



# Creativity and Global awareness through cross disciplinary tasks

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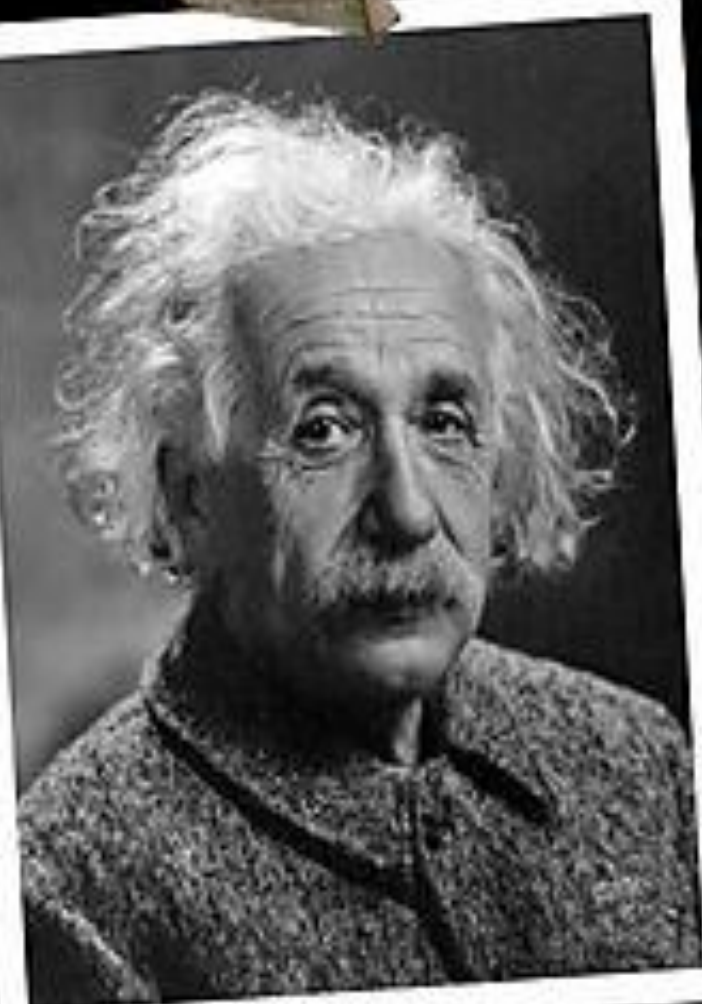


A photograph of a classroom where several students are seated at desks, working on laptops. The focus is on a student in the foreground, seen from the side, wearing a grey sweater with blue stripes on the sleeves, typing on a laptop. The laptop screen displays a 3D game environment with green blocks and a blue sky. Other students in white shirts are visible in the background, also working on laptops. The text 'Whose learning?' is overlaid in large white letters across the top half of the image.

# Whose learning?

*‘validating and authorising them to represent their own ideas, opinions, knowledge and experiences throughout education in order to improve our schools’ (Fletcher 2005).*





**“Imagination is  
more important  
than knowledge.”**

**— Albert Einstein**




# *Workshop Objectives*

- To identify and share effective integrated assessment strategies to foster creativity
- To identify and share ways to use technology to enrich assessment, and unleash creativity



*“Curriculum will be  
designed to develop  
successful learners,  
confident and creative  
individuals and active and  
informed citizens”*

**(MCEETYA**


- 
- *“The quality of teaching and learning provision are by far the most salient influences on students’ cognitive, affective, and behavioral outcomes of schooling – regardless of their gender or backgrounds” (Rowe, 2003).*
  - *‘Quality assessment has the greatest potential to improve the learning outcomes of all pupils’ (Hattie, 2003; Dinham, 2009).*

*'If we teach today's  
students as we taught  
yesterday's, we rob them  
of tomorrow'* John

Dewey,  
1859-1952.



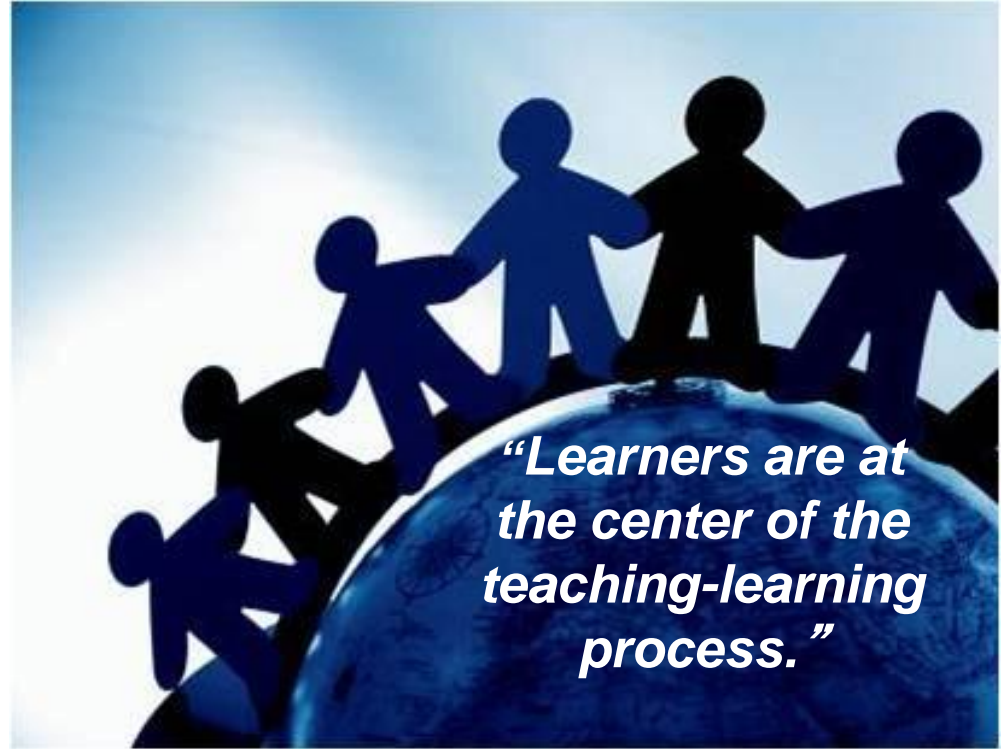
# The Research

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- Coyle and Colvin (1999): The brain is phenomenally plastic– *'It's not who you are, it's what you do and where you do it.'*
  - Schools (Robinson, 2006) and educators (Malaguzzi, 1987) kill creativity.
  - Barab et al (2001), Shaffer (2006) and Gee (2007) creating using technology encourages students to be creative, autonomous, and cognitively flexible risk takers.
  - Westwell (2009): Creativity flourishes when connected to what is already known.
  - Wiggins and McTighe (2006), Hattie (2003) & Dinham (2008): Correlation between quality assessment and improved learning outcomes.
- ❖ Create a positive learning environment for creativity, critical thinking, problem–solving and risk-taking
  - ❖ High expectations
  - ❖ Build the field
  - ❖ Interplay of quality assessment *for, of, as* and *through* learning
  - ❖ Student choice
  - ❖ Provide quality feedforward



# Global Skills

- Critical thinking
- Communication
- Problem solving
- Creativity and innovation
- Collaboration
- Connectivism
- Global and cultural knowledge



*‘Integrated curriculum is an educational approach that prepares children for lifelong learning. We learn by connecting new information to familiar information. Education is a process for developing abilities required by life in the 21st century, rather than discrete, departmentalized subject matter’ (2003, Kathy Lake).*

A scenic landscape featuring a two-lane asphalt road that curves through rolling hills. The hills are covered in dry, golden-brown grass. In the background, there are dark, silhouetted mountains under a bright blue sky filled with large, white, fluffy clouds. The overall mood is open and expansive.

# Uncovering the Learning



# Uncovering Learning

- What do my students need and want to learn?
- Why does it matter?
- What do they already know?
- How will they demonstrate learning?
- How will they get there?
- How well do I expect them to do it?
- How will technology enrich the learning?

**Deep learning: Identification of concept, skills, knowledge and understanding to be assessed**



**Essential learning goal & key learning ideas**



**Precision: Data & pre-assessment**



**Targeted assessment**

Formative (A4L & AasL)



Summative



**Peer/Self assessment and reflection**



**Timely and precise *feed-forward***

# Assessment *for* Learning

TRADITIONAL/SUMMATIVE	AUTHENTIC/FORMATIVE
CONTRIVED	REAL-LIFE
RECALL/RECOGNITION	CONSTRUCTION/APPLICATION
TEACHER DIRECTED	STUDENT DIRECTED
COVERAGE	UN-COVERAGE
SELECTING A RESPONSE	PRODUCING/PERFORMING/ PRESENTING
PASSIVE LEARNING	ACTIVE LEARNING/SELF- ASSESSMENT/METACOGNITION
STRUCTURED	OPEN-ENDED

***Wiggins (2006)***

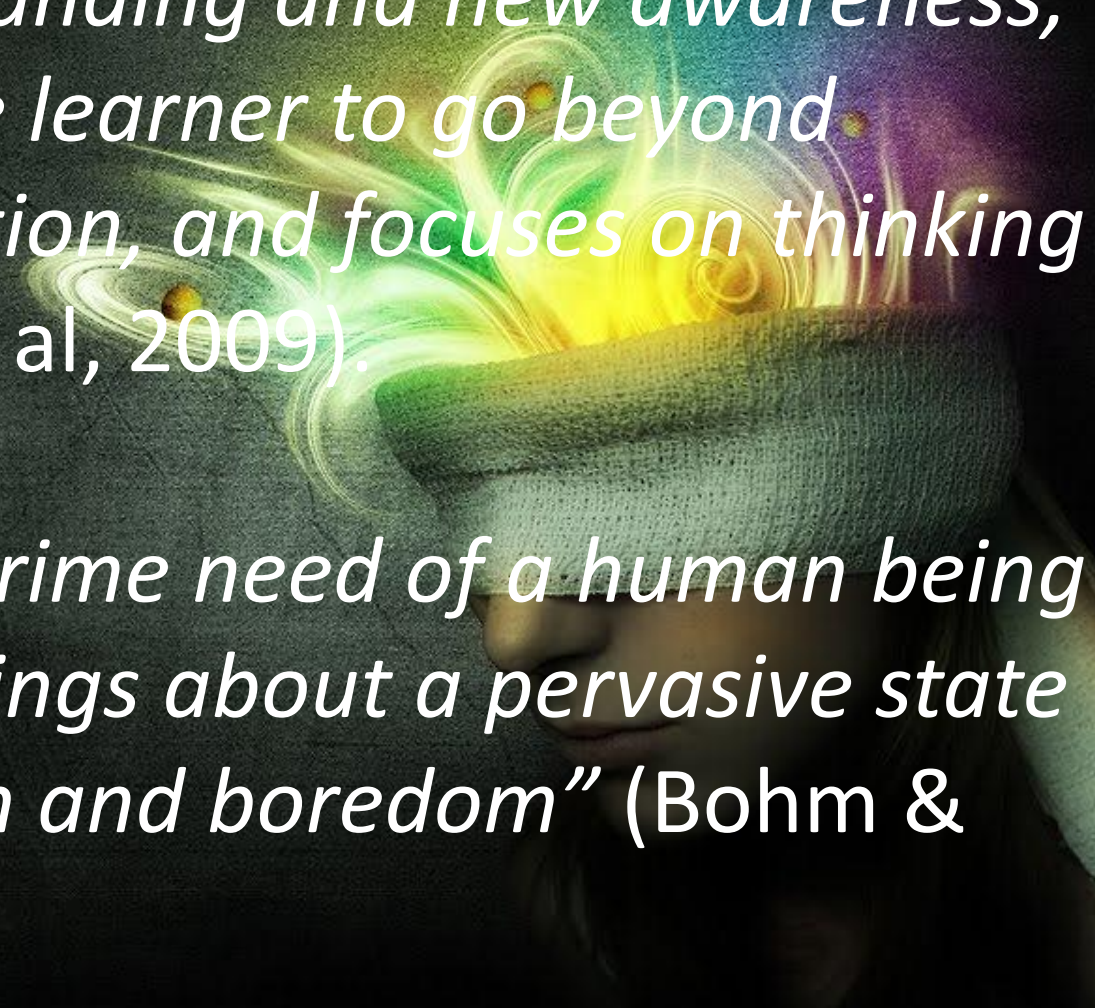


# Assessment *as* Learning

- Students and teachers set learning goals, share learning intentions and success criteria, and evaluate their learning through dialogue and self and peer assessment.
- Students gain a deeper understanding of their skills, knowledge, level of understanding and the expected standards.
- Students develop ownership of the learning process.

WHAT MATTERS MOST  
IS HOW YOU SEE YOURSELF.

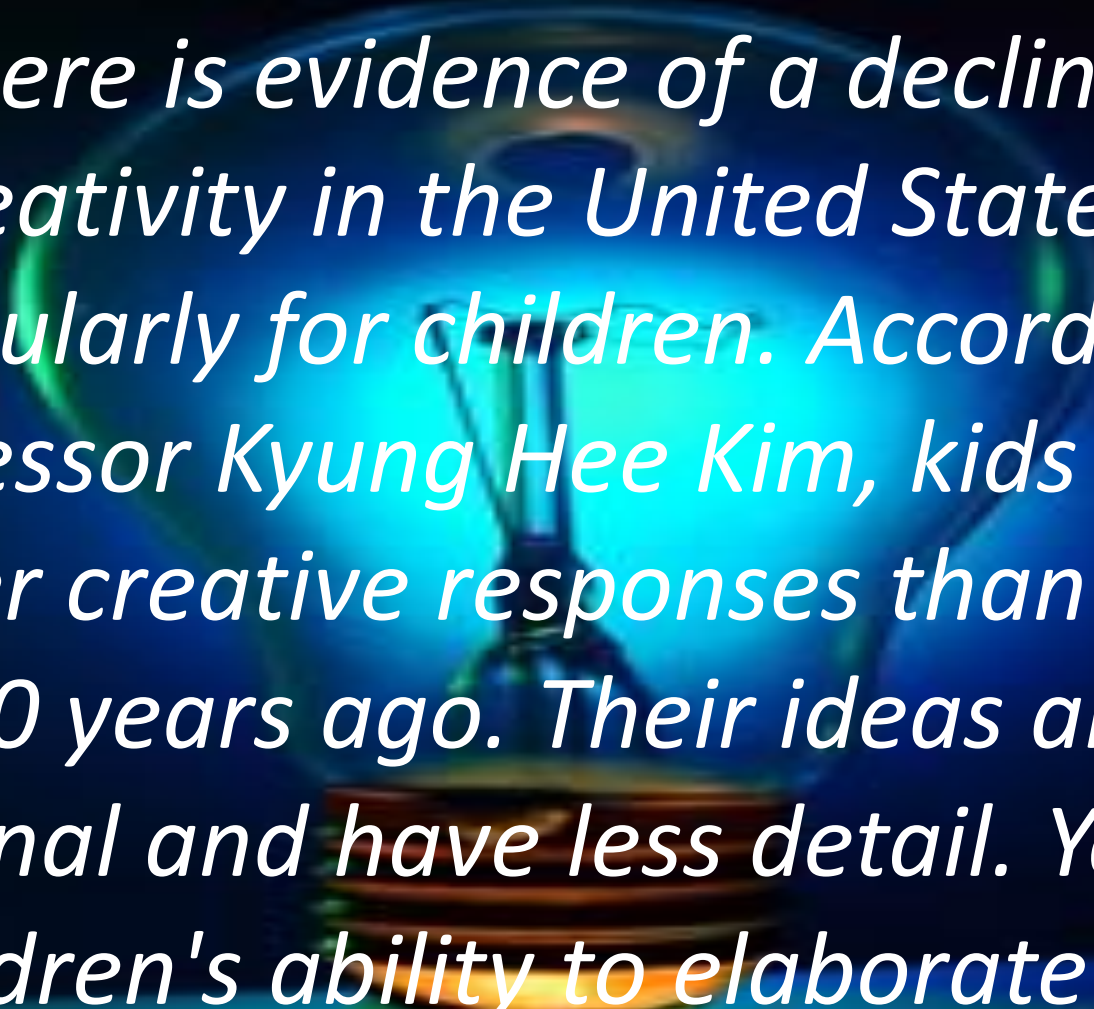




**Creativity** is defined as *“any learning which involves understanding and new awareness, which allows the learner to go beyond notional acquisition, and focuses on thinking skills”* (Ferrari et al, 2009).

*“Creativity is a prime need of a human being and its denial brings about a pervasive state of dissatisfaction and boredom”* (Bohm & Peat 2000).





Newsweek's "The Creativity Crisis":  
*"There is evidence of a decline in creativity in the United States - particularly for children. According to professor Kyung Hee Kim, kids have fewer creative responses than they had 20 years ago. Their ideas are less original and have less detail. Young children's ability to elaborate has plummeted 37% since 1998."*



# Creativity Fluency

- **Identify** the desired outcome and criteria.
- **Inspire** creativity with rich sensory information.
- **Interpolate** and connect by searching for patterns within the inspiration that align with the desired outcome and criteria from Identify.
- **Imagine** is the synthesis of Inspire and Interpolate, uniting in the birth of an idea.
- **Inspect** the idea against the original criteria and for feasibility.



# Unleash Creativity

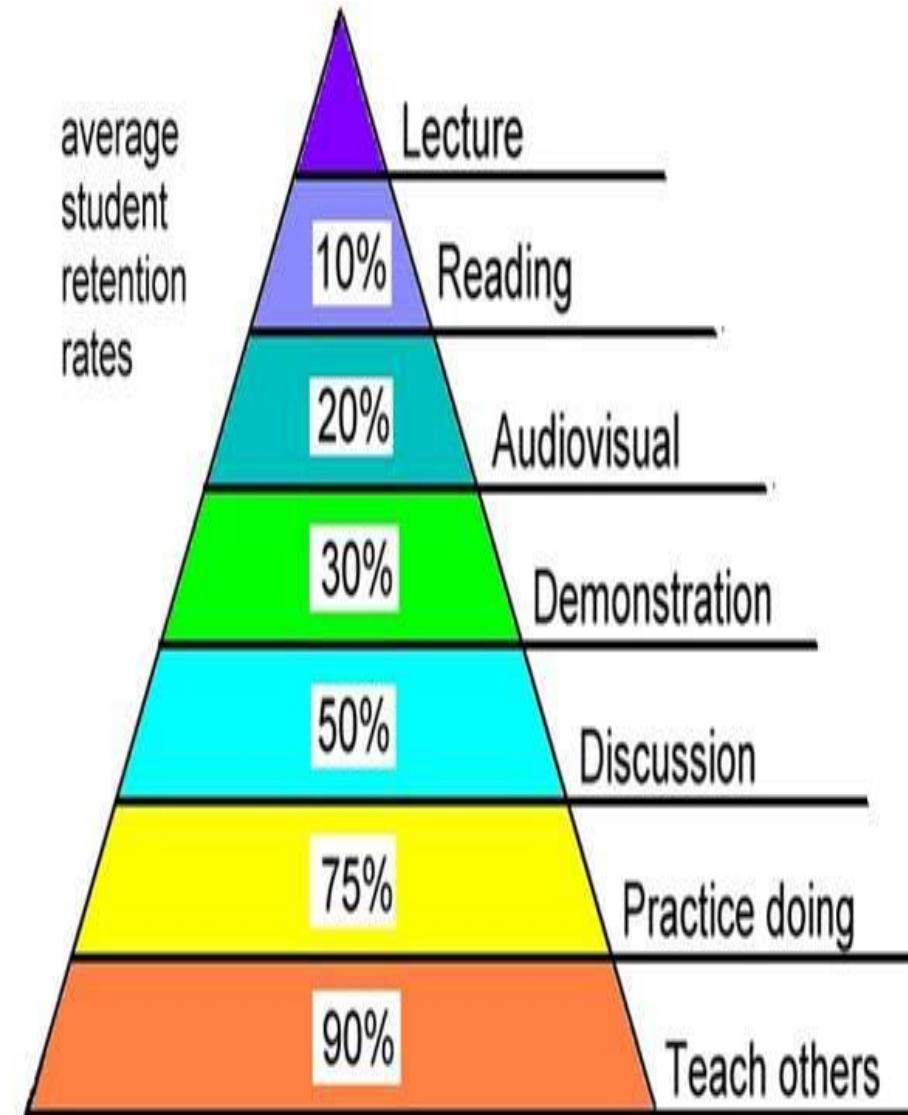
- A culture that values originality, active learning and invention.
- Authentic assessment that uncovers the learning
- Planned deliberately and integral to the design of teaching
- Explicit teaching builds confidence
- High expectations
- Risk-taking encouraged
- Student-centered
- Choice encouraged through technology
- Time for reflection and refinement with peers and self



# Higher-order Tasks

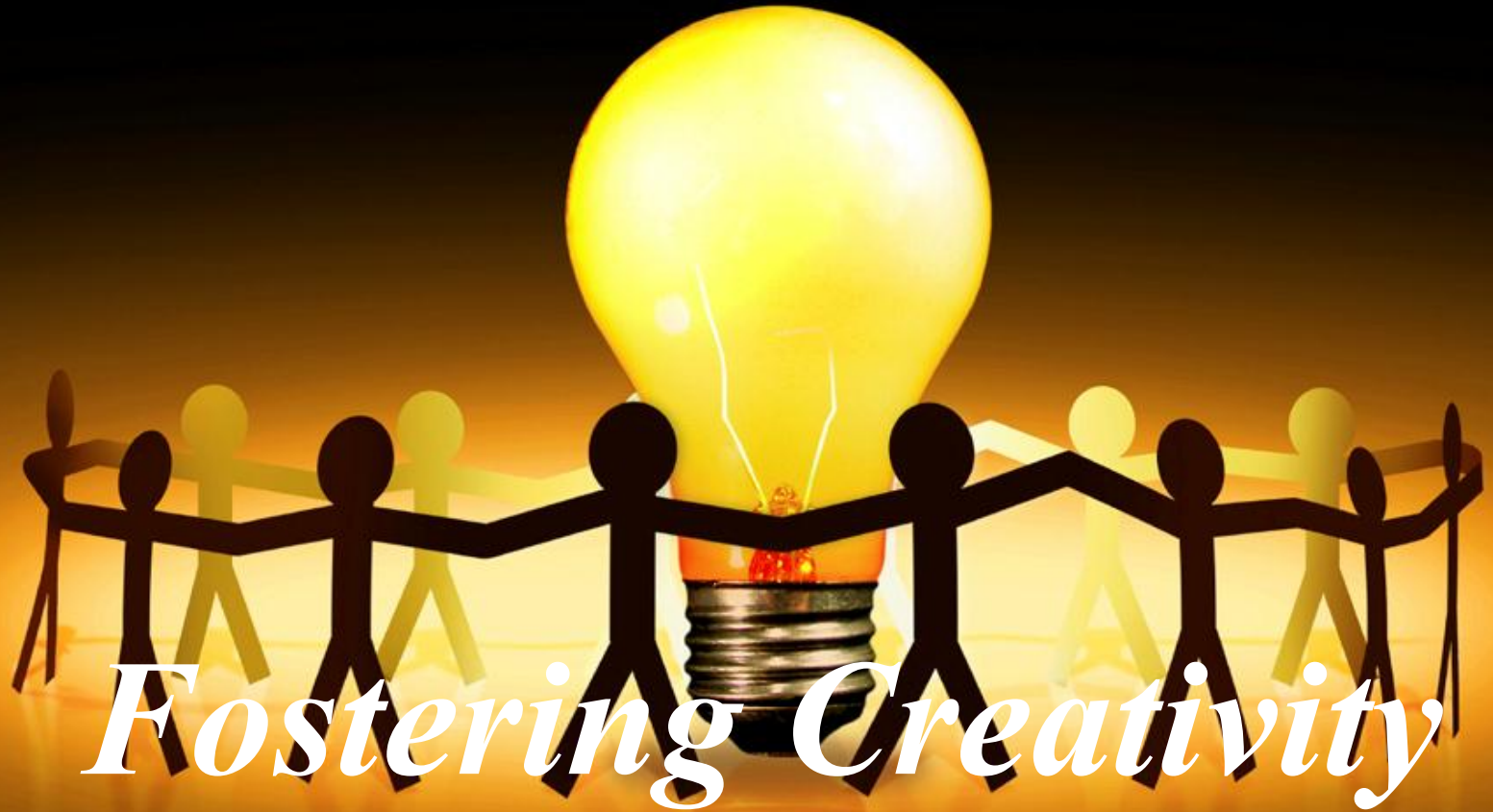
- Investigation
- Critical thinking
- Active learning
- Choice
- Collaborating and sharing
- Problem solving
- Teaching others
- Evaluating and reflecting
- Using technology as an enabler

## Learning Pyramid



Source: National Training Laboratories, Bethel, Maine

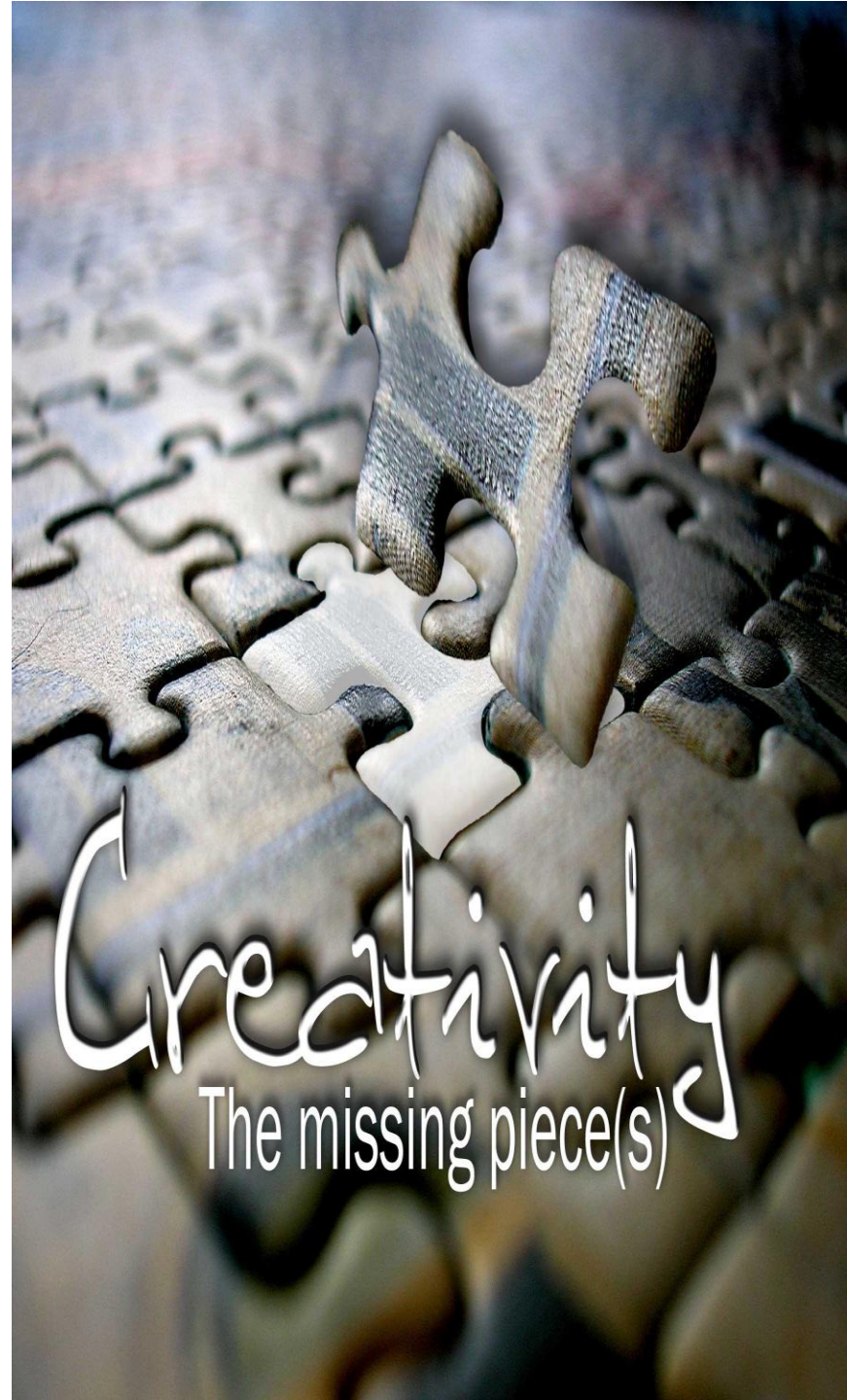




*Fostering Creativity  
through Assessment*

# Objectives

- Complement the Positive Psychology Program launched at Knox Grammar School this year.
- Reinforce conceptual programming
- Reduce reliance on 'textbook teaching' – Are we teaching a 19<sup>th</sup> Century curriculum using 20<sup>th</sup> Century techniques for 21<sup>st</sup> Century boys?
- Techniques for Lifelong Learning



# The Steps

- Identify a current and engaging issue or concept
- Consult with staff and students
- Find resources – flip learning model
- Open and honest consultation
- Survey students and teachers pre and post





# Project-based Learning

- Connected to real world situations
- Prep *Knoxigation*
- Yr. 7 world problems
- Yr. 8 *Minecraft* and sustainability
- Yr. 9 world problem
- Yr. 10 Action learning projects





# Year 7 Task

- [Astronomical Events](#)
- **Research:**
  - What the event was and when it occurred
  - Who regarded the event as significant and why.
- How the information can be presented in an engaging and interesting way to an audience of students, teachers and parents.
- Create at least **five questions** based on the research
- English and Math tasks connected to the investigation







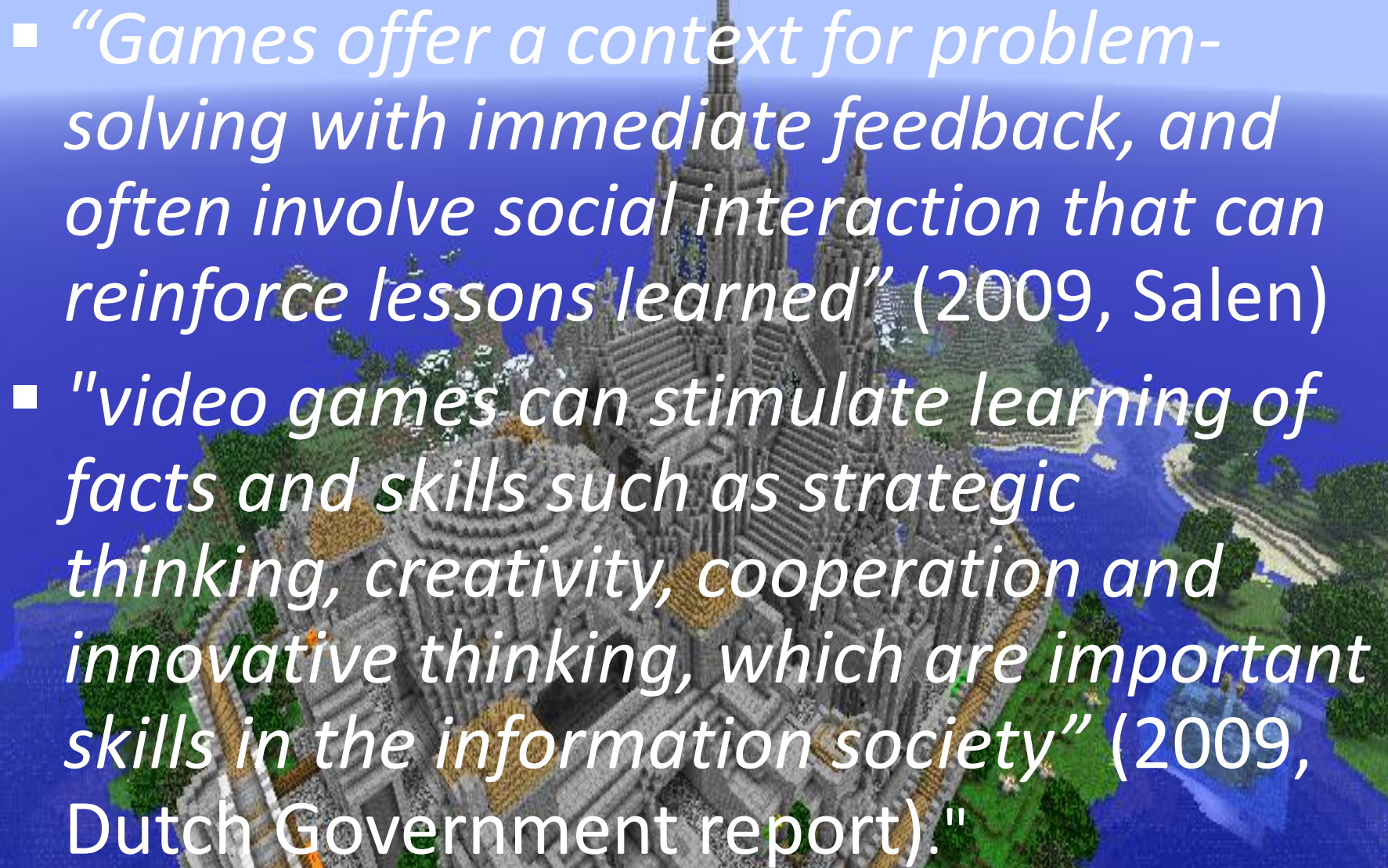


# Year 8 Task

- Develop a low energy, sustainable city using *Minecraft*
- Inter-disciplinary
- Pre and post survey
- Deadlines and challenges
- Teams of three
- Flip Learning model
- City design and a report
- <http://www.youtube.com/watch?v=MvEgweX4h2w&sns=em>



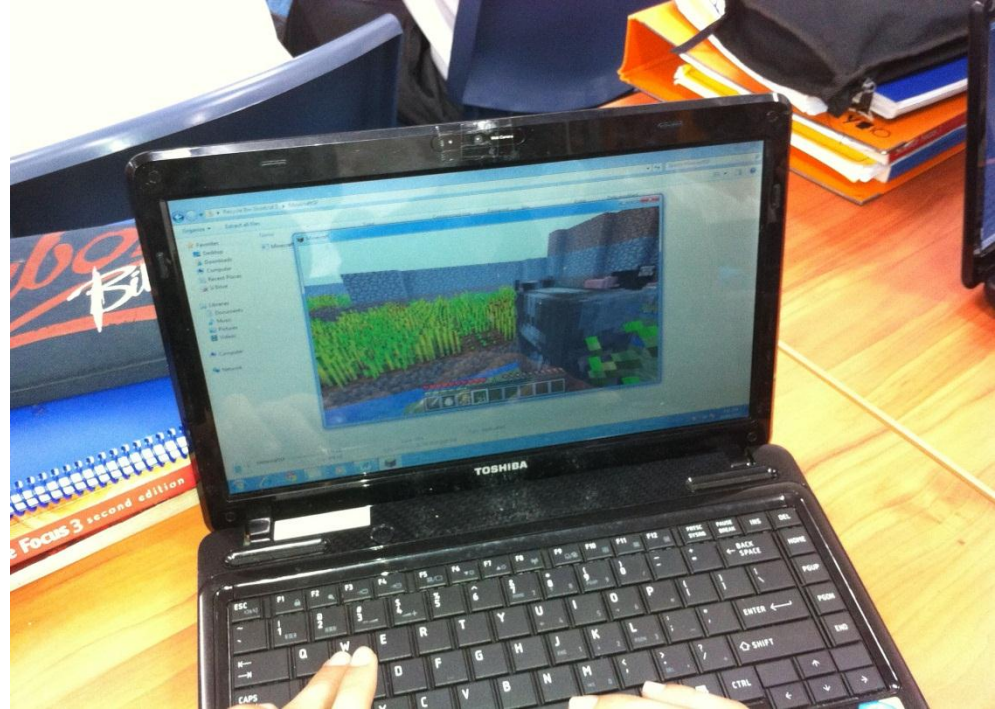


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- *“Games offer a context for problem-solving with immediate feedback, and often involve social interaction that can reinforce lessons learned” (2009, Salen)*
  - *“video games can stimulate learning of facts and skills such as strategic thinking, creativity, cooperation and innovative thinking, which are important skills in the information society” (2009, Dutch Government report).”*

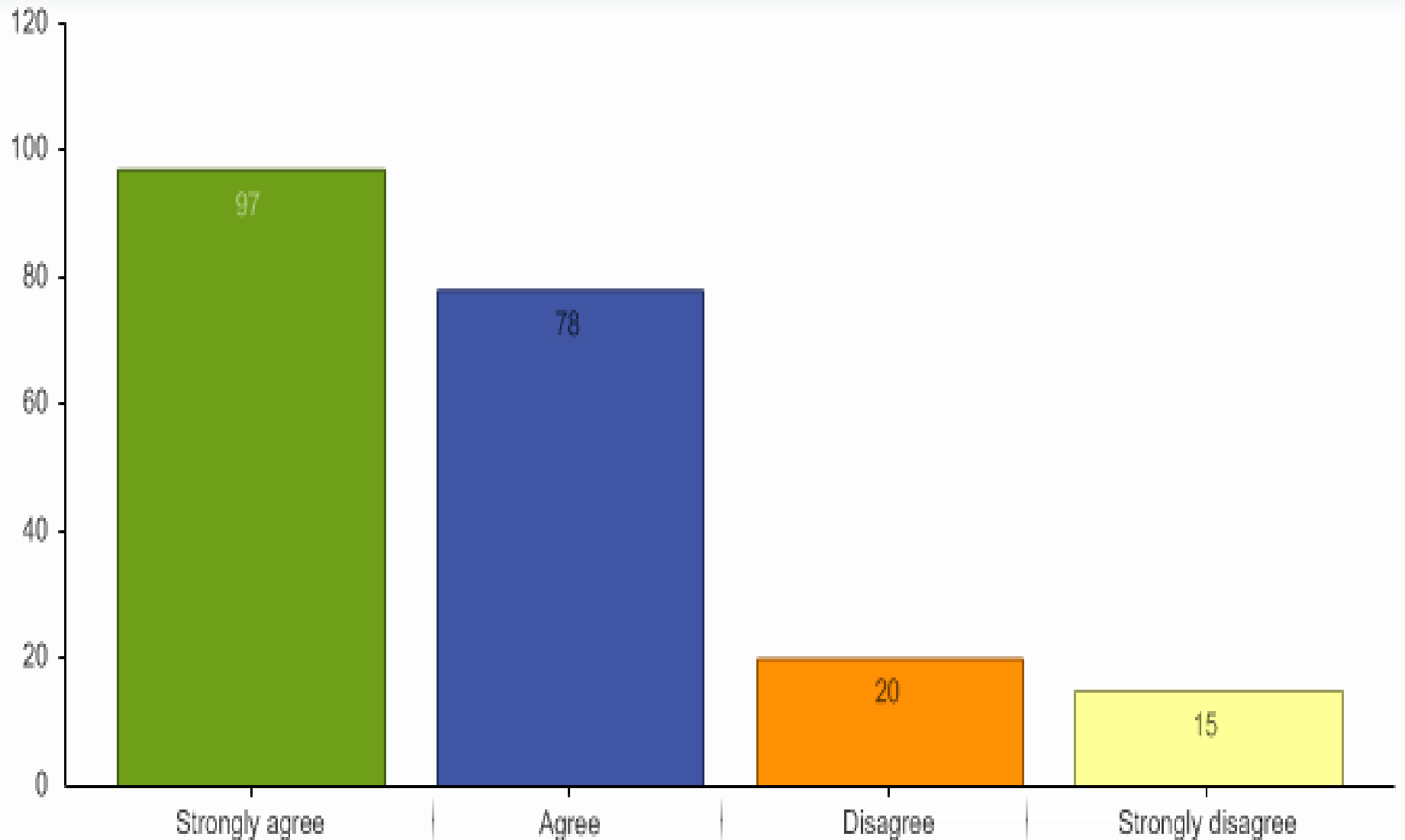


# Online Gaming

*‘Creativity typically involves problem solving, using your imagination and critical thinking skills. In terms of the actual assessment task there was lots of creativity involved such as using your imagination to design the sustainable city and critical thinking skills to mine and use the resources to build the city’ (Yr.8 student).*



# Do you think computer games could be used in class to improve your creativity skills?





# Sites to Visit

- <http://gamesined.wikispaces.com/>
- <http://q2l.org/>
- <http://slav.global2.vic.edu.au/category/gaming/>
- <http://www.theday.co.uk/technology/gamification-can-videogames-change-the-world>
- [http://www.ted.com/talks/seth\\_priebatsch\\_the\\_game\\_layer\\_on\\_top\\_of\\_the\\_world.html](http://www.ted.com/talks/seth_priebatsch_the_game_layer_on_top_of_the_world.html)
- [http://www.ted.com/talks/jane\\_mcgonigal\\_gaming\\_can\\_make\\_a\\_better\\_world.html](http://www.ted.com/talks/jane_mcgonigal_gaming_can_make_a_better_world.html)
- <http://www.timrylands.com/html/inspire.html>
- <http://novemberlearning.com/team/alan-november/>



# Year 9 – Health, Disease and Optimal Functioning

- This year you have been introduced to Positive Psychology - the science of *optimal functioning*.
- Through your day-to-day activities at school, and in particular in mentor group, you will learn many skills that will assist you to thrive, both in and out of the classroom.
- One part of functioning at an optimal level is developing a growth mindset towards a healthy body and mind, and where possible, avoiding disease.
- **During Term 3, many faculties will integrate class activities and/or assessments to incorporate the theme *Health, Disease and Optimal Functioning*.**

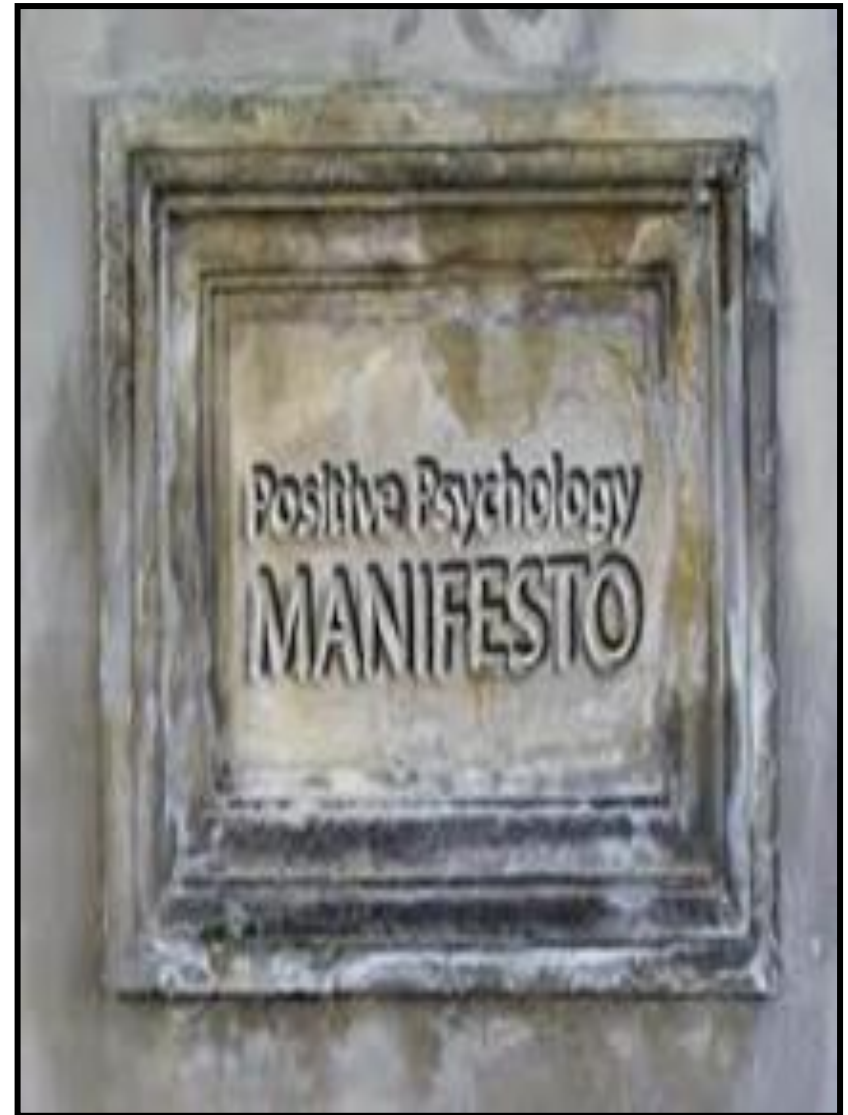




# Year 10 – Action Research Project

## Link to Positive Psychology

Throughout 2012, Year 10 will conduct a Student Action Research Project. The purpose of this project is to provide an opportunity for students to develop character strengths such as curiosity, creativity, open-mindedness, love of learning and perspective.



# Year 10 – Action Research Project

# The Research

*‘Student action research is research that (a) is conducted by youth, within or outside of schools and classrooms informing and affecting school, community, and/or global problems and issues and (b) contributes to the positive development of a variety of academic, social, and civic skills in youth’ (Rubin and Jones 2007).*





# Year 10 – Action Research Project

## Student Opportunities

### As provided to the students:

- Choose a topic you are interested in and even passionate about.
- Become better informed about your topic of interest through inquiry and applying effective research methods.
- Develop a deep understanding of this topic enabling *innovation* THROUGH *investigation*.
- Collect, synthesise, assess and evaluate the information and data collected throughout the investigation.
- Develop the skills to be a confident presenter and communicator.



# Year 10 – Action Research Project

## Student Objectives

- A deep understanding of a specific topic that has been investigated. This topic will have stemmed from an area of interest such as a subject you enjoy or an activity outside school that you are passionate about.
- Evidence of extensive research that deepened your understanding of your topic.
- A plan of action (an investigation) resulting from your research.
- Effective methods for the collection of information and data for your investigation.
- The ability to analyse, synthesise, evaluate and communicate your research.
- Incorporates ICT
- Evidence of mentoring



# Year 10 – Action Research Project

## Time Line

### Term 1

Introduction and proposal submission

### Terms 2 and 3

Conduct RESEARCH and carry out the ACTION. Submission of drafts.

### Term 4

Complete the project and present through a Viva Voce



- How to write a good Prelude and/or Fugue that fits the necessary stylistic and musical requirements of the Baroque period.
- To essentially allow me to obtain a deeper understanding in the concepts of using villainous characters and how they aid in texts
- Will a carpooling App enable carpooling to become an effective method of transportation?
- How is fractal geometry present in different areas today?



- To what extent can you make a profit from a small scale quail breeding business?
- Is it possible to customize a car in a way that maximizes safety but also looks good?
- Will employing a collaborative approach to Home Learning improve preparations for Math tests?
- Will a golf ball travel further if it has spherical dimples or hexagonal dimples?
- How do different generations respond to the modernizing of A Midsummer Night's Dream?
- Can the Values Exchange provide a rich medium in which issues of historical significance can be considered from an ethical viewpoint.

# Year 10 – Action Research Project

## The Challenges

- 290 students
- Providing support and scaffolding
  - Weekly Year Meetings
  - Weekly tutorials – lunch and after school
  - Sample proposals
  - Student-to-student mentoring
  - Dedicated web site portal
- Students ability to make decisions
- Support from teaching staff
- Marking





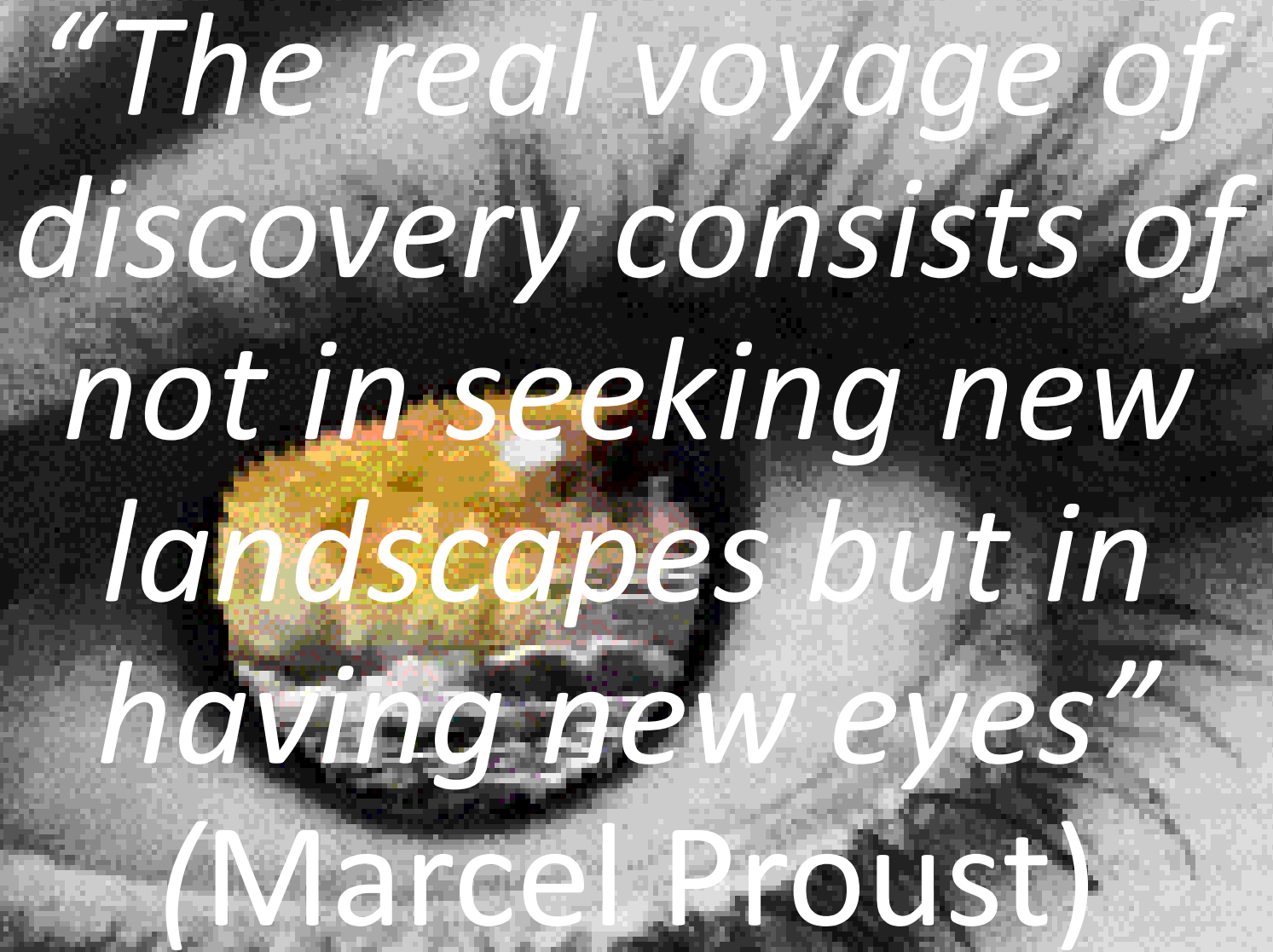
# Global Projects

- <http://www.virtualclassroom.org/index.html> - competition
- <http://www.epals.com/projects/info.aspx?DivID=index> E.g. digital storytelling and global warming
- Flat Classrooms - <http://www.flatclassroomproject.org/>
- iLearn: <http://media.iearn.org/home>
- **Global School Net: Cyberfair and Doors to Diplomacy:** <http://www.globalschoolnet.org/>
- Skype in the Classroom <http://education.skype.com/>



# Student Voice

1. Student involvement in school and community development.
2. Students as researchers and co-enquirers – Action Research Projects.
3. Students making significant inputs to teaching and learning, and organisational decision-making.
4. Student Future Think Tank working alongside the executive.



*“The real voyage of  
discovery consists of  
not in seeking new  
landscapes but in  
having new eyes”  
(Marcel Proust)*

# International da Vinci Decathlon

Chess,  
engineering,  
Philosophy,  
English, Art and  
Poetry, Maths and  
so much more...

Leonardo da  
Vinci was one  
of the world's  
greatest  
thinkers!



Join schools from  
across the world in a  
virtual or face to face  
global Decathlon  
competition that is  
an academic gala day  
run in the spirit of an  
Olympic Decathlon!

Contact Karen Yager – [yagerk@knox.nsw.edu.au](mailto:yagerk@knox.nsw.edu.au)



# International da Vinci Decathlon



## WHEN and HOW?

It will be held at **Knox Grammar School** on the **24<sup>th</sup> – 26<sup>th</sup> September 2012**. Schools enter teams of eight – 12/13 and 14/15 years of age. International Schools attend virtually via Skype and a wiki space. The International schools in the competition will be sent the ten tasks prior to the event commencing.

Contact Karen Yager – [yagerk@knox.nsw.edu.au](mailto:yagerk@knox.nsw.edu.au)

# International da Vinci Decathlon



## How?

Each international school would decide on the actual times when the students would work on the various tasks. This could be before or after school. Very little preparation is required prior to the event other than learning to work as a team and understanding the concept that is the focus of the competition.

# International da Vinci Decathlon



## The Theme

The theme for this year's Decathlon is 'Discovery'.



# Global Writing Project

# weWrite

Global competitions marked by teachers and students!

Alan November is our critical friend!



**Join schools from across the world in a Global Writing Project that will enable teachers and students to share ideas, strategies and exemplars online!**

**Contact Karen Yager – [yagerk@knox.nsw.edu.au](mailto:yagerk@knox.nsw.edu.au)**

# Global Writing Project



## Purpose

A celebration of writing and a place where ideas and resources can be shared globally for free! Students' voices can resonate!

# Global Writing Project



## Best Practice

A place where teachers K-12 will share resources, ideas and strategies for teaching writing across subjects.

# Global Writing Project



## Student Voice

A place where students can share writing ideas and work samples. They can peer evaluate each other's work.



# Global Writing Project



## Global Competitions

A place where a range of writing competitions will be launched each year. The students' writing will be judged online by teachers and students.

# Over to you...

- Have we tapped into your creativity?
- Share some other possibilities for integrated tasks.



The background of the image is a vibrant sunset or sunrise. The sky is filled with orange, yellow, and red clouds, with the sun low on the horizon. In the foreground, there is a body of water reflecting the sky's colors. A dark fence or railing is visible across the middle ground, partially obscured by the text.

<http://assessment4quality.wikispaces.com/IBSC+2012>