



## Stepping up Standards at the Tertiary Level through Kath Murdoch's Inquiry Cycle

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“I think, at a child's birth, if a mother could ask a fairy godmother to endow it with the most useful gift, that gift would be curiosity.”

— Eleanor Roosevelt

### **The Need for Change:**

In the current scenario, the millennial generation of students crave interactivity. They are tech-savvy and, to make them learn, high level engagement is needed through team and peer activities. With explosion of knowledge and instantaneous access to it, learners become impatient and restless in the classroom. Honing the skill set of these adolescent learners become imperative, to enable them have an edge over their competitors.

With widening of the generation gap, development of the personality of students also becomes intricate, with many of their aspects remaining unknown to the teacher: IQ, memory, thinking, creativity, EQ, interests, motivation, aptitude, attitude etc.

Research shows that 21<sup>st</sup> Century demands the sharpening of multifarious skills: 1. Learning Skills (Collaboration, Communication, Creative Thinking and Critical thinking.), 2. Literacy Skills (Information Literacy, Media Literacy and Tech Literacy) and 3. Life Skills (Flexibility, Initiative, Social Skills, Productivity and Leadership) and the teacher's task becomes all the more complicated.

### **Taught Curriculum:**

To cater to these millennial learners, creative pedagogy is needed for Instruction Design and Delivery. To improve the competency level of students, widening of their knowledge, honing of their skills and improving their attitude are necessary, involving their cognitive, kinetic and affective domains.

Bloom's Taxonomy speaks of Higher Order Thinking Skills – Remembering, Understanding, Applying, Analysing, Evaluating, and Creating – the development of which is necessitated not only for success, but also for survival. Learner-centred approach becomes mandatory and the teacher turns facilitator. An Aligned Curriculum that requires to “Begin with end in mind” (Stephen Covey) is the need of the hour. To make all the above feasible, Kath Murdoch's Inquiry Cycle comes in handy.

### **Kath Murdoch and her Inquiry Cycle:**

Kath Murdoch is an education consultant and Fellow of the University of Melbourne. She provides ideas for helping students reflect on their learning and has researched in the field of inquiry based learning and integrative curriculum, for well over 20 years.

According to Kath Murdoch, in an inquiry classroom, the teacher *is* an inquirer and a participant in the process of inquiry – figuring out the next move both *for* and *with* the learners. The teacher is as fascinated by discoveries, and as curious and hungry to learn as the students.

In “Inquiry Learning: Journeys through the Thinking Processes”, Kath Murdoch regards inquiry teachers as researchers who observe and listen to their learners. When they collaborate with other educators, they gain further insight and perspective, which helps in bringing about an inquiry stance to their teaching.

Kath Murdoch advocates ‘authenticity’ in the process of inquiry. To her, ‘Being authentic’ means accepting uncertainty and becoming more responsive to what is needed. Inquiry, as an approach, is already ‘authentic’. Learning itself happens only when we talk about ‘authentic contexts’ of real issues or challenges in day to day lives. To her, the Inquiry teachers themselves need to be ‘authentic’ and must be ready to be transparent and vulnerable, providing the classroom a balance of power. They must be prepared to ‘let go’ of a plan when a real opportunity to investigate something emerges unexpectedly. Then only they can bridge the divide between schools and the wider community.

For inquiry learning to happen, in the opinion of Kath Murdoch, the classroom environment must also be ‘authentic’ allowing for movement and flexibility. Powerful learning happens when we ‘know the why’ of what we are learning. The teacher must also understand the power of inviting the learners into the decisions made about and for *their* learning. According to her, authenticity is experienced only when the learner is in the driver’s seat.

“At its very heart, inquiry is all about thinking – thinking in order to make meaning”, opines Kath Murdoch (“Inquiry Learning”). When we seek to make sense of the world around us, we wonder, we plan, we analyse, we create, we reflect. All these benefits of an inquiry-based approach to teaching and learning have been well documented over several decades of educational research.

In the opinion of Kath Murdoch, integration of the curriculum is made easy for those who promote inquiry. “Thinking”, Kath Murdoch argues, “should be consciously planned into every unit – it is a natural companion for inquiry.” (“Inquiry Learning”). She insists on selecting content that will provide students something worth thinking about. To make this possible, she says the teachers should be clear about the concepts, which enables them to be more mindful about the way they question students and help them make important links in their thinking.

# Kath Murdoch's Inquiry Cycle



[https://www.google.com/search?q=kath+murdoch+inquiry+cycle&client=firefox-b-d&source=lnms&tbm=isch&sa=X&ved=0ahUKEwjBIPmJsoDkAhVs63MBHde4DxYQ\\_AUIESgB&biw=778&bih=216#imgsrc=TIxLGkzErJzmzM](https://www.google.com/search?q=kath+murdoch+inquiry+cycle&client=firefox-b-d&source=lnms&tbm=isch&sa=X&ved=0ahUKEwjBIPmJsoDkAhVs63MBHde4DxYQ_AUIESgB&biw=778&bih=216#imgsrc=TIxLGkzErJzmzM)

Busting myths about her Inquiry Cycle, Kath Murdoch says that “It’s a pedagogy – not just a planning framework” (“Busting Myths”) and adds that it is a flexible one too.

## Process:

I have been privileged at my current work scenario to spend many hours planning and reflecting with teams of teachers, in an attempt to find ways to integrate thinking into our Taught Curriculum. Being an Inquiry teacher myself, I am grateful to our management for providing opportunity to gain further insight and perspective in the field.

Based on my experience gained in the classroom, here I have taken up for analysis the topic “Pronunciation Basics” from Unit I of the course ‘Interpersonal Skills: Listening and Speaking’, prescribed for study for undergraduate engineering students by Anna University. As predicted by Kath Murdoch, my planning for and reflecting on thinking processes within an inquiry has in fact helped me ensure that students understand more not only about their world, but also about themselves as thinkers and learners. This is what is aimed at by a teacher implementing the Inquiry Cycle into the Taught Curriculum.

## **Phases of Inquiry:**

### **1. Tuning in:**

The first phase of Inquiry is ‘tuning in’ to students’ thinking, connecting them to their life experiences related to the topic. Students share the conceptions and misconceptions they have on the topic and exhibit their current thinking about the subject/question. This phase gives a sense of purpose for students’ inquiry. Kath Murdoch considers this their first thinking and their first invitation for questions.

Kath Murdoch calls this “a challenging phase for a teacher because it requires a deliberate ‘stepping back’ as students theorise, hypothesise and wonder. The work that is produced at this stage can activate powerful reflective thinking later in the inquiry as it is returned to and self assessed.” (“Inquiry Learning”). When they can compare their earlier and later thinking, she feels, they become more conscious not only of what they have learned but of how their thinking has changed along the way.

In this phase of inquiry, the teacher initiates the topic on ‘Pronunciation Basics’ by asking the students to write in their notebooks the words ‘pronounce’ and ‘pronunciation’. A student who is very confident of his spelling is asked to write the same on the board. It is very rare to come across a student who knows this spelling for sure. Students get curious to know the right spelling and the right pronunciation of the word, both of which are not according to their expectations and previous learning of the language.

### **2. Finding Out:**

In this phase of inquiry, Murdoch opines, the students gather information from a range of sources. They work as researchers, continuing to raise questions and learning the skills of investigation.

The teacher brings to the attention of the students the vagaries of the English language, as seen in the spelling of words like ‘colour’ and ‘beautiful’. She directs the attention of the students to research into the reasons for that. She requires students to list the vowels in their mother tongue, be it Tamil or Telugu, Hindi or Sanskrit. She points out how 5 alphabets in the English language does the work of 12 or more vowels in their mother tongue, accounting for the vagaries of pronunciation, as seen in words like ‘put’ and ‘but’. This does not happen in their mother tongue, where there is one-to-one equation of the sounds.

### **3. Sorting Out:**

Murdoch considers that this phase of Inquiry gives room for students to take time to stop and think. They are able to analyze information, look for patterns, review thinking, make meaning and express new understandings.

In my class on ‘Pronunciation Basics’, a continued analysis of regional languages makes students realize the erratic nature of languages other than English. Students compare and contrast English and other local languages. Using structured learning journals is a useful way to document changes in thinking and understanding, as a unit progresses, says Murdoch. Keeping this in mind, the students are asked to write down the variations in the regional languages. Tamil has only one ‘ka’ sound, whereas English has 2 variations of the same sound - ‘ka’ and ‘ga’, and Hindi has 4 variations of the sound – ‘ka’, ‘kha’, ‘ga’, ‘gha’. Alternatively, in Tamil, there are 3 ‘la’ and ‘na’ sounds, where as in English, we have only one. Some sounds like ‘sha’, ‘ja’, ‘ha’, ‘sa’ are missing in Tamil, whereas they are present in Sanskrit. This analysis of regional variations in the alphabets of languages gives the students ample evidence for a need for a new International Phonetic Alphabet, in the world of globalization.

#### **4. Going Further:**

In this phase, the teacher uses the students’ own questions to take the learning further and also to personalise. Students are given the opportunity to raise and explore questions on their own and in small groups. Kath Murdoch considers this phase of the process ‘going further’ manifesting itself in the form of “mini inquiries or personal investigations”.

In my classroom, based on students’ classification of certain alphabets as vowels and certain others as consonants, teacher takes learning further and asks them to identify the criteria based on which they differentiate vowels and consonants. Of the 26 alphabets in English, students reflect as to why only 5 are classified as vowels. Teacher suggests them to pronounce the vowels and try to get the answer. After pronouncing the vowels for themselves, the students understand that the difference lies in the air flow. For vowels, there is no obstruction, whereas for consonants there are obstructions.

After articulating vowels, students have found out for themselves how air flows without any obstruction. Here, personal investigations get activated and students try to find out where and how the air flow gets obstructed in the mouth for articulating consonant sounds. This leads to the further learning of all the organs of speech – tongue, teeth, lips, alveolar ridge, hard palate, soft palate, uvula, voice box – and where the airflow gets obstructed. This enables the teacher to provide the needed input for the learners to understand plosives, affricates, fricatives, nasals, laterals, glottal and semi-vowels, along with their phonetic symbols.

For documentation of their learning, students draw the organs of speech, list out the parts and identify by pronouncing the consonants where the obstruction of air flow happens and give out reasons for classifying them as plosives, affricates, fricatives, nasals, laterals, glottal and semi-vowels.

## **5. Making Conclusions:**

This phase involves synthesizing and reflecting. It reviews earlier thinking, identifies changes in understanding, makes connections between ideas and identifies what has been learned. Here, thinking is made explicit to ensure their understanding of the thinking processes. Kath Murdoch strongly believes that both the content and the process of learning need to be discussed and articulated with students in order to maximize the learning opportunity.

As the work in designing integrated inquiry evolves, the teacher sees great benefits of reducing the volume of tasks and providing more time for reflection and deliberate ‘unpacking’ of the learning that is taking place. Keeping visual, written, and digital records of the process of an inquiry are very powerful ways to help students review what and how they have learned.

In my session, students list out the need for a common forum to make communication better. They understand the immense need to learn the International Phonetic Alphabet to pronounce the sounds correctly to make their meanings clear to their listeners and also to enable them to refer the dictionary.

## **6. Taking Action:**

This phase of Inquiry involves sharing the new learning with others and making a difference in their learning. It includes applying the knowledge gained to new contexts. It involves creating or constructing or doing, as per the opinion of Kath Murdoch.

In my class room, in groups of 3, students provide 3 examples for each consonant in initial, middle and final positions. They also write down the phonetic transcription for each of the examples given, enabling them to refer the dictionary better.

## **7. Reflection:**

Here comes Kath Murdoch’s high order thinking where the student reflects on his personal understanding.

To make this reflection happen, tongue twisters for specific pairs –  $\widehat{tj}/\widehat{dʒ}$ ,  $f/ʒ$ ,  $\theta/\delta$  – are given for practice to enable students check for themselves how articulate they are in pronouncing the sounds for better presentations.

## **Making Good Humans:**

According to Kath Murdoch, “The questions young people ask remind us that the search for meaning is fundamental to what it is to be human.” (“Inquiry Learning”). It is indeed a teacher's duty not only to prepare the students to face the examinations, but also to face life. When students are given the choice of what they will pursue, how they will pursue it and how they will share their learning with others – they are challenged to use important skills in decision making, planning and problem solving. In my

opinion, individual inquiries help students practice the kinds of thinking required for self-management. The plan for inquiry, if organized properly, can be instrumental, not only in improving the skills of a student, but also in enabling him/her to understand lessons better, relate them to real life experience and commit them to memory lifelong, thereby improving the quality of life at large.

### **Bibliography**

1. Bloom, Benjamin. Taxonomy.  
[https://en.wikipedia.org/wiki/Bloom%27s\\_taxonomy](https://en.wikipedia.org/wiki/Bloom%27s_taxonomy)
2. Murdoch, Kath. "Phases of Inquiry". 2010.  
<https://static1.squarespace.com/static/55c7efae4b0f5d2463be2d1/t/55ca9b1de4b0cf5cb3c4b9b1/1439341341409/phasesofinquiry.pdf>
3. Murdoch, Kath. "Inquiry learning – journeys through the thinking processes".  
<https://static1.squarespace.com/static/55c7efae4b0f5d2463be2d1/t/55ca9b31e4b0cf5cb3c4ba2e/1439341361238/inquirylearning.pdf>
4. Murdoch, Kath. "An overview of the Integrated Inquiry planning model". 2010.  
<https://static1.squarespace.com/static/55c7efae4b0f5d2463be2d1/t/55ca9b43e4b0cf5cb3c4baa5/1439341379536/murdochmodelforinquiry2010.pdf>
5. Murdoch, Kath. "Busting some myths about the Inquiry Cycle"  
<https://www.kathmurdoch.com.au/blog/2013/03/25/busting-some-myths-about-the-inquiry-cycle>
6. Murdoch, Kath. "Keeping it real: Inquiry and Authenticity".  
<https://www.kathmurdoch.com.au/blog/category/inquiry+learning>
7. Murdoch, Kath. Blog  
<https://www.kathmurdoch.com.au/blog>
8. Murdoch, Kath. Web page  
<https://www.kathmurdoch.com.au>
9. Murdoch, Kath. "What is Inquiry Learning?"  
<https://www.youtube.com/watch?v=GXF7IV2C7KE&feature=youtu.be>
10. Murdoch, Kath. TED talk  
<https://www.youtube.com/watch?v=LFt15Ig64Yg>
11. Murdoch, Kath. "The Power of Inquiry". Prom.  
<https://www.youtube.com/watch?v=PMnL6SK3kvY>