year, I am hoping that I will use my knowledge from my role this year to help make technology more accessible in the school for next year. April and May are months of a final push in the end of one year, but also a good time for reflection for proactive planning for the next school year.

Next year, I would like to get another teacher to join me to continue this spiral to explore ways for ADST to be more present and accessible in our school. I have started conversations with our librarian to make the library more of a learning commons or hub for technology and maker space. Promoting the design process was an important piece in my inquiry. If given the chance to have a similar position next year, I would ask school leaders for more advocacy for my position to the staff, and to be given a platform within the first PD or staff meetings to present what can be offered by an ADST specialist throughout the year, especially with a focus on design process.

Personally, I am working to become an Apple Teacher through courses on the Apple Teaching Learning Center, as well as earning badges from the Swift Playgrounds 'Learn to Code' program. I would also like to complete the Tinkerine U certification for 3D printers.

Submission to Paula.Thompson@gov.yk.ca is requested by **April 6** for consideration for the **May Network of Inquiry and Innovation Symposium** or the **July UBC Summer Institute: Inquiry and Innovation for School and System Leaders**. Completed templates will also be submitted to the http://noii.ca/case-studies/ and shared with colleagues.

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