

William Tell and Verbs and Arrows and Apples

Using the Thinking Skills Framework

(Article for Spectrum Education newsletter)

When expert marksman William Tell was forced to fire an arrow at an apple precariously perched on his son's head, he relied on more than a steady hand. He also drew upon the best tools for the job, the correct bow and the correct arrow for short-range shooting.

As teachers in the classroom, we are no different to William Tell in terms of desiring success. We are constantly firing off questions at our students but sometimes these questions miss their mark, luckily without fatal consequences. When we are greeted with failure or superficiality in our students' answers, we often consider our students' lack of knowledge to be the reason for this failure. However, could the responsibility also lie with us?

Are we always sure of what we are asking our students to do? Are we using the correct bow and arrow? Are we even aiming at the correct apple? The ITC Thinking Skills Framework and the Framework taken from page 9 of my book, 'Reflections on Classroom Thinking Strategies, (9th edition), provide teachers with tools to become as successful and accurate as William Tell. (Both these frameworks are at the foot of this article).

A brief glance at the Framework, which is based on Bloom's Taxonomy of the Cognitive Domain (thinking process), explains that we have six **apples** or goals or competencies to aim for. These are the six Blooms Levels which proceed from Skills and Tools for Foundation Thinking to Skills and Tools for

Higher-Order Thinking. These are:

- Remember
- Understand
- Apply
- Analyse
- Evaluate
- Design

The **arrows** required to hit these **apples** (the particular level of Bloom's Taxonomy) are the associated **verbs** for each level of Bloom's Taxonomy (I tell students that a taxonomy is a grouping mechanism).

For example, if we simply want our students to show that they **Understand** a situation, such as why we need to conserve water in the present drought and changing climate, we can choose certain verbs such as **explain to** ask them to 'explain why vegetable prices are higher at present, or **summarise** or **restate** in your own words why we have certain rules on water conservation. But if we want evidence of deeper understanding, we can ask our students to **Analyse** (the WHY or Key Competency) a situation or event, such as the issue of water conservation in a particular area, we can choose appropriate verbs for that task such as **debate**, **investigate**, **explore**, **examine** and **research**. The **ITC Thinking Skills Framework** also offers a range of appropriate sentence starters to ensure that students are aiming to operate at that level.

However, asking a good question is no guarantee that the teacher will receive a good answer and this is where the Frameworks will really help. If one asks a good question (the WHAT, that is 'what' you are asking the students to do, such as 'investigate'), the teacher could assist the quest or task by selecting an appropriate Thinking Tool (the HOW, such as a Pros, Cons Questions or SWOT Analysis) and in this way, it is far more likely that the student will produce a better and more substantial answer. It is the appropriate tool (the HOW) that will sharpen the aim of our students and allow them to achieve that level of thinking (the apple).

When as teachers we are clear on the intended outcome (the apple or level of Bloom) and we can select the appropriate question or activity (the arrow or the verb), then it is more likely that we will be as successful as William Tell and that our students will be as relieved as his son when they deliver an appropriate and intelligent response.

Happy targeting!







Thinking Skills Framework

Bloom Level	Verbs	Starters	Tools
6 Design Acting like Thomas Edison, inventing, designing, planning	<p>Create</p> <p>Improve</p> <p>Invent</p> <p>Plan</p> <p>Predict</p> <p>Propose</p> <p>Re-write/write</p> <p>Synthesise</p>	<p>Design an improved... for...</p> <p>Formulate a set of criteria to judge...</p> <p>Compose a song, jingle or rap to...</p> <p>Modify... in order to create a fairer...</p> <p>Develop an argument to persuade people...</p> <p>Generate key questions for...</p> <p>Create a role play/experiment to...</p> <p>Adapt a project studied so that...</p> <p>Design a personal action plan</p>	<p>1:4 P:2 R</p> <p>MAS</p> <p>Picture Association</p> <p>Problem-Solution</p> <p>SCAMPER</p> <p>Word Association</p> <p>Y Chart</p>
5 Evaluate Acting like a Judge based on the evidence	<p>Argue (for)</p> <p>Assess</p> <p>Critique</p> <p>Decide</p> <p>Judge</p> <p>Justify</p> <p>Prioritise</p> <p>Recommend</p>	<p>Which of the two... would be better for...</p> <p>Choose and justify a theme song for...</p> <p>Justify the decision of...</p> <p>Determine which is the more effective...</p> <p>Evaluate the effectiveness of...</p> <p>Select which is the best option... or...</p> <p>Rank the following from... to most...</p> <p>Debate the issue...</p> <p>Defend the decision to...</p>	<p>Decision Making Matrix</p> <p>Extent Barometer</p> <p>Human Continuum</p> <p>Judge-Jury</p> <p>PCD</p> <p>Problem-Solution</p> <p>Tournament Prioritiser</p> <p>Y Chart</p>
4 Analyse Acting like a Spelling Bee, researching & breaking up an issue into its component parts	<p>Argue (about)</p> <p>Categorise</p> <p>Critique</p> <p>Debate</p> <p>Differentiate</p> <p>Discuss</p> <p>Distinguish</p> <p>Identify</p>	<p>From at least 4 peoples' viewpoint, analyse...</p> <p>Discuss the similarities and differences of...</p> <p>Compare and contrast...</p> <p>Investigate all the factors that could influence... in...</p> <p>Summarise the reasons for...</p> <p>Deduce how the parts interact in...</p> <p>Conduct research on the issue of... in order to gain a deeper understanding of...</p> <p>List the pros and cons of...</p>	<p>Decision Making Matrix</p> <p>Double Bubble Map</p> <p>Issue Prompt</p> <p>KWL & KWHL</p> <p>PCD</p> <p>Problem-Solution</p> <p>SPOT Analysis</p> <p>T Charts & Y Charts</p>
3 Apply Acting like a "Mental Maths" participant, applying previously learned skills in a novel or novel situation	<p>Calculate</p> <p>Compile</p> <p>Complete</p> <p>Demonstrate</p> <p>Dramatise</p> <p>Illustrate</p> <p>Operate</p> <p>Solve</p>	<p>Applying previously learned knowledge, reconstruct...</p> <p>Using your knowledge of... formulate 6 questions...</p> <p>Write a letter to the editor pointing out...</p> <p>Classify the following... into their correct...</p> <p>Write a news report...</p> <p>Construct a flow chart for...</p> <p>Interview a group of people... to identify...</p>	<p>Human Continuum</p> <p>Flow Charts</p> <p>Role Plays</p> <p>Silent Card Shuffle</p> <p>PDE</p>
2 Understand Acting like a Dictionary, understanding words, concepts, cause-effect, and reasons for	<p>Classify</p> <p>Comprehend</p> <p>Discuss</p> <p>Interpret</p> <p>Outline</p> <p>Recognise</p> <p>Summarise</p> <p>Translate</p>	<p>Explain how... has impacted on...</p> <p>Describe in clear logical steps...</p> <p>Paraphrase in your own words...</p> <p>Give reasons for...</p> <p>Using words, pictures and icons, retells what you know about...</p> <p>Use the metaphor of... to help you understand...</p> <p>Research songs to help you understand...</p> <p>State three things you know about...</p>	<p>Concept Map</p> <p>Cause-Effect Map</p> <p>Double Bubble Map</p> <p>Metaphor</p> <p>PCD</p> <p>Silent Card Shuffle</p>
1 Remember Acting like an Encyclopedia where one finds information, facts, data	<p>Define</p> <p>Find</p> <p>Label</p> <p>Match</p> <p>Memorise</p> <p>Quote</p> <p>Repeat</p> <p>State</p>	<p>Describe what happened at...</p> <p>List all the...</p> <p>Name all the...</p> <p>What is... (facts/definition etc)?</p> <p>List the attributes of...</p> <p>Write 10 facts about...</p> <p>Make an A-Z list of...</p> <p>Recall...</p> <p>In what way are you like...</p>	<p>2:2:1 RID</p> <p>Acronyms</p> <p>KWL</p> <p>Mnemonics</p> <p>Flash Cards</p> <p>Rhymes & Music</p> <p>Silent Card Shuffle</p> <p>Pairs and RAS Alert</p>

HIGHER ORDER THINKING SKILLS

FOUNDATION THINKING SKILLS

Some Strategies for Thinking at Different Levels

 1. Some Thinking Skills	 2. Bloom	 3. Some Thinking Strategies	4. Some Cooperative and Collaborative Strategies
Complexity Designing Elaborating Extrapolating Flexibility	Forecasting Formulating Hypothesising Modifying Organising	Originality Planning Proposing Risk-taking Synthesising	
Arguing Assessing Concluding Deciding	Determining Judging Justifying Prioritising	Rating Recommending Selecting Verifying	
Arguing Analysing Categorising Comparing Complex Summarising	Contrasting Debating Deducing Deeper Thinking Differentiating Discussing	Distinguishing Examining Explaining Identifying Investigating Separating	
Applying Calculating Compiling Completing	Constructing Demonstrating Extrapolating Illustrating	Inferring Showing Solving Using	
Describing Explaining Interpreting Outlining	Paraphrasing Restating Simple Summary	Translating Understanding	
Defining Fluency Knowing Labelling	Listing Locating Memorising Naming	Remembering Retelling Stating	

