

Technology and Pedagogy: (Re)-ENVISIONing the Classroom

John Yeo

John.yeo@Edimpact.com.sg Founder / Edimpact, Singapore Headmaster / USIS, Korea Chief Architect of Learning / Singapore Academy USA





Teach Less Learn More







FLIP INSTRUCTION

- 1. SCAN through the slides
- 2. PLUCK key ideas
- 3. ASK questions
- 4. CONNECT the dots





Checkback:

- What insights did you have gain from **<u>yesterday</u>**?
- What insights did you learnt from day **<u>before</u>**?





Transdisciplinary Curriculum

Objective:

TLC ties in all the conceptual learning and deep learning within individual subjects to allow it all to make sense in real world contexts. Outcomes:

- Deeper, active learning
- Interweave of 21st century skills
- Sharpen and hone subject proficiencies
- Strengthen learner outcomes
- Learning, *sticks*!





Transdisciplinary Curriculum



Creative Problem-Solving Design

Heightens creativity with pedagogical approaches and creative learning strategies which infuse creative learning situated by social, cultural, academic and personal factors



Cross-Cultural Understanding

Develops global awareness, cultural sensitivity and the understanding of creative conflict mediation to ensure cultural intelligence and enable learners to become leaders of diverse teams.



21st Century Skills

Enables students to have strong foundations in collaboration, multimodality, digital literacy, and communication skills and deepens their learning of individual subject disciplines.









What matters most to them?

What if the way we teach is NO LONGER relevant or meaningful to our students?



Type in Chat.. ONE WORD to represent this picture?





All connectivity is not created equal, in the internet age, which technologies and devices you use to connect increasingly determine your online opportunities — Meinrath.

New Norm **UIDENS** Digital Divide





SINGAPORE'S DIGITAL PENETRATION RATE

5.7 million population

Key your answer in the chat What percentage of Singaporeans uses Internet daily? Social media penetration

79%

82% vs Global: 67% vs Global: 49%



Source: statista.com



INTERNET USER PENETRATION IN SINGAPORE

82%

AVERAGE TIME SPENT ONLINE IN SINGAPORE 6.48 hours per day

FREQUENCY OF USING THE INTERNET AMONG MOST INTERNET USERS IN SINGAPORE

Everyday





Engagement tools- Pattern Interrupt

- What can we infer from 2617
- Motivation and attention span
 - Shooting 2003 vs 2013
 - Social media- when a 'like' is not necessarily like
- 92% multitasking- lower IQ
- Impact on teachers
 - Teacher readiness, competencies and capacities
 - JY: How might we encourage teachers to enjoy the use of the ICT tools professionally?





TENSIONS Creativity & Curriculum







HotTOPIC

Creative Thinking as a Process

Creativity has been a hot topic since the Ministry of Education articulated its vision of Curriculum 2015, but many teachers are still not confident about how to go about teaching and evaluating creativity. John Yeo explains how we can better respond to the call for creative teaching.

Creativity is a complex and multi-dimensional construct. It isn't just about coming up with multiple solutions to a problem, says NIE lecturer John Yeo. Neither is it about the outcome alone and how innovative it is.

"We want our students to learn more creatively, and we think that means we need to teach more *creatively*," he notes. "Sometimes people even talk about a need to teach *creativity*."

John makes a distinction between these notions of creative teaching and teaching for creativity. "Teaching creatively and teaching for creativity are related but they're not the same thing."

They do, however, share a common focus—helping students learn by appreciating new points of view and values. And that's what John is interested in.

Teaching for Effective Learning

John believes we can help our students to learn more better by teaching them to think creatively. For him, it begins with teachers' understanding of the creative process as that affects the way they teach—and thus the learning that results.

Many teachers equate creative teaching with engaging learning, but an engaging lesson does not necessarily lead to effective learning.

"Sometimes teachers think that creative teaching is only about engagement, but it doesn't always mean that being engaged results in effective learning."

In terms of creativity in education, John explains: "It is primarily about helping people to look at things differently. How do we understand the issues and identify challenges? And then, how do we generate better ideas?"



Teaching creatively and teaching for creativity are related but they're not the same thing.

- John Yeo, Curriculum, Teaching and Learning Academic Group







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Tips, Tools, and Techniques for Teaching in the Online High School Classroom

By Shantia Kerr

"In the online setting students may work independently and in isolation more often than in a face-to-face setting."





COVID-19 SPECIAL

Covid-19 can widen gaps in children's development

Wei-Jun Jean Yeung For The Straits Times

S PUBLISHED 6 HOURS AGO

f 💿 🔽 …

Insights from a longitudinal study in Singapore suggest Covid-19 and home-based learning can exacerbate socio-economic inequalities, leading to wider learning gaps.



Home » Buhay Guro » DepEd Learning Delivery Modalities for School Year 2020-2021

DepEd Learning Delivery Modalities for School Year 2020-2021 By Mark Anthony Llego / Buhay Guro / 6 Comments

DEPED LEARNING DELIVERY MODALITIES FOR SCHOOL YEAR 2020-2021 -----

TEACHERPH

School opening will not necessarily mean traditional face-to-face learning in the classroom. The physical opening will depend on the risk severity grading or classification of a certain community pursuant to guidelines from the Department of Health (DOH), the Inter-Agency Task Force (IATF) for the Management of Emerging Infectious Diseases in the Philippines and the Office of the President (OP).

Search ...

RECENT POSTS

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> Modalities for 020-2021 Teacher Partnership

Creative Cloud

Make it with

Creative Cloud

School opening will not necessarily mean traditional face-to-face learning in the classroom.



https://web.facebook.com/PEACO fficial/videos/437459593901766



Private Education Assistance Committee 34m · 🚱

Thank you to all the teachers who participated last October 3 at the webinar, Teachers in Post-COVID-19: How We Can Learn with Resonance, Unlearn with Creativity, and Relearn with Faith and Hope with Mr. John Yeo. For those who weren't able to watch the webinar, please go to this link:

https://web.facebook.com/PEACOfficial/videos/43745959390176 6

#ThankYouTeacherPH







Type in Chatbox:

Your CONCERN/S of using technology in the classroom





ADB





Source: Frank Levy and Richard Murnane, The New Division of Labor: How Computers Are Creating the Next Job Market (Princeton, NJ: Princeton University Press, 2004).





Foundation What does 'creativity' mean?

SCHOOL SUPERINTENDENTS

BUSINESS/EMPLOYERS

Everyone suggests creativity is key for a 21st-century workforce, but educators and executives differ on what specific creative skills are most important, according to a 2007 survey of 155 school superintendents and 89 employers. Rank determined by percentage of respondents selecting skill. Respondents allowed to select only three skills.

Problem identification or articulation	1	9
Ability to identify new patterns of behavior or new combination of actions	2	3
Integration of knowledge across different disciplines	3	2
Ability to originate new ideas	4	6
Comfort with notion of 'no right answer'	5	11
Fundamental curiosity	6	10
Originality and inventiveness in work	7	4
Problem solving	8	1
Ability to take risks	9 (t)	8
Tolerance of ambiguity	9 (t)	7
Ability to communicate new ideas to others	11	5



2018

- 1. Analytical thinking and Innovation
 - 2. Complex problem-solving
 - **3.** Critical thinking and analysis
- 4. Active learning and learning strategies
 - 5. Creativity, originality and initiative
 - 6. Attention to detail, trustworthiness
 - 7. Emotional intelligence
- 8. Reasoning, problem-solving and ideation
 - 9. Leadership and social influence
 - **10. Coordination and time management**

2022

- **1.** Analytical thinking and innovation
- **2.** Active learning and learning strategies
 - 3. Creativity, originality and initiative
- 4. Technology design and programming
 - **5. Critical thinking and analysis**
 - 6. Complex problem-solving
 - 7. Leadership and social influence
 - 8. Emotional intelligence
- 9. Reasoning, problem-solving and ideation
 - 10. Systems analysis and evaluation











A more defensible way of teaching based on current research on how people learn





Schools are not doing enough

"Our creativity is being stifled by our education system."

65%

🔲 🚝 📕 🚺

74% 71% 70% 66% 46%

Creativity is being stifled by the education system

"Our government encourages schools to teach students to be creative."

37%









The typical cellphone user touches his or her phone 2,617 time every day, according to a study by research firm Dscout. But that's just the average user: The study found that extreme cellphone users – meaning the top 10% – touch their phones more than 5,400 times daily.









ROLLJAK

Innovate Better, Together





The Innovation Gap

Innovation is perceived as a black box, difficult to learn and hard to implement cohort wide.

Ineffective design & ideation sessions due to group dynamics of social loafing, groupthink & social anxiety.

Individuals lack creative confidence & toolsets to tackle challenges on their own and foster innovation.







Building the Foundation

First ICT Masterplan in Education: A strong foundation to harness ICT







2015 & Beyond

Deepening Learning, Sharpening Practices

Preparing students who will be Future-Ready & Responsible Digital Learners

- Deepen student's learning with quality ICT-enabled learning and design.
- Sharpen the use of ICT in teaching and learning practices.
- Strengthen the focus on Cyber Wellness and New Media Literacies.



Journey





Singapore Learning Designers- Singapore Teachers for Teachers





Commentary Commentary

Commentary: Teachers now have new jobs. Schools will never be normal again after COVID-19

The good news is this coronavirus pandemic has also forced a renewed focus on education's goals of equity, character development and adaptation, says NIE's Jason Tan.



29 Aug 2020

https://www.channelnewsasia.c om/news/commentary/teachers -coping-covid-19-coronavirusnew-roles-challenges-13055482



A teacher explains to students the new protocols for taking recess breaks and daily temperature checks at Yio Chu Kang Secondary School, as schools reopen amid the coronavirus disease (COVID-19) outbreak in Singapore Jun 2, 2020. (Photo: REUTERS/Edgar Su)





Singapore Ministry of Education 21st Century Competencies







Creativity

$\mathbf{G} = \mathbf{f}\mathbf{A}(\mathbf{K},\mathbf{I},\mathbf{E})$





Evaluation





Where is the novelty / originality of the ideas?

How to assess the knowledge and skills acquired by the students?





Creativity







".... We (teachers) *lost* the ability to catch children's imagination and forget what they are worth."

Mr Nazrun Mizzry CCAB, Ministry of Education, Singapore



Nasrun was previously John's NIE student during his

- Masters in Curriculum, Teaching and Learning (Med C&T) and
- Management in Leadership Studies (MLS)



DESIGNING FOR PROBLEM FINDING

APPLIED LEARNING HROUGH MAKING AND EXPLORATION

Given a creative space and autonomy to shape their thinking by offering an "unstructured" approach for the to As educators, it is critical to understand how creativity research, theories and models can better inform curriculum planning and lesson design and enactment.







) The HEAD Foundation

Criterion	Novice 1-2	Developing 3-4	Expert 5		s	icor	e	
SIGNIFICANCE	The problem identified is not worth exploring.	The problem identified is practical and actionable.	The problem identified is compelling and presents a unique opportunity for making things better.	1	2	3	4	5
ORIGINALITY	The solution is largely rehashed, or developed with little improvement over existing solutions.	The solution is appropriately modified or developed with some improvement over existing solutions.	The solution is original with significant improvement over existing solutions.	1	2	3	4	5
EFFECTIVENESS	The solution is not developed for the intended benefits. It is difficult to use and/or unnecessarily complex.	The solution is developed for the intended benefits but may not be user-friendly or direct to use.	The solution is elegant and direct to use. It achieves the intended benefits for the user.	1	2	3	4	5
METHOD OF OPERATION	The prototype is a visual representation of the solution but does not show how it works. There is also a lack of consideration of user feedback.	The prototype shows some consideration of user feedback and provides an idea of how the solution works.	The prototype shows effective integration of feedback from the intended user and provides a clear understanding of how the solution works.	1	2	3	4	5
						12	20	





Three Critical Traits of Quality Curriculum



that Serves Academically Diverse Learners Well

Edimpact's Trandisciplinary Learning Curriculum







THEY DON'T HAVE TO STAND OUT IN ALL FIELDS, BUT...



NWW.FLICKR.COM/PHOTOS/FRIELP/11999738





Once his teacher, now his partner... so proud of <u>Timothy Joshua</u>











Traditional Classroom

- 1. Assessment at the end of a unit of study
- 2. Dominance of whole class instruction
- 3. Adapted textbooks are the main instructional resource
- 4. The teacher is the main problem solver and holds the knowledge to "deposit" to students

Differentiated Classroom

- 1. Assessment is ongoing, diagnostics and influences instruction
- 2. Variety of instructional strategies used within a classroom
- 3. Multiple types of materials are utilized as resources
- 4. Students are engaged in problem solving and inquiry



TOPICS STATES TIPS & TACTICS VOICES FEATURES VIDEO

CONNECTI

HOME >> MANAGEMENT

SEP

23

2020

(f)

in

3

Focus On K-12

MANAGEMENT

These Educators Embrace the Opportunities of Online Learning

K–12 educators and experts are using social media channels to share advice, tutorials and examples of ingenuity.



by Marquita Brown 🕑

Marquita Brown is the managing editor of EdTech: Focus on K-12. Before joining EdTech, she was a



Internet penetration in Southeast Asia as of May 2020.



"As of mid-2020, Singapore had the second highest rate of internet penetration within the Southeast Asian region, with 88.4 percent. Out of the total population of people in Singapore approximately 4.8 million were internet users."



https://www.statista.com/statistics/487965/internetpenetration-in-southeast-asian-countries/



ONLINE ACTIVITIES IN SG SINCE COVID-19





Source: statista.com



Motivation of Learning-Relevance & Interest

Original Paper | Published: 09 September 2019 Writing on Social Media: a Review of Research in the High School Classroom

Sarah Galvin 🖂 & Christine Greenhow

TechTrends 64, 57–69(2020) | Cite this article 732 Accesses | 2 Citations | 10 Altmetric | Metrics

Abstract

Students today spend more time writing on social media than they do in formal classrooms and have developed distinct and complex literacies separate from traditional writing curricula. Although several studies have explored teens' informal literacy practices online, research investigating how these spaces may inform or be effectively utilized in the classroom remains inconclusive. This systematic literature review identifies and critically evaluates the existing knowledge base on how social media have been integrated in high school writing instruction, with particular emphasis on which factors improved student learning and which factors created barriers to student learning. Social media platforms were found to be potentially authentic learning spaces, yet sometimes low student participation hindered effective implementation. Specific teaching strategies, such as modeling and scaffolding instruction, and directions for future research are described.







Create Engaging Content	Engage Through Interactive Activities	Explore Digital Boards	Check Learner Understanding	Learn Through Synchronous Virtual Means
Flipgrid	H5P	Explain Everything	Kahoot!	Google Meet
Allow your learners to record short, authentic videos based on what they are learning https://info.flipgrid.com	Allow your learners to create, share and re-use interactive HTML5 content https://h5p.org/	Facilitate, present, sketchnote, create videos and learn collaboratively. https://explaineverything.com/	Make learning fun and check learners' understanding by hosting kahoot live in class or assign self-paced games. https://kahoot.com/	Connect with your learns via this G suite integrate tool, https://meet.google.com
Piktochart	Mentimeter	Lino	Plickers	Zoom
Create learning materials including infographics, flyers, posters, presentations and reports easily	Create interactive presentations and get real-time input from remote learners with live polls, quizzes, word clouds, Q&As and more.	Allow learners to share ideas, engage in lively discussions via sharing of notes, files, pictures and videos.	Check learners' understanding quickly and simply through on-the-spot formative assessment data	Connect with your learner virtually and synchronou via this audio and vide conferencing tool
https://piktochart.com/	https://www.mentimeter.com/	https://en.linoit.com/	https://www.plickers.com/	https://zoom.us/
Powtoon	Nearpod	Padlet	Quizziz	
Captivate, engage and explain concepts through easy creation of videos and presentations https://www.powtoon.com/	Engage learners through dynamic media for collaborative learning experiences. https://nearpod.com/	Make visually stimulating boards documents and webpages that are easy to read and fun to contribute to. https://padlet.com/	Engage learners with quizzes, polls, flashcards and learner-paced assignments, anywhere, on any device, in-person or remotely.	

Spiral	Pear Deck	Trello	Socrative
gage learners in quizzes	Create interactive slides that allow	Make use of boards, lists, and	Monitor and evaluate learning
d discussions and allow	learners to respond to your questions or	cards to organise learning and	by creating fun, effective
ners to create and share	prompts	allow collaboration in a fun,	engagement and on-the-fly
aborative presentations.		flexible, and rewarding way.	assessments
https://spiral.ac/	https://www.peardeck.com/googleslides	https://trello.com/	https://socrative.com/
	Thinglink	Viima	
	Tag images, videos and 3600 media	Allow learners to contribute,	
	with instant access to additional	develop, prioritise and analyse	
	information, audio, video, embeds and web links.	their ideas.	
		https://www.viima.com/	
	hat any first of the transfer to the second		

https://www.ial.edu.sg/start-learning-innovation/in-lab/innovation-activities/CEE.html

Curated Cost-Effective and Easy-to-use Tools

iN.LAB curates educational technology (edtech) tools that are cost-effective, to help reduce costs in implementing blended learning, and easy to use in classroom, online and workplace learning.





Breakout Room Application of Authentic Task to IAL curated tools





Assessing with SOLO Taxonomy

Multistructural

A number of connections

may be made, but the meta-

connections between them

are missed, as is their

significance for the whole

(concepts).

Unistructural Simple and obvious connections are made, but significance is not grasped.



Prestructural Acquiring bits of unconnected information, with no organisation and makes no / little sense. Relational Able to appreciate the significance of the parts in relation to the whole (concepts).



Extended Abstract

Making connections not only within the given subject area, but also beyond it, able to *generalise* and *transfer* the principles and ideas



		111	Ŵ	
Prestructural	Unistructural	Multistructural	Relational	Extended Abstract
Seeking clarification	Getting started	Adding	Cause	Commenting
m not sure why	The first thing I have discovered	Aswell	This is due to	The main point
's confusing because	We found that	Plus	This is because	The most influential feature
his is not clear due to	Did you know that	In addition	Causes of this are	The least important
/here should I begin to	Amazingly	Also	Previous to this	The most significant
/hat should I start	It's a sad fact that	Continuing on	Prior to that	In my opinion
Vhere do I need to look for	I was surprised to find that	Besides this	Leading up to this	In my judgement
low do I get help to	One of the most	Furthermore	Effect	Concluding
think this might mean	To begin with	Another factor is	As a result	In conclusion
ould I do this differently by	A key thing I've learnt is	Combining	Because of this	To summarise this
laybe if I begin to	I was shocked to learn that	Together these	Consequently	When all things are considered
suppose I could	My investigation showed me that	In total	Due to this	Anomalies / Exceptions
hould I try to	I need to start by saying that	In general	Contrast	Just occasionally
erhaps if 1	One thing I will remember is	Altogether	On the other hand	An exception to this is
	I'll start with this incredible fact	Mostly	In contrast	Paradoxically
		The majority	Alternatively	Forecasting / Predicting
		Collectively	Whereas	If this trend continues then
		Evidence	Similarity	This may well result in
		This is shown by	Similarly	As a consequence of all this
		An example of this is	In just the same way	We can expect that
Solo Taxonomy Wordmat		Supporting data for this	This can also be seen	In all liklihood the impact will
		Statistical evidence for this	Sequencing	I would anticipate that
		This is backed up by	Firstly, secondly, thirdly	Hypothesising
		We know this because	The next stage	On reflection I believe that
		This is supported by	Following on	This leads me to propose that
		My research showed that	Next in the process	The implication of this is

















TikTok: Why Everyday People are Heroes?

"Never show your audience something that they can't ever relate to." - Francis Ford Coppola, Director Of Godfather





TikTok: Why Everyday People are Heroes?

• PRESENTABLE, NOT PROFESSIONAL

- More people go online \rightarrow No longer about being professional,
- Getting your message out and publishing it FAST!

• PERSONAL, NOT PERFECT

- Bombarded with entertainment and ads that are all perfectly shot!
- Ad fatigue (where they become blind) \rightarrow an angle as a **friend**

• AUTHENTIC, NOT ARTISTIC

- Getting straight to the point
- Share message!





💄 @inspire2learn





Students learning a 2 nd language	Students with learning challenges	Students who lack self- confidence	
Advanced learners	Students who are over- subscribed	Students with emotional challenges	
Students from varied races or cultures	Students whose families move often	Students for whom home is unhealthy	

Core service /	Motivational	Motivational	Psychological	Behavioral outcomes		
activity	category	affordances	outcomes			
Multiple choice quiz software tool	Cognitive, social, emotional	Points, feedback, leaderboard, time constraints	Enjoyment, engagement	Impact on learning (usefulness)		
Online learning tool	Cognitive	Badges	Enjoyment, attitude towards badges	Level of participation and quality of participation		
E-learning platform	Cognitive, emotional, social	Leaderboard, badges	Attitude towards gamification	Learning outcomes		
Learning to use Adobe Photoshop	Cognitive	Clear goals, challenge, feedback, levels	Engagement, fun	Effectiveness of learning		
A mobile information application for new university students	Cognitive, emotional	Achievements, clear goals	Perceived added value of gamification, fun	Exploration of the campus while interacting with the application		
Online learning environment	Cognitive	Badges	-	Impact on time management, carefulness and achieving learning goals -		
Virtual human patients for training healthcare students	Cognitive, emotional	Leaderboard, narrative (story/theme), deadline (challenge)	Difference in users' approach to virtual patient interaction	Number and duration of interactions with virtual patients, likelihood of voluntary participation to a virtual patient interaction		
Learning to use	Cognitive	Story/theme, clear goals,	Engagement,	Task performance		



We all have our own struggles...but we need to hold on...





ADB Foundation is the use of game design elements in non-game contexts.

(Deterding et al., 2011)

Employees trained in Video Games

- ✓ Learn more factual information
- ✓ Attain higher skill level
- ✓ Retain information longer than those who learn in less interactive environment



Gamification in the Workplace

- Employee Wellness Programmes
- Employee Training Programmes
- Increased engagement for routine tasks
- More innovative outputs





 Gamification used as an educational approach to motivate students to learn by using video game design and game elements in learning environments



Game elements

Rewards and engagement





Phenomenon of Gamification

- Started as a trend connecting concepts and research in humancomputer interaction and game studies
- However, it is still not well established on how "gamification" directly relates to the above two domains
- "Gamified" applications provide insight into novel, gameful phenomena complementary to playful phenomena

Some strategic technology trends:

Mobile-centric applications and

interfaces: *Touch, gesture and voice search;*

Social and contextual user

experience: Context-aware

connections to improve the quality

of interactions;

Application stores and

marketplace: *Specific apps for users.*

