



The fruitful use of analogy in working with,
and on behalf of, gifted learners

Workshop presented by Sara Meadows
Giftedness Unfurled giftEDnz Conference
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Definition: Comparison of apparently dissimilar objects, concepts or words, where relationship reveals similarity.

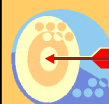
Usage: Advocacy for gifted learners; 'unfurling' of giftedness via provisions that both assist identification, and foster its development.



Benefits of Analogy to Gifted Learners



- Builds conceptual understanding (Paul, R.)
- Requires higher order thinking (Bloom, B.)
- Promotes creative thinking (Williams, F.)
- Aids interdisciplinary learning (Kaplan, S.)
- Improves ease and speed of learning (de Bono, E.)



Advocacy Goals



- Recognition that gifted students exist
- Requirement for pre-service training and on-going professional development
- Requirement for appropriate definition/s
- Understanding of cognitive and affective characteristics and needs of gifted learners
- Use of appropriate methods of screening and identification
- Provision of suitable programmes and curriculum
- Funding for in-school, and specialist out-of-school programmes

What is giftedness?

Fruit as Gifted - Definition Activity

- Work in groups. Sort the cards into 2 piles.
- Put those that are fruit into the plate and leave out those that are not fruit.
- How do you decide?



What does analogy reveal?

- Fruit and vegetables are both important.
- There is no one demarcation point.



- We all recognise even a green apple as a fruit, but to many, the avocado may be less obviously a fruit.



What else can analogy reveal?

- * The same word can mean different things.



e.g. grapefruit
or gifted



- * Different words can be used to describe essentially the same concept.

e.g. macaque peach, Chinese
gooseberry and kiwifruit
or: gifted, talented, G&T, CWSA, CWEA



Defining Giftedness

- We need a clear definition.
- The definition must be inclusive enough to accept the 'avocado', but exclusive enough to omit the 'carrot'.
- Sub-groups, or domains of giftedness, may need to be specified.



Fruit Characteristics

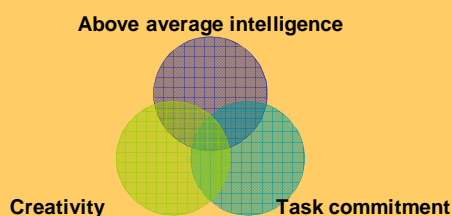
fleshy	colourful	fragrant
seeds	juicy	edible
sweet	stem	nutritious

Characteristics & Identification

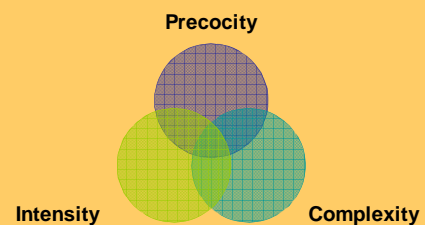
- The apple...
- The avocado, the olive, the cucumber...
- The summer squash or zucchini..
- The banana and the pineapple...
- The lemon and the lime...



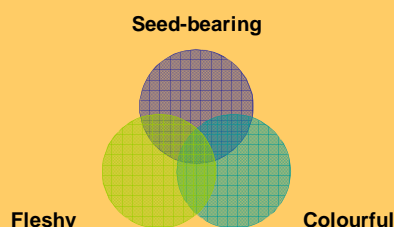
Key Characteristics of the Gifted (Talented) - Renzulli



Key Characteristics – Van Tassel Baska



Key Characteristics - Fruit



Ideal Environment

- Appropriate situation: soil, climate
- Plant growth requirements: correct amounts of water, fertilizer, sun and shade
- Support: staking, cultivation, pruning
- Pollination: specific insects, birds or wind
- Fruit growth: nutrients, irrigation, heat
- Fruit ripening: light, timing, gas



Levels of Giftedness

Vitamin C activity

- Work in groups.
- Rank the fruit according to the amount of Vitamin C they contain.
- How do you decide?
- How useful is the analogy?



High Levels of Vitamin C

(Profound/Exceptional/Extreme/High IQ)

- Camucamu: 2.7gm, Acerola:1.7gm, Jujube: 500mg
- Tropical guava: 183mg, Capsicum/Chilli: 140+mg, Kei apple: 117mg, Kiwifruit: 98+mg, Longan: 84mg
- Litchi: 72mg, Papaya: 61mg, Strawberry: 50 - 56mg, Lemon/Orange: 46 - 53mg, Cape gooseberry: 49mg
- Melon: 42mg, Persimmon: 40mg, Rambutan: 36mg, Grapefruit: c.38mg, Mandarin/Tangerine/ 30-40mg, Guava:37mg, Tamarillo/Passionfruit/Lime:30 - 33mg

Lower Levels of Vitamin C/IQ

- Breadfruit/Mango: 29mg, Raspberry: c.25mg, Carambola: 21 mg, Feijoa: 20mg, Tomato: 19mg, Pineapple: 15mg, Jackfruit/Blueberry:13 - 14mg
- Zucchini:12mg, Apricot/Plum/Watermelon:10mg, Grapes: 4 – 11mg, Banana: 9mg, Avocado: 8mg
- Peach/Cherry:7mg, Apple:6mg, Pear/Nashi:4mg
- Fig/Salak : 2mg, Loquat: 1mg, Medlar: 0.3mg

Analogy & Levels of Giftedness

- 'Common sense' can lead us astray.
- We may have insufficient information.
- We may need expert advice.
- The range of ability within the gifted is huge – not one homogeneous group.



Acerola: 'Super-brain' of Fruit

- Scientific name: *Malpighia glabra*
- Contains 1.6 gm Vit.C per 100 gm
- (32 x Vit.C of orange)
- (280 x Vit.C of apple)
- Fresh fruit or juice
- Also known as:
 - Barbados cherry
 - West Indian cherry



And then, the camucamu...
Myrcieria dubia: 2.7gm Vit.C per 100gm

Limitations of Analogy

- Gifted behaviour depends on environment, whereas Vitamin C levels vary minimally.
- Intelligence reasonably stable over lifetime whereas Vitamin C alters considerably.
- Is it unfair to compare Vitamin C content of fruit per 100 gm, instead of per serving?

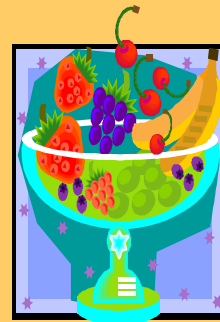
The Gifted as a Bowl of Fruit

- Variety



Diversity of Fruit/Gifted Students

- Shapes, sizes, colours
- Familiar ... exotic
- Individual ... bunch
- WYSIWYG ... masked
- Thin-skinned ... thick-skinned
- All-round ... specific area
- Changeable ... consistent
- Hardy ... sensitive
- Simple ... complex
- Likeable ... difficult



Dessert Activity



- Choose the fruit high in Vitamin C suitable for inclusion in a children's jelly dessert.
- Create three groups: yes, no and maybe.
- Observe how you make the decisions.



Dessert Activity



- Easy - Yes: obvious, familiar, pleasant fruit
- Easy - No: obvious, familiar; not a fruit
- Easy - No: obviously unsuitable fruit
- Incorrect: misconception; "common sense"
- Unsure: lack sufficient knowledge of fruit, or of level of Vitamin C actually required
- Possible: what counts as suitability?



Use of the Dessert Analogy

There is a requirement for:

- a detailed knowledge of individual fruits
- understanding that some fruit are more adaptable to a range of uses than others
- investigation into possible recipes
- a range of desserts to be created
- some alternatives to dessert



How Does Analogy Affect and Effect Learning?

- Motivation
- Imagery
- Choice
- Creative thinking
- Challenge
- Safe connections
- Rapid change



Analogy Incites Insight

“Perceptual insight can change values and emotions almost instantly; logical argument is usually powerless to do so.”

- Edward de Bono



12 Classroom Suggestions for Developing Use of Analogy

1. Basic set theory concepts: attributes etc.
2. Play 'Odd One Out'.
3. Play 'Jigsaw Match'.
4. Play 'Double Circle Match'.
5. Hands-on relational comparisons.
6. Play 'Think Links'.



Classroom Suggestions cont.

7. Use analogy for descriptive language.
8. Synectics similes, e.g. risk/birds
9. Formal analogy types and structure (next slide).
10. Build vocab by completing analogies.
11. Find and discuss analogy in literature.
12. Reasoning by analogy e.g. in Science.



(next slide).



Types and Format of Analogy

- Part of a whole – knee: leg; elbow: arm
- Opposite/antonym – front: back; up: down
- Function – pump: heart; digest: stomach
- Category/type – poodle: dog; burmese: cat
- Similar/synonym – mark: essay; correct: composition
- Usage – pen: write; knife: cut
- Difference of degree – arid: dry; saturated: wet

Analogy Incites Learning

“The learning process is something you can incite, literally incite, like a riot. And then, just possibly, it goes on.”



- Audre Lorde

Aristotle's Analogy

“The roots of education are bitter, but the fruit is sweet.”



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