

CREATIVITY, TECHNOLOGY AND AUTHENTIC ASSESSMENTS

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I am not an ICT expert. I have never taken a class or a course on how to teach computers let alone on how to use one. Tech talk bores me and to be honest, it doesn't really make that much sense either. I am a trained elementary teacher. Currently, I am the Elementary ICT Facilitator at an International School in Japan. This means, I go into classrooms ranging from grades K-5 on a weekly basis. In this situation, each student has access to an individual laptop for the prescribed lesson. During other times, we have a ratio of 3:1. I assist students with their ICT skills. At times, I learn with the students and at times we make mistakes together. I have been in this position for two years and wish to share the

creative ICT aspects used within classrooms. As educators, we need to reflect if we are using technology correctly and/or efficiently. We should reconsider how we can incorporate assessments into our lessons. It is to be hoped that as educators, we re-look how we use, teach and integrate technology into our classrooms, how we can create new ideas and how we can build creativity for more effective teaching and learning through authentic assessments.

What do teachers want?

First, what do teachers want? When asked this question, teachers usually create lists of items (hardware or software) that are needed to improve their IT

lessons or their IT skills. The second item is then usually a request for some sort of professional development on how to use this newly bought or acquired technology. Both requests in my opinion, miss the target. Fair enough, additional equipment or software occasionally may be needed and this will flow into a valid PD request. I have offered PD sessions to teachers at my school in the past. Everyone appears to be grateful, enjoy it and/or find it useful. However, I find myself a month later answering the same questions to the same teachers about the very same software that I gave them training on. There were obviously a few problems with this model.

Was it the most effective approach? There was no follow up by the teachers or by myself in integrating this training. I trained them to be the 'master' and to then return to their classrooms to implement the training with them having the control. However, they often felt alone. They did not have the answer book. They did not have the master checklist. They did not have the tick box of items to teach or the order to do it in. They became frustrated, or made the decision that the learning was too difficult and the students could not possibly use the technology. After reading, hearing and viewing some 'professional' ICT speakers, I began to rethink my approach.

As teachers, were we inquiring into the correct areas of ourselves and to our students? Ideally, it would have been better to offer PD with students present. I should have taught students how to use software while teachers observed from the back on how they learnt. Students should be involved in the model. As Alan November states, 'it would shift from how teachers acquire technical skills to how students learn with technology.' Teachers could then observe how the students made use of the technology with each other. They could witness where they struggled, where they were delighted and where they used their imaginations, etc. It would mark the difference between training and education.

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teachers' technical skill. I began to therefore, apply this approach within the classroom lessons themselves. No longer did I stress the step-by-step method of instruction where I was the wizard behind the curtain, where I was saying you can learn this subject in this time block, in this classroom, in my way, with these other students and with my permission. Instead, I would let the students explore the software freely to see what they could come up with and then scaffold each other. At times, students were given short tasks to assist their exploration (e.g. How to insert, resize and rotate a photo into a published document). Students usually take chances. If they do not know, they will usually have a go. Currently, I am trying to move away from the model of the teacher learning something first and then returning to the class as the expert. The teacher does not need to be the expert.

Students themselves would explain what they were doing with the computer and share their insights with their peers and the class. It became natural for them to teach. Tasks were made meaningful and they gave the students a choice. As a result, students were more motivated, more engaged, more enthusiastic, more challenged and more responsible.



What are we using ICT for?

So, what are we using ICT for? ICT is supposed to make our jobs easier, faster and/or allow us to do something that we couldn't do before. In essence, we use computers at school to collect data, organize it and then present or share it within various communities. We need to rethink some of our curriculum and approaches. Times are changing. Should we continue to try to satisfy the needs of Industrialization and an old education system that prepares students for university entrances, or should we be focusing more on real-life problem-solving? Increasingly, students are graduating through universities. Will our degrees be worth as much in the future as they have been in the past? No longer does a BA degree guarantee a job. In the future, our current system may not work. We need to be open-minded and be able to respond to change. Many teachers are still planning as they were schooled. We do not know what the future will look like and yet we are preparing students for it using our old models.

Students today have a completely different relationship with technology than we did. Times have changed. They have online communities, networks, they generate content and they socialize. We look at it as the relationship we had with television. We made mixed tapes. We were passive. Kids today are active. They can create using digital technology to say things differently. Kids now remix music and they make their own TV. These tools of creativity have become tools of speech and it is a literacy for this generation. This is how they speak and how they think. Technology has made them different. The techniques available have been democratized. This is what our kids are and they increasingly understand digital technologies and their relationships to themselves (I do not wish to romanticize this topic but it does need mentioning).

As teachers though, are we adapting? Teachers, as well as students, need to use more creativity and imagination. We need to celebrate this and create ways to further motivate and challenge our students. The more we do the same everyday, the more we will stay the same. We need to be innovative. What new challenges can we give our students that we could not before? We need to focus on student learning, not teachers mastering how to make the computer work. Again, we need to create a well designed learning environment that can help children learn, regardless of a teacher's technical skill. We need to create

communities of reflective and independent learners. We wish to place the learner at the center of the educational process by exploring diverse perspectives and be able to find, pose and explore problems.

Intelligence, Creativity and Curriculum

As Sir Ken Robinson states, we need to think about intelligence. It is diverse (we think visually, kinesthetically, abstractly), dynamic (creativity is born in multidisciplines and seeing things in different ways) and distinct (how you find your skill). We need to think about creativity. Children have talents and have a great capacity for innovation, but our systems usually squander them. Children are not as worried as adults on being wrong. If we are not prepared to be wrong, we will not come up with anything new. As adults, we usually lose this capacity as fear and doubt settles in. Mistakes are usually bad. We are educating students out of their creative capacities. We do not grow into creativity, but usually grow out of it. We are divorcing students from their natural talents. The arts have been pushed out, pushed to the side or dropped to the bottom in the academic hierarchy. I view the arts in a high manner but will focus on the elements within ICT.

What can teachers do to stimulate creativity with IT? Simply, we need to open our minds and do things we haven't done before. Easier said than done. Using a project based and design cycle approach, students and teachers are encouraged to create meaningful, authentic assessments and products within their units or subjects to allow students the possibility to solve these problems in unique and creative ways. Arts/Technology Integration provides students with a variety of ways to learn.

However, we should not confuse creativity with mere generative activities. As Gardner states, we wish students to be problem solvers and create products that will hopefully raise new questions. Students should have critical thinking skills (analytic, objective, judgment, left-brain, reasoning and logic) as well as creative thinking skills (divergent, possibility, subjective, right-brain, open-ended, associative and intuition). Students need both critical and creative thinking, both analysis and synthesis, both the parts and the whole to be effective in their thinking. Students need reason and intuition, order and adventure in their thinking and learning. We need creative thinking to generate the new, but critical thinking to judge

it. The technological world enables us to access knowledge in abundance, but creativity is scarce. To succeed in the future, students will need to be flexible, open to change, resourceful and able to adapt to new ways of doing things. The challenge for educators is to focus on creating people who are capable of thinking and doing new things, not simply repeating what past generations have done. We cannot limit people to doing only what they have done in the past if they are to be equipped for a world of challenge and change. Creativity is an essential element in personal intelligence and practical problem solving. It is also rewarding at an emotional level.

Creativity is developed through intellectual engagement, purpose, energy and interactive tension with others. These positive, creative attributes are essential to citizens living in an increasingly complex, changing and challenging social environment. It is needed to manage conflicts of interest and argument. It requires imagination to understand others and the application to resolve conflicts. What we need is this application of creativity to knowledge and innovative teaching. We need to give students the opportunity to use a variety of ways to express their understanding through real world and authentic problems. These activities would demand collaboration and include various curriculum content areas. By collaborating, students become active in their learning and take responsibility for it. Authentic tasks should be given to students to produce artifacts that build intrinsic motivation and include various strands. Students are no longer passive consumers of media but can be creators and writers willing to share their products.

What about Technology Skills?

So where are the technology skills? Technology skills are not the focus. Instead, technology is a part of a greater whole. Technology skills will be learnt in school by students in the same way it is learned “in the real world”: as they need it. We also do not wish to make technology amplify the skills of the teacher. Our focus is on teaching and learning for measurable results.

- Technology is a tool and is called upon when needed, as was a dictionary or pencil in the past
- In school as in life, technology skills are embedded
- They are in the projects students do to more richly learn the curricular content of their classes
- They are in the ways students communicate and the ways in which they learn
- Is technology the focus? No. Will they use technology to solve the problem? Yes.

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Assessment Examples

- Create authentic tasks that are engaging and that solve real world tasks
- Students should apply the skills and knowledge they have mastered

Traditional Assessment	Authentic Assessment
Selecting a Response Contrived Recall/Recognition Teacher-structured Indirect Evidence	Performing a Task Real-Life Construction/Application Student-structured Direct Evidence

Here are a few examples using the PYP

Grade Level	Unit of Inquiry
5	<p style="text-align: center;">Art is an Expression of People’s Ideas, Feelings, Beliefs and Values</p> <ul style="list-style-type: none"> • society’s influence and impact on artists • how artists reveal themselves through their art • some of the styles of artistic expression <p>Activity: You wish to enter the Grade 5 art contest to be held at your school. The title of the exhibit is ‘Through the Eyes of a Child.’ Select a theme to portray that is relevant to you, such as your personal history or culture, emotions/feelings/values, friendship, a personal issue, etc. You are in charge of deciding the visual representation. The school is looking for a varied collection of pieces to display that highlight your experiences. This could include traditional approaches such as pencil, paints and/or collage but the school is also interested in items such as mixed media. Your work will require a written explanation stating your chosen theme, background information about the chosen theme, the reasons behind your choice of topic and media and the effectiveness of your final piece highlighting your aesthetic choices. The pieces will be judged by students and staff that effectively meet the criteria. All work will be put on display in the foyer for public viewing.</p> <p>Some options could include a painting, a pencil drawing, a paper collage, a video collage, a sound collage, photo montage, computer graphics, a ‘poetic documentary’ or a combination of elements.</p>
4	<p style="text-align: center;">Our Host Culture is Unique</p> <ul style="list-style-type: none"> • why Japan is unique <p>Activity: You work for a travel agency and wish for more tourists to visit Japan. You wish to highlight cultural activities in your campaign. Select an aspect of Japanese culture you would like to highlight and choose a method below to promote or advertise it. Think about who your target audience are and how this will affect your presentation. State locales for viewing, accommodation options and budgeting information for tourists.</p> <p>Presentation Choices:</p> <ul style="list-style-type: none"> •A comic (ComicLife) to attract younger visitors and Manga fans •A brochure (Word or Pages) •A TV commercial (iMovie using video and/or still photos with narration) •A radio commercial (GarageBand) •A PowerPoint/Keynote address (include multimedia with mp3s and/or video) •A book/brochure/poster created by you using art materials •You will need to create a timeline plan outlining your goals and due dates, create and present your campaign to the class and then report/summarize/reflect on the choices you made as well as on your presentation
3	<p style="text-align: center;">Migrations Have Affected Indigenous Cultures</p> <ul style="list-style-type: none"> • Reasons for some settlements/invasions • The impact on indigenous populations <p>Activity: Have migrations affected indigenous cultures? Select a case example or group of people to highlight and explain your answer. In your answer, you must include and meet the following criteria: a brief history of the indigenous people and their way of life (beliefs, family, food, housing, etc.), a brief outline on the immigrants, the pros and cons of the new settlements and the effects on both the indigenous and immigrant populations. You need to present your findings to the class in a manner you see fit.</p> <p>Some options to present could include a written report, a powerpoint address, a debate, a brochure, a children’s picture/ story book, a dramatization/a monologue from the point of view of a settler/indigenous person, a comic, a documentary, a journal entry from a character’s point of view, an art piece with an oral/written presentation given by you, a topic of your choice approved by the classroom teacher.</p>

2	Leading a Balanced Lifestyle Helps Us Stay Healthy
	<ul style="list-style-type: none"> • Personal hygiene • Personal fitness • Personal nutrition • Relaxation
	<p>Activity: The canteen and school nurse needs your help! They wish to raise awareness on healthy lifestyles within the entire school. Healthy lifestyles include personal hygiene, nutrition, fitness and relaxation. They need Grade 2 to create posters to put on display throughout the school. Choose 1 of the elements from above to focus on, or try to include all 4 if you wish. It's up to you! Your poster needs to look attractive (consider colour, font, font size , etc.). It must be organized, have a planned layout, be neat and include the necessary health information. Your posters will be put on display. What is needed for a successful poster campaign? Look through some magazines for ideas. Some may also be copied and sent to the local area hospital.</p> <p>(Students could generate posters by hand, use pictures from magazines, use IT for text and/or pics, or use software such as KidPix, Kidspiration, Word, etc., to generate their entire poster)</p>
1	People use Transportation Systems to Get From One Place to Another
	<ul style="list-style-type: none"> • Transportation systems • Why people choose one system over another • Maps and globes
	<p>Activity: You are going to plan a field trip for the whole class. First your group will need to make a decision on where to go (*The teacher could limit the possibilities, have pamphlets available or cached websites, and will probably need to coach groups, etc.)</p> <p>With this, you will need to decide on the best form of transportation to transport your class and reasons for your chosen method. Compare and contrast how the systems are similar and different from one another. Try to include costs if possible and a map. You will need to organize your information in some way. Your trip proposal will be submitted to the principal for review and consideration. If successful, your trip will be approved!</p> <p>Think! Here are the steps to help you plan:</p> <ol style="list-style-type: none"> 1. What is the problem? What is information is needed? 2. Where can you find resources? (software, hardware, places, people etc) 3. Use your sources to gather info (note-taking, skimming, scanning, etc.) 4. Organize your notes, info and ideas 5. Present your information (Decide as a group how you will present) 6. Judge your information and self-assess
K	Water is a Limited Resource
	<ul style="list-style-type: none"> •The changing state of water •The supply of water •Where does water come from and where does it go •How we use water and the impact on the environment
	<p>Activity: The school library has asked the K classes to create a movie explaining 'Water.' They need it so future students and classes can find more information about it.</p> <p>Using KidPix, each student will need to draw and write about one area of water. You may also insert photographs if you wish. This will be a whole class activity. You will need to discuss, plan (storyboard) and use teamwork to create this activity. When complete, the movie will be placed in the library for other students to sign out. Your work should be planned, look attractive and have the necessary information. The information that needs to be included are:</p> <ol style="list-style-type: none"> 1. Title page 2. Where water comes from 3. Where water goes 4. The changing state of water (liquid, gas, solid) 5. Different ways we use water (maybe you could also use Kidspiration) 6. How water affects the environment <p>Choose a topic that you are interested in.</p> <p>When all the pages are finished, the whole class will create 1 final slideshow which will then be turned into a Quicktime movie.</p> <p>*this activity could also be placed on YouTube/TeacherTube as a resource or even sent to your local water treatment center</p>

Some assessment activities that can be included with almost any unit are:

- A neat and bright poster
- A well organised brochure
- A story (picture book, comic, graphic novel, chapter book etc.)
- A letter to the editor
- An article for a magazine
- A photo essay (with digital photos or ones drawn by hand)
- A skit
- A long poem
- A video advertisement, radio commercial or tutorial video/resource
- A blog, wiki or podcast

- With your students, agree what is essential to include on all formats (content and presentation)
- Be explicit: Model, Share, Guide and then Apply
- Create timelines and due dates with students and display in class
- Discuss any issues
- If this style of approach is taken, ask students to choose a different format for the next unit
- This will enable students to use various pieces of software and build experts in the class
- The biggest struggle will be teacher management, not IT
- The technical skill of applying technology to help people learn is necessary and should always be reviewed (never assume that when they did it in a previous year that they now know how to do it...they may have only used it once or twice)
- Compared to the creative work of engaging and challenging students in new ways, technical skills are trivial
- Start by answering this question: “What do I love to teach?” and begin with this subject to get your feet wet
- Then ask yourself, “Where do my kids struggle the most?” Then select your tool. Do not start with your tool first, it is the wrong way

Conclusion

Where is all of this leading the teacher? The teacher’s role is and will continue to change. S/he will become a facilitator or a mentor guiding the students through discovery. Increasingly, students will need to learn how to further locate information and decipher websites. Internet grammar will be integral. Podcasting and blogging will continue to grow. RSS feeds will become necessary for students to learn as well as learning how to post and contribute items to the web. Will contributing to Wikipedia become a literacy strand? Our software will also continue to move increasingly onto the internet. Proper implementation and careful planning is crucial for

these tasks to succeed. We need to tie IT activities into lesson outcomes and learning and not use IT as a mode of writing (e.g. typing written reports) or use the computer as a thousand dollar pen.

Perspectives are changing. Design thinking and analytical thinking should be a collaboration. As teacher status continues to change (sage on stage versus guide from the side), so too can learning be increased with hands-on activities that create products or services which are connected to the real world. These products show student-led initiatives and methodologies to solve life experiences. Increasingly students will be required to organize themselves into groups and operate as teams within and outside of the classroom. Working as teams highlights real world processes and creates links with multidisciplinary approaches and skills. Students with different backgrounds and disciplines will have different opportunities to bring their knowledge to a group and along with teachers, will be challenged to work together. These tasks as well as individual tasks promote creative thinking, problem solving and a deeper understanding within curriculum areas. We are not using our natural talents fully. We cannot force people to be creative. It grows and evolves itself in a nurturing environment.

Teachers feel the constraints of crowded curriculums and time. This approach allows more meaningful assessments and activities to occur that embed the creative arts and technology into formative and summative assessments. It creates products that can be shared within communities and allows students variety to express their understanding. Teachers simply need to provide the correct environment. How willing are we as educators to shift the control of learning in the classroom from the teacher to the student?

Resources

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