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Transforming. Educating. Engaging

Higher Order Thinking for Gifted and Talented Students

QAGTC State Conference
Saturday 9 April 2011

The best teachers are those who equip students to THINK for themselves.

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OVERVIEW

- Introduction to Higher Order Thinking
- Bloom’s Revised Taxonomy and Higher Order Thinking/Planning with Bloom and Gardner
- Teaching of Thinking Skills/Classroom Strategies and Activities
- Dimensions of Learning/HOT in action: Making decisions
- The Global Classroom


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WHAT IS HIGHER ORDER THINKING?

Higher-order thinking by students involves the transformation of information and ideas. This transformation occurs when students combine facts and ideas and synthesise, generalise, explain, hypothesise or arrive at some conclusion or interpretation. Manipulating information and ideas through these processes allows students to solve problems, gain understanding and discover new meaning."

WHAT IS HIGHER ORDER THINKING?

When students engage in the construction of knowledge, an element of uncertainty is introduced into the instructional process and the outcomes are not always predictable; in other words, the teacher is not certain what the students will produce. In helping students become producers of knowledge, the teacher's main instructional task is to create activities or environments that allow them opportunities to engage in higher-order thinking.

HIGHER-ORDER THINKING IS:

comparing organising

Inventing

deconstructing

Hypothesising checking

Producing

experimenting

Designing deciding constructing

Planning creating

Finding interrogating

Critiquing judging

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The students of the future should be able to:

- Solve problems.
- Think creatively - invent and produce/ generate new ideas and knowledge.
- Think critically - challenge, debate, discuss.
- Make decisions- compare, analyse, select, justify.
- Analyse and evaluate information and ideas.
- Plan for the future.

Skills for the Future - Employment

- Communication
- Team work
- Problem solving
- Initiative and enterprise
- Planning and organising
- Self-management
- Learning
- Use of technology

Fostering Academic Excellence

- Research shows that “intellectual demand of students has significant links with improved productive performance in schools and, hence, with improved student outcomes.

- The overall findings suggested “that ‘high intellectual demand’ may be a key rallying point for innovative change, school renewal and reform of support mechanisms for curriculum implementation and assessment.

The role of the teacher

- The ability to develop methods, materials and approaches to extension and enrichment of subject areas for use with students of different abilities.
- The ability to develop creative problem solving skills.
- Skill in promoting higher level thinking abilities and questioning techniques.
- Facilitating independent research.

The role of the teacher

- Ideally he/she should be
  - **intelligent,**
  - **energetic,**
  - **organised,**
  - **flexible,**
  - **disciplined,**
  - **open minded, and**
  - **inspirational – or something close to that!**

MIDDLE YEARS RESEARCH AND DEVELOPMENT

The more students believe their teachers to be emphasising thinking and learning strategies:

- The greater the motivation;
- The more strongly they are involved in productive cognitive strategies;
- The more firmly they focus on the task goals;

MIDDLE YEARS RESEARCH AND DEVELOPMENT

- The less they see school to be focussed on individual ability and competition; and
- The less they perceive a lack of control over their own learning.

Barratt's Model for Adolescent Learning

- Purpose: Having opportunity to negotiate learning that is useful now, as well as in the future
- Empowerment: Viewing the world critically and acting independently, cooperatively and responsibly

Barratt's Model for Adolescent Learning

- Success: Having multiple opportunities to learn valued knowledge and skills ***as well as*** the opportunity to use talents and expertise that students bring to the learning environment.

Barratt's Model for Adolescent Learning

- Rigour: Taking on realistic challenges in an environment characterised by high expectations
- Safety: Learning in a safe, caring and a stimulating environment

CONTINUUM OF PRACTICE:

Stage 1:

- Students are engaged only in lower-order thinking; i.e. they receive, or recite, or participate in routine practice. In no activities during the lesson do students go beyond simple reproduction of knowledge.

CONTINUUM OF PRACTICE:

Stage 2:

- Students are primarily engaged in routine lower-order thinking for a good share of the lesson. There is at least one significant question or activity in which some students perform some higher-order thinking.

CONTINUUM OF PRACTICE:

Stage 3:

- **Almost all students, almost all of the time are engaged in higher-order thinking**.

WHAT DOES THE THINKING CLASSROOM LOOK LIKE?

- There are significant opportunities for:
  - **higher-level thinking**
  - **complex problem solving**
  - **open-ended responses**

- Thinking skills are **explicitly** taught in an authentic and meaningful context.

- Students will be working on a range of activities in a range of groupings

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WHAT DOES THE THINKING CLASSROOM LOOK LIKE?

Students will be:

- Questioning
- Researching
- Doing – active learning
- Presenting using a wide range of media
- Learning

WHAT DOES THE THINKING CLASSROOM SOUND LIKE?

- Busy
- Students working in small groups
- Sharing of strategies
- Drama or music being used
- Questioning – by both students and teacher

WHAT DOES THE THINKING CLASSROOM FEEL LIKE?

- Safe
- Supportive
- Challenging
- Motivating
- Non-judgemental
- Non-threatening – it is OK to take risks
- Valued

A curriculum that supports the development of thinking skills has the following components:

- Teaches students about thinking and learning;
- Engages students in complex thinking to manage new situations and solve problems; and
- Studies topics in-depth.

A curriculum that supports the development of thinking skills has the following components:

- Has extended periods of time for sustained thinking;
- Relates thinking and learning strategies to subject knowledge;
- Embeds thinking and learning strategies in every activity; and
- Is accessible to every student.


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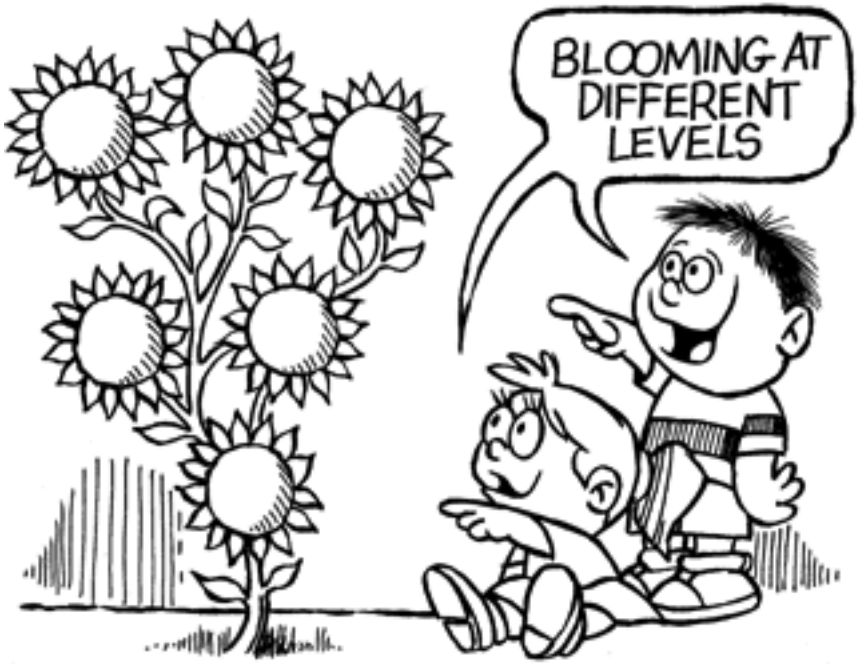
Good teaching is more about asking the right questions than getting the right answers

Blooms Taxonomy

- 1950s- developed by Benjamin Bloom.
- Means of expressing qualitatively different kinds of thinking.
- Been adapted for classroom use as a planning tool.
- Continues to be one of the most universally applied models.

Blooms Taxonomy



Blooms Taxonomy

- Provides a way to organise thinking skills into six levels, from the most basic to the more complex levels of thinking.
- 1990s- Lorin Anderson (former student of Bloom) revisited the taxonomy.
- As a result, a number of changes were made.

ORIGINAL TERMS

- Evaluation
- Synthesis
- Analysis
- Application
- Comprehension
- Knowledge

NEW TERMS

- Creating
- Evaulating
- Analysing
- Applying
- Understanding
- Remembering

BLOOM'S REVISED TAXONOMY

- Higher-order thinking occurs at the top three levels of Bloom's Revised Taxonomy

  - Analysing
  - Evaluating
  - Creating.

Change in Terms

- As the taxonomy reflects different forms of thinking and thinking is an *active* process verbs were used rather than nouns.
- The word knowledge was inappropriate to describe a category of thinking and was replaced with the word *remembering* instead.
- Comprehension and synthesis were retitled to *understanding* and *creating* respectively, in order to better reflect the nature of the thinking defined in each category.

Change in Emphasis

- The revision's primary focus was on the taxonomy *in use*. Essentially, this means that the revised taxonomy is a more authentic tool for curriculum planning, instructional delivery and assessment.

- The revision is aimed at a broader audience. The revised taxonomy is more universal and easily applicable at primary, secondary and even tertiary levels.

BLOOM'S REVISED TAXONOMY

Higher-order thinking

CREATING
GENERATING NEW IDEAS, PRODUCTS, OR WAYS OF VIEWING THINGS
DESIGNING, CONSTRUCTING, PLANNING, PRODUCING, INVENTING.

EVALUATING
JUSTIFYING A DECISION OR COURSE OF ACTION
CHECKING, HYPOTHESISING, CRITIQUING, EXPERIMENTING, JUDGING

ANALYSING
BREAKING INFORMATION INTO PARTS TO EXPLORE
UNDERSTANDINGS AND RELATIONSHIPS
COMPARING, ORGANISING, DECONSTRUCTING, INTERROGATING, FINDING

APPLYING
USING INFORMATION IN ANOTHER FAMILIAR SITUATION
IMPLEMENTING, CARRYING OUT, USING, EXECUTING

UNDERSTANDING
EXPLAINING IDEAS OR CONCEPTS
INTERPRETING, SUMMARISING, PARAPHRASING, CLASSIFYING, EXPLAINING

REMEMBERING
RECALLING INFORMATION
RECOGNISING, LISTING, DESCRIBING, RETRIEVING, NAMING, FINDING

Higher-order thinking

BLOOM'S REVISED TAXONOMY

CREATING

GENERATING NEW IDEAS, PRODUCTS, OR WAYS OF VIEWING THINGS
DESIGNING, CONSTRUCTING, PLANNING, PRODUCING, INVENTING.

EVALUATING

JUSTIFYING A DECISION OR COURSE OF ACTION
CHECKING, HYPOTHESISING, CRITIQUING, EXPERIMENTING, JUDGING

ANALYSING

BREAKING INFORMATION INTO PARTS TO EXPLORE UNDERSTANDINGS AND RELATIONSHIPS
COMPARING, ORGANISING, DECONSTRUCTING, INTERROGATING, FINDING

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ANALYSING

The learner breaks learned information into its parts to best understand that information.

- Comparing
- Organising
- Deconstructing
- Attributing
- Outlining
- Finding
- Structuring
- Integrating

Each of these is a thinking skill that should be explicitly taught to students.

Can you break information into parts to explore understandings and relationships?

ANALYSING

- Distinguish
- Question
- Appraise
- Experiment
- Inspect
- Examine
- Probe
- Separate
- Inquire
- Arrange
- Investigate
- Sift
- Research
- Calculate
- Criticize

- Compare
- Contrast
- Survey
- Detect
- Group
- Order
- Sequence
- Test
- Debate
- Analyse
- Diagram
- Relate
- Dissect
- Categorise
- Discriminate

Breaking information down into its component elements

Products include:

- Graph
- Spreadsheet
- Checklist
- Chart
- Outline
- Survey
- Database
- Mobile
- Abstract
- Report

QUESTIONS FOR ANALYSING

- Which events could not have happened?
- If. ..happened, what might the ending have been?
- How is...similar to...?
- What do you see as other possible outcomes?
- Why did...changes occur?
- Can you explain what must have happened when...?

QUESTIONS FOR ANALYSING

- What are some or the problems of...?
- Can you distinguish between...?
- What were some of the motives behind..?
- What was the turning point?
- What was the problem with...?

ANALYSING: POTENTIAL ACTIVITIES AND PRODUCTS

- Design a questionnaire to gather information.
- Write a commercial to sell a new product.
- Make a flow chart to show the critical stages.
- Construct a graph to illustrate selected information.
- Make a family tree showing relationships.

ANALYSING: POTENTIAL ACTIVITIES AND PRODUCTS

- Devise a play about the study area.
- Write a biography of a person studied.
- Prepare a report about the area of study.
- Conduct an investigation to produce information to support a view.
- Review a work of art in terms of form, colour and texture.

EVALUATING

The learner makes decisions based on in-depth reflection, criticism and assessment.

- Checking
- Hypothesising
- Critiquing
- Experimenting
- Judging
- Testing
- Detecting
- Monitoring

Can you justify a decision or course of action?

EVALUATING

- Judge
- Rate
- Validate
- Predict
- Assess
- Score
- Revise
- Infer
- Determine
- Prioritise
- Tell why
- Compare
- Evaluate
- Defend
- Select
- Measure

- Choose
- Conclude
- Deduce
- Debate
- Justify
- Recommend
- Discriminate
- Appraise
- Value
- Probe
- Argue
- Decide
- Criticise
- Rank
- Reject

Judging the value of ideas, materials and methods by developing and applying standards and criteria.

Products include:

- Debate
- Panel
- Report
- Evaluation
- Investigation
- Verdict
- Conclusion
- Persuasive speech

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QUESTIONS FOR EVALUATING

- Is there a better solution to...?
- Judge the value of... What do you think about...?
- Can you defend your position about...?
- Do you think...is a good or bad thing?
- How would you have handled...?
- What changes to.. would you recommend?
- Do you believe...?

QUESTIONS FOR EVALUATING

- How would you feel if. ..?
- How effective are. ..?
- What are the consequences..?
- What influence will....have on our lives?
- What are the pros and cons of....?
- Why is ....of value?
- What are the alternatives?
- Who will gain & who will loose?

EVALUATING: POTENTIAL ACTIVITIES AND PRODUCTS

- Prepare a list of criteria to judge…
- Conduct a debate about an issue of special interest.
- Make a booklet about five rules you see as important. Convince others.

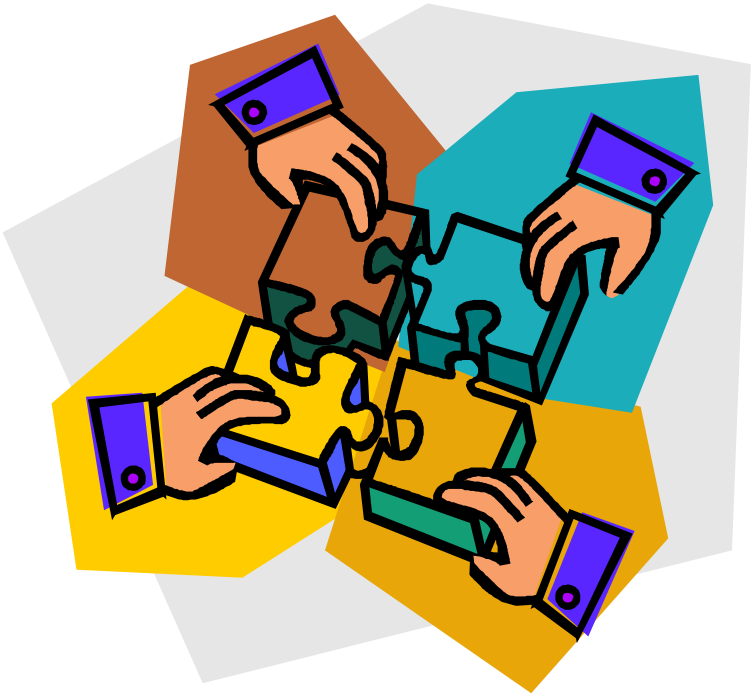
EVALUATING: POTENTIAL ACTIVITIES AND PRODUCTS

- Form a panel to discuss views.
- Write a letter to. ..advising on changes needed.
- Write a half-yearly report.
- Prepare a case to present your view about...

CREATING

The learner creates new ideas and information using what has been previously learned.

- Designing
- Constructing
- Planning
- Producing
- Inventing
- Devising
- Making



Can you generate new products, ideas, or ways of viewing things?

CREATING

- Compose
- Assemble
- Organise
- Invent
- Compile
- Forecast
- Devise
- Propose
- Construct
- Plan
- Prepare
- Develop
- Originate
- Imagine
- Generate

- Formulate
- Improve
- Act
- Predict
- Produce
- Blend
- Set up
- Devise
- Concoct
- Compile

Putting together ideas or elements to develop an original idea or engage in creative thinking.

Products include:

- Film
- Story
- Project
- Plan
- New game
- Song
- Newspaper
- Media product
- Advertisement
- Painting

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QUESTIONS FOR CREATING

Can you design a...to...?

Can you see a possible solution to...?

If you had access to all resources, how would you deal with...?

Why don't you devise your own way to...?

What would happen if ...?

How many ways can you...?

Can you create new and unusual uses for...?

Can you develop a proposal which would...?

CREATING: POTENTIAL ACTIVITIES AND PRODUCTS

- Invent a machine to do a specific task.
- Design a building to house your study.
- Create a new product.
- Give it a name and plan a marketing campaign.
- Write about your feelings in relation to...

CREATING: POTENTIAL ACTIVITIES AND PRODUCTS

- Write a TV show play, puppet show, role play, song ***or*** pantomime about..
- Design a record, book or magazine cover for...
- Sell an idea
- Devise a way to...
- Make up a new language and use it in an example.

SAMPLE UNIT : SPACE

Remembering	Cut out “space” pictures from a magazine. Make a display or a collage. List space words (Alphabet Key). List the names of the planets in our universe. List all the things an astronaut would need for a space journey.
Understanding	Make your desk into a spaceship, Make an astronaut for a puppet play. Use it to tell what an astronaut does. Make a model of the planets.
Applying	Keep a diary of your space adventure (5 days). What sort of instruments would you need to make space music? Make a list of questions you would like to ask an astronaut.
Analysing	Make an application form for a person applying for the job of an astronaut. Compare Galileo’s telescope to a modern telescope. Distinguish between the Russian and American space programs.
Evaluating	Compare the benefits of living on Earth and the moon. You can take three people with you to the moon. Choose and give reasons. Choose a planet you would like to live on- explain why.
Creating	Write a newspaper report for the following headline: “Spaceship out of control”. Design a space suit. Create a game called “Space Snap”. Prepare a menu for your spaceship crew. Design an advertising program for trips to the moon.

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SAMPLE UNIT : TRAVEL

Remembering	How many ways can you travel from one place to another? List and draw all the ways you know. Describe one of the vehicles from your list, draw a diagram and label the parts. Collect “transport” pictures from magazines- make a poster with info.
Understanding	How do you get from school to home? Explain the method of travel and draw a map. Write a play about a form of modern transport. Explain how you felt the first time you rode a bicycle. Make your desk into a form of transport.
Applying	Explain why some vehicles are large and others small. Write a story about the uses of both. Read a story about “The Little Red Engine” and make up a play about it. Survey 10 other children to see what bikes they ride. Display on a chart or graph.
Analysing	Make a jigsaw puzzle of children using bikes safely. What problems are there with modern forms of transport and their uses- write a report. Compare boats to planes.
Evaluating	What changes would you recommend to road rules to prevent traffic accidents? Debate whether we should be able to buy fuel at a cheaper rate. Rank transport from slow to fast etc.
Creating	Invent a vehicle. Draw or construct it after careful planning. What sort of transport will there be in twenty years time? Discuss, write about it and report to the class. Write a song about traveling in different forms of transport.

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Remembering	
Understanding	
Applying	
Analysing	
Evaluating	
Creating	


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GARDNER'S MULTIPLE INTELLIGENCES

How smart are you?

This is certainly a subjective question, and depending on the context, it doesn't tell us very much about the individual.

A better question might be: How **are you SMART?**

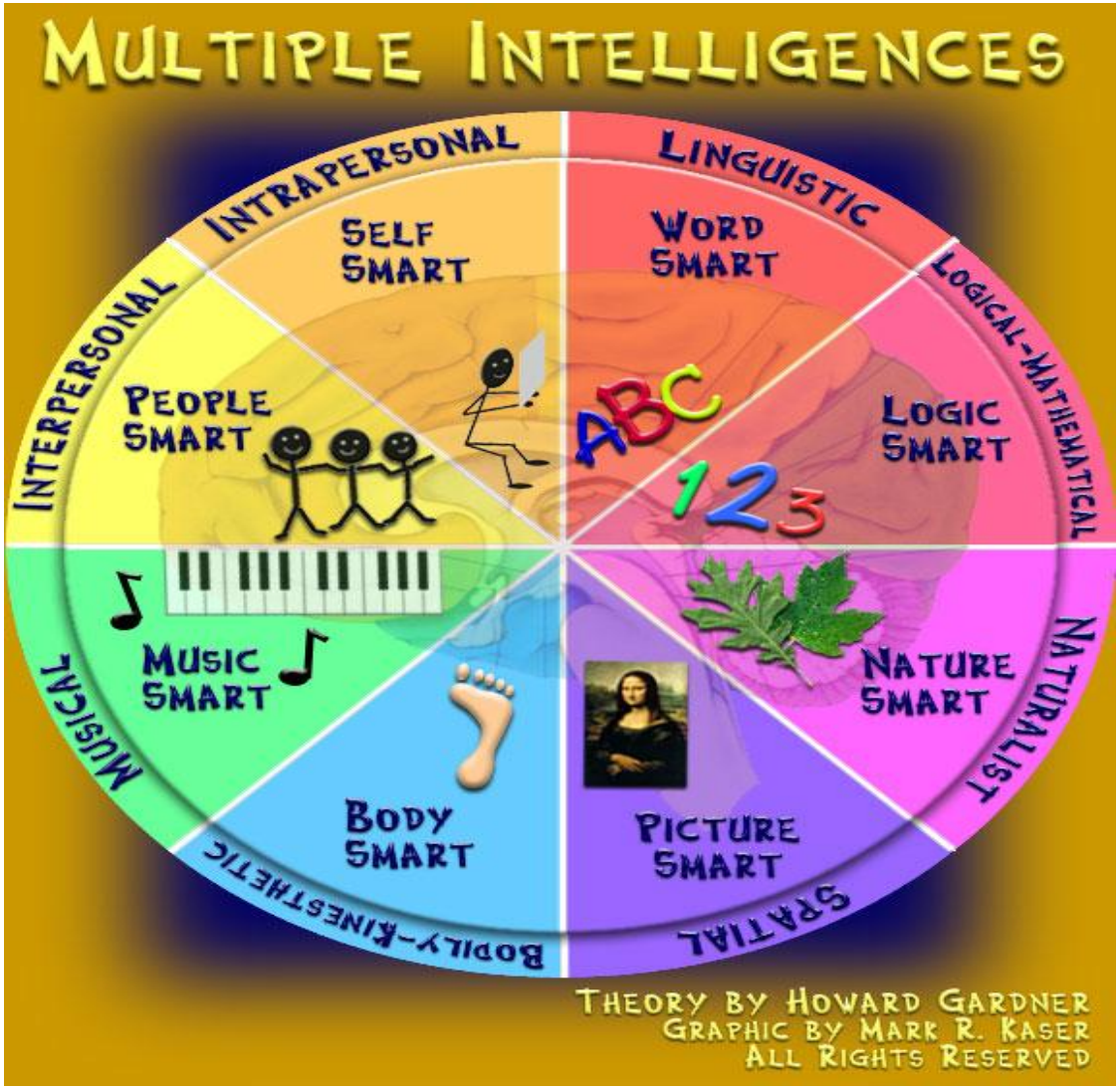
GARDNER'S MULTIPLE INTELLIGENCES

Howard Gardner first discussed his theory of Multiple Intelligences in his1983 publication *Frames of Minds, in order to explain and identify the variety of ways that individuals are "smart".*

GARDNER'S MULTIPLE INTELLIGENCES

While some students are smart with words or self, and some are smart with people or nature, others have mathematical, physical, spatial or musical talents. It is the way that those people best understand, know and learn about the world around them.

GARDNER'S MULTIPLE INTELLIGENCES



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A good teacher makes you think even when you do not want to

EXPLICIT TEACHING OF THE THINKING PROCESS:

- Help students understand the process.
- Give students a model for the process, and create opportunities for them to practice using the process.
- As students study and use the process, help them focus on critical steps and difficult aspects of the process.

EXPLICIT TEACHING OF THE THINKING PROCESS:

- Provide students with graphic organisers or representations of the model to help them understand and use the process.

- Use teacher-structured and student structured tasks

IMPACT ON PLANNING:

- Planning has become easier and more organised.
- Helps to give a unit “flow”.
- Blooms and MI tasks integrate well with outcomes and provide better quality assessment tasks and ideas for future planning.

IMPACT ON PLANNING:

- More aware of planning for individual needs.
- Provides different ways to approach planning.
- Easier to create groupings of various kinds.
- Made planning more relevant to class needs.
- It has made planning more detailed as to the final outcome I wish to achieve with each student

IMPACT ON THE CLASSROOM:

- The classroom seems more active and vibrant when children are involved in many of these activities.
- More varied and interesting activities.
- Students are presenting work with greater thought and creativity evident.
- Students are more motivated to complete tasks.

IMPACT ON THE CLASSROOM:

- Using Multiple Intelligences has enhanced our classroom because it forces us to cater for different learning styles and interests.
- Kids have a keen attitude [and] more imaginative thoughts.’
- Opened out activities and made the classroom more student based.

IMPACT ON THE CLASSROOM:

- Students are happy to work in any given group - the focus is on the task and not the group dynamics.
- More cooperation between some students.

IMPACT ON STUDENTS:

- Students are more able to respond to questioning at a higher level.
- The depth of their thinking is becoming more obvious the more the program is used.
- It makes learning more accessible to a variety of children via catering for learning styles.
- Individual needs/ interests being catered for.

IMPACT ON STUDENTS:

- Students have been helped to identify their strengths.
- It’s got to be a positive that students are aware of these skills and can verbalise the different approaches.
- Productive work, on-task.
- Everyone gets an opportunity to become special or good at something

IMPACT ON STUDENTS:

- “FUN” being the favoured word.
- Loads of positive encouragement.
- Enjoyable and rewarding experience.


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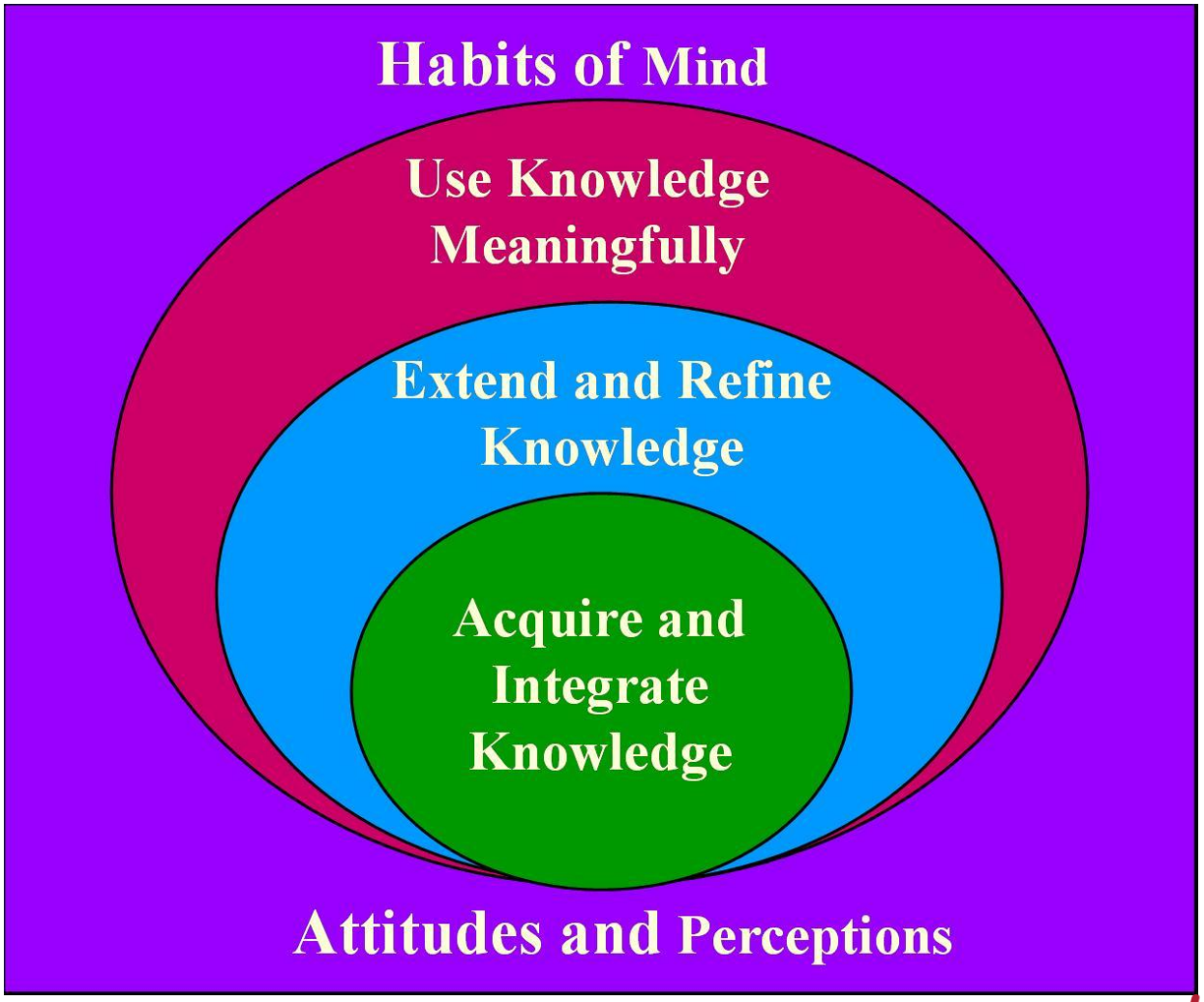
Dimensions of Learning Framework



DIMENSIONS OF LEARNING:

… is about thinking strategies

DIMENSIONS OF LEARNING:

- It is a planning framework that integrates the best teaching approaches, strategies and practices into one package.
- It can be integrated with an outcomes approach and can accommodate your current curriculum approach.

DIMENSIONS OF LEARNING:

Dimensions of Learning is a comprehensive model that uses what researchers and theorists know about learning to define the learning process.

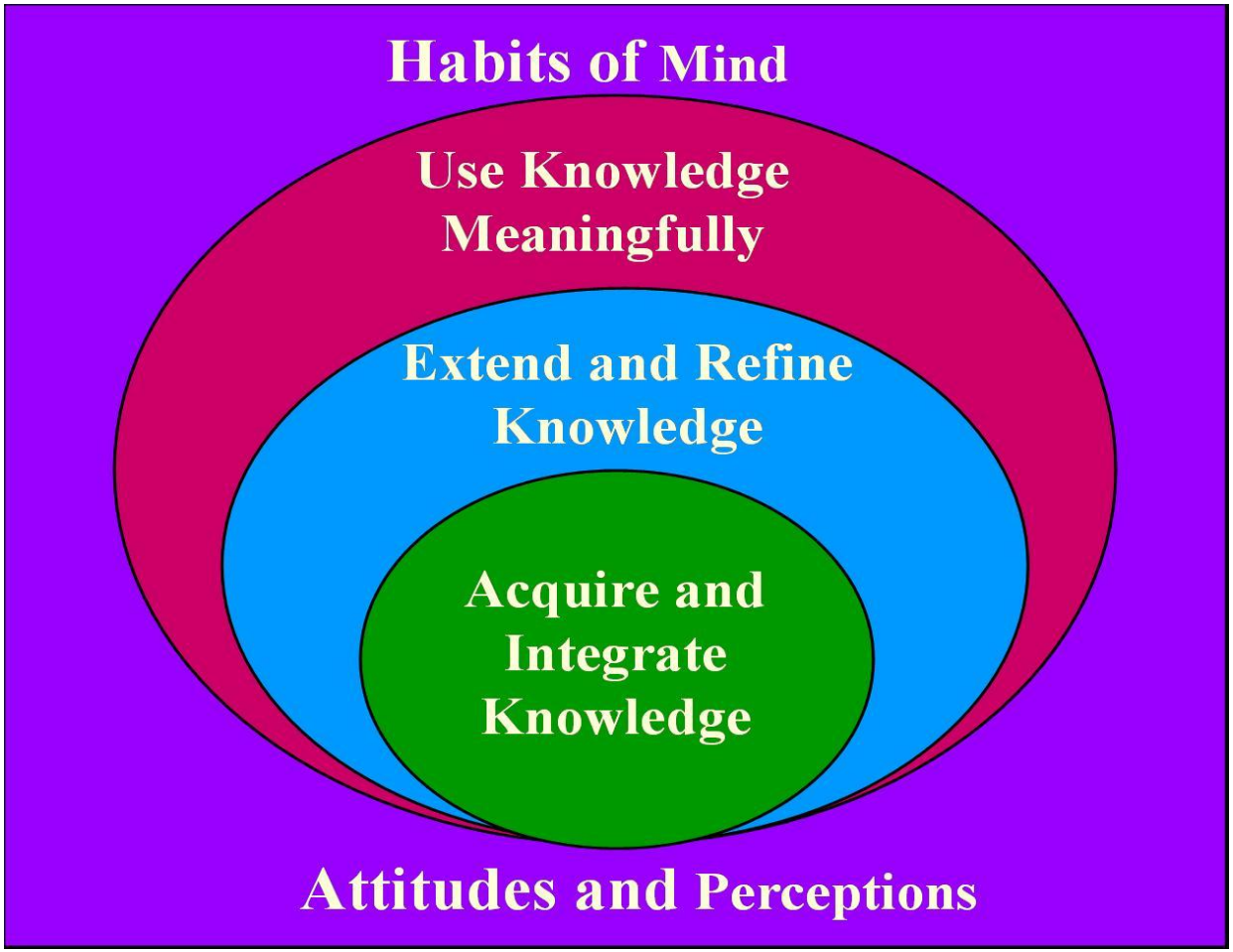
Its premise is that five types of thinking, called the five dimensions of learning, are essential to successful learning.

DIMENSIONS OF LEARNING:

Dimensions of Learning framework helps teachers to:

- maintain a focus on learning;
- study the learning process; and
- plan curriculum, instruction and assessment that takes into account the five critical aspects of learning.

Dimensions of Learning Framework



THE FIVE DIMENSIONS OF LEARNING

Attitudes and perceptions

- Attitudes and perceptions affect students' abilities to learn.
- A key element of effective instruction is helping students establish positive attitudes and perceptions about the classroom and learning.

THE FIVE DIMENSIONS OF LEARNING

Acquire and Integrate Knowledge

- When students are learning new information, they must be guided in relating the new knowledge to what they already know.
- When students are acquiring new skills and processes they must learn a model, or set of steps, then shape the skill or process to make it efficient and effective for them.
- They must finally internalise or practice the skill or process so they can perform it easily.

THE FIVE DIMENSIONS OF LEARNING

Extend and Refine Knowledge

- Learners develop in-depth understanding through the process of extending and refining their knowledge, by making new distinctions, clearing up misconceptions and reaching conclusions.

- They analyse what they have learned by applying reasoning processes that will help them extend and refine the information.

THE FIVE DIMENSIONS OF LEARNING

Use Knowledge Meaningfully

- The most effective learning occurs when we use knowledge to perform meaningful tasks.

- Making sure that students have the opportunity to use knowledge meaningfully is one of the most important parts of planning a unit of instruction.

THE FIVE DIMENSIONS OF LEARNING

Habits of Mind

- The most effective learners have developed powerful habits of mind that enable them to think critically, think creatively and regulate their behaviour.

THE FIVE DIMENSIONS OF LEARNING

MENTAL HABITS TO PROMOTE:

- Be accurate and seek accuracy.
- Be clear and seek clarity.
- Maintain an open mind.
- Restrain impulsivity.
- Take a position when a situation warrants it.
- Respond appropriately to others' feelings and level of knowledge.

THE FIVE DIMENSIONS OF LEARNING

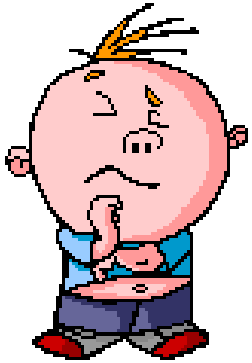
MENTAL HABITS TO PROMOTE:

- Monitor your own thinking.
- Plan appropriately.
- Identify and use necessary resources.
- Respond appropriately to feedback.
- Evaluate the effectiveness of your actions.

"The world we have created is a product of our thinking; it cannot be changed without changing our thinking."

(Albert Einstein)

Making Decisions with the Decision Making Matrix



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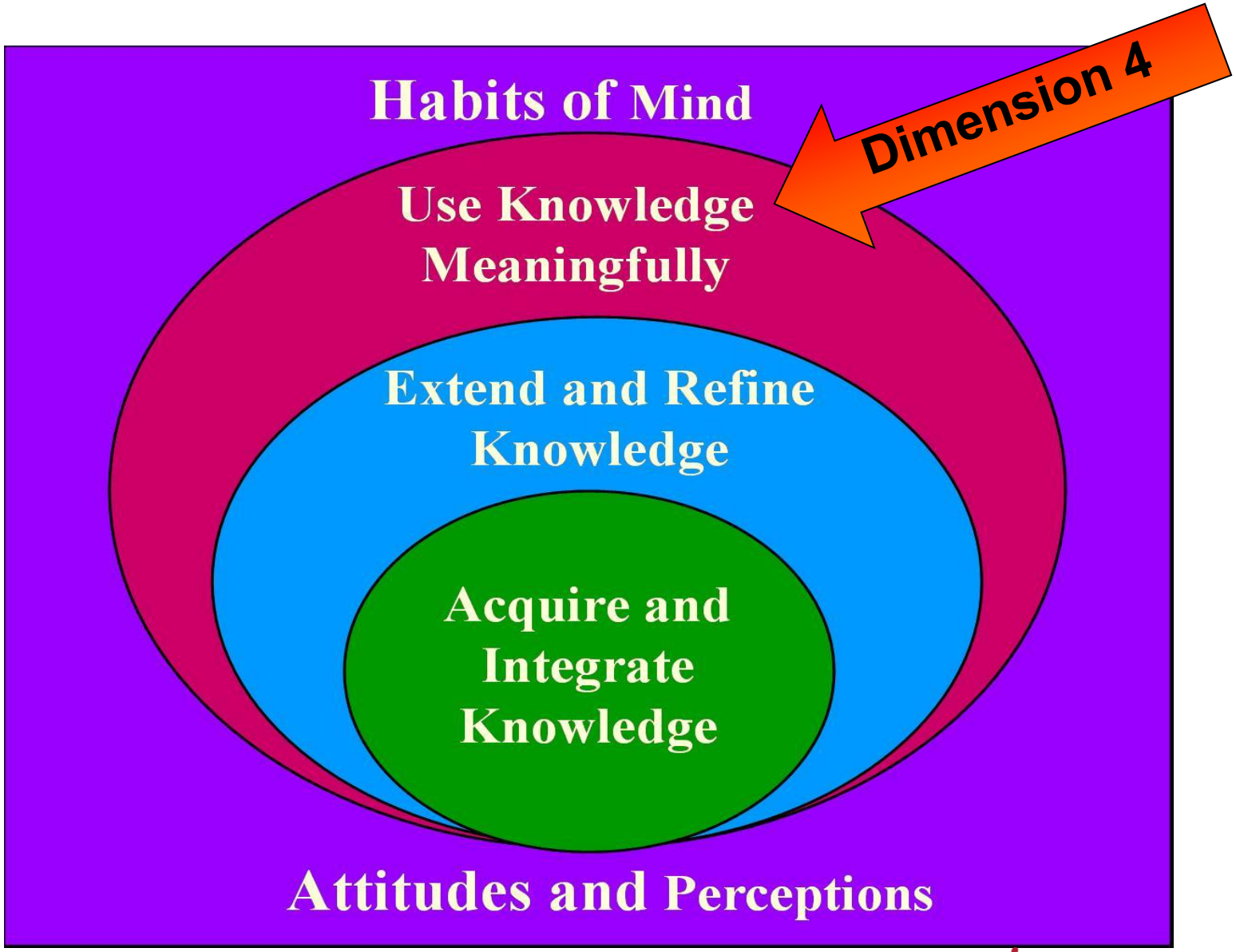
Habits of Mind
Dimension 4
Use Knowledge Meaningfully
Extend and Refine Knowledge
Acquire and Integrate Knowledge
Attitudes and Perceptions

Activity

- A local coffee shop has decided to serve customers complimentary biscuits when they order coffee.

- Assist the manager in selecting the best biscuit from the packets in front of you.

WHAT'S GOING ON HERE?

- You are being asked to make a decision.
- What is a decision?
- According to the ***Compact Oxford English Dictionary*** a decision is:
  - A conclusion or resolution reached after consideration
  - The action or process of deciding (p. 280).
- According to ***Dimensions of Learning*** it is a Complex Reasoning Process.

DECISION MAKING

The process of generating and applying criteria to select from among seemingly equal alternatives.

DECISION MAKING

1. Identify a decision you wish to make and the alternatives you are considering.
2. Identify the criteria you consider important.
3. Assign each criterion an importance score.

DECISION MAKING

4. Determine the extent to which each alternative possesses each criterion.
5. Multiply the criterion scores by the alternative scores to determine which alternative has the highest total points. Assign each criterion an importance score.
6. Based on your reaction to the selected alternative, determine if you want to change importance scores or add or drop criteria.


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The Decision Making Matrix

Alternatives

Criteria						
TOTALS						

Alternatives

Criteria	Panorama	Hillcrest	Seaview
Close to shops (Weighting 3)			
Self contained (Weighting 3)			
View of water (Weighting 2)			
Cost <$150.00 (Weighting 1)			
TOTALS			

Alternatives

Criteria	Panorama		Hillcrest		Seaview	
Close to shops (Weighting 3)	4 klms from shops Rating 1 3X1	**3**	2 klms from shops Rating 2 3X2	**6**	Centre of town Rating 3 3X3	**9**
Self contained (Weighting 3)						
View of water (Weighting 2)						
Cost <$150.00 (Weighting 1)						
TOTALS						

Alternatives

Criteria	Panorama	Hillcrest	Seaview
Close to shops (Weighting 3)	4 klms from shops Rating 1 3X1 **3**	2 klms from shops Rating 2 3X2 **6**	Centre of town Rating 3 3X3 **9**
Self contained (Weighting 3)	Cabins for 4 Rating 3 3X3 **9**		
View of water (Weighting 2)	Some views water Rating 2 2X2 **4**		
Cost <$150.00 (Weighting 1)	Cost $160.00 Rating1 1X1 **0**		
TOTALS	**17**		

Alternatives

Criteria	Panorama		Hillcrest		Seaview	
Close to shops (Weighting 3)	4 klms from shops Rating 1 3X1	3	2 klms from shops Rating 2 3X2	6	Centre of town Rating 3 3X3	9
Self contained (Weighting 3)	Cabins for 4 Rating 3 3X3	9	Cabins for 4 Rating 3 3X3	9	Studio Apartments Rating 2 3X2	6
View of water (Weighting 2)	Some views water Rating 2 2X2	4	Excellent views Rating 3 2X3	6	No water views Rating 0 2X0	0
Cost <$150.00 (Weighting 1)	Cost $160.00 Rating1 1X1	1	Cost $175.00 Rating 0 1X0	0	Cost $140.00 Rating 3 1X3	3
TOTALS	**17**		**21**		**18**	

1. Write down the 3 alternatives

2. Select 4 criteria and weight them from 1-3 according to their importance.

(Weighting)	Rating X	Rating X	Rating
(Weighting)	Rating X		
(Weighting)	Rating X	Rating X	Rating X
(Weighting)	Rating X Score	Rating X	
TOTALS			

3. Judge and rate each alternative on each of the four criteria. Rate each one between 1 and 3 depending on how well each alternative meets each criteria.

4. Multiply each rating by the weighting to give a score for each criteria

5. Add up all 4 scores for each alternative and record the total score.

WHY DECISION MAKING AND THE DECISION MAKING MATRIX?

- We need to make decisions EVERY day- vital skill
- This process encourages thinking (complex reasoning process).
- Requires reading, writing, research and fact finding.
- Can requires the use of a variety of sources of information- books, WWW, charts, CD Roms, videos/DVDs, etc.

WHY DECISION MAKING AND THE DECISION MAKING MATRIX?

- Graphic Organiser provides students with a means to organise their thinking and research.
- Provides a structure for student writing.
- Allows students to make decisions more easily.
- Gives students facts to help them justify their decisions.

SECONDARY SCHOOL CONTEXT

- Civics – deciding on the best item to buy (eg mobile phones) and why.
- Geography – most livable Brisbane suburb.
- Computing – best internet site on a particular topic.
- History – most important aspect of daily life in Ancient Rome.
- Civics – best country to migrate to in the Asia Pacific region.
- Home Economics – best fabric to use to make a particular item.

SOME IDEAS FOR USING THE DECISION MAKING MATRIX

- You are a Journalist with Life Magazine. Choose the most influential person from the 1990s to be included in a special issue.
- What is the best tree for the Australian rainforest? Choose from four alternatives.
- Where will you go with your family on the Christmas holidays?
- Which Captain would you have most liked to have sailed under?

SOME IDEAS FOR USING THE DECISION MAKING MATRIX

- Which planet in our solar system (other than Earth) would best support human life?
- If you could have a pet, which one would you choose?
- Who was the best President of Colombia?
- Would you have rather lived in Ancient Egypt, Rome or Greece? Justify your answer.

SOME IDEAS FOR USING THE DECISION MAKING MATRIX

- Which system of government is the most fair?
- Which is the best magazine for children available in shops today?
- Which animal would make the best pet for an elderly person?
- Which painter of the 18th Century would you have most liked to have studied under?

Creating	Green Hat, Construction Key, SCAMPER, Ridiculous Key, Combination Key, Invention Key
Evaluating	Brick Wall Key, Decision Making Matrix, PMI, Prioritising.
Analysing	Yellow Hat, Black Hat, Venn Diagram, Commonality Key, Picture Key, Y Chart, Combination Key.
Applying	Blue Hat, Brainstorming, Different uses Key, Reverse Listing Key, Flow Chart.
Understanding	Graphic Organisers, Variations Key, Reverse Listing, PMI, Webs (Inspiration).
Remembering	White Hat, Alphabet Key, Graphic Organisers, Acrostic, Listing, Brainstorming, Question Key.


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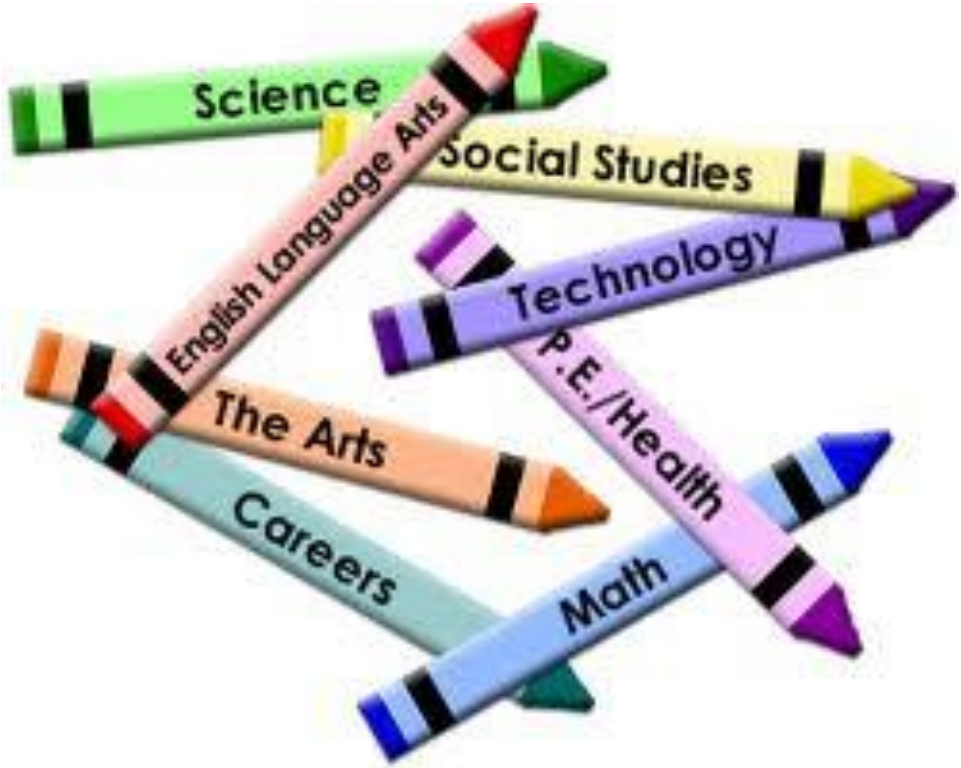
This world is but a canvas for our imaginations

(Henry David Thoreau)

The Global Classroom

Curriculum Writing



Creativity

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Leadership

Extra Curricular Activities

Philosophy for Kids

Enrichment

Cultural Awareness

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Ethics

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Civics

Community Service

LIPMAN'S CARING THINKING INVENTORY

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“A pebble cast into a pond causes ripples that spread out in all directions.”

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