FOUNDATION PODCAST
An edited conversation with Phil Tyson

PT

Welcome to the second in the series of podcasts to support users of the question-led learning resource. I'm Phil Tyson, and with me is the author of the resource, Melvin Freestone. G'day, Melvin.

MF

G'day, Phil.

PT

This time we're going to dissect the first of the five gateways into the resource, and that is educational design (labelled as FOUNDATION podcast on the website). But just before we start, Melvin, a question has come up about the balance between teaching and learning that you envisage in a question-led approach. Specifically, where does the teacher stand in this?

MF

There are two key elements in teaching and learning. One is the development of inquiries, and the other is the development of enabling capabilities. I like the metaphor walking on two legs. These are the two legs, and we walk on both. Oftentimes, we tend to overemphasize one, even ignore the other, to the detriment of quality in teaching and learning.

How are they brought into action? Through question-led learning with a big addendum, that is, direct teaching. There's a partnership between question-led learning and, when the time is right, direct teaching. Sometimes direct teaching requires autonomous study and continuous studies and sequenced programs. At other times, direct teaching involves dealing with the issues that are relevant to the inquiry at the time.

The point is inquiry and direct teaching are mutually supportive. The teacher is crucial in a partnership with the learner.

PT

Well, thank you for clarifying that. Will you now give us an outline of the content, please?

MF

The educational design section of the resource (labelled as FOUNDATION podcast on the website) is like an unfolding foundation on which question-led learning is based. It is practical and grounded in teaching and learning over many years, not just with me, but with many of my colleagues and in different countries.

There are things in it like what are the building blocks, in other words, the purposes of learning, what might a program look like, and how can structured inquiries be designed and implemented, how can we frame questions and then implement in ways that emphasize real-life learning.

Inquiries and enabling capabilities

A partnership between question-led learning and direct teaching

Mutually supportive

Grounded practice

PT
You mentioned building blocks. Let's have a closer look at these.

MF
The building blocks really ask the questions, where is the teaching and learning going? What are the values and the mindsets that underpin the way in which teaching and learning is articulated in the resource?

In the 21st century, we want people to be knowledgeable as well as imaginative and inventive. We want people to be ethical and capable of ethical reasoning. People need to be dynamic and adaptable, and at the same time be pragmatic and resourceful. They need an optimistic outlook, because at times the challenges of the 21st century have a downside rather than a positive upside.

Of these building blocks, is there anything that underpins them? Yes, curious minds, and of course that bespeaks curiosity, which in my opinion is a key aspect of what it is to be human.

PT
Turning to frame 8, it shows four pillars for education that were published by UNESCO in 1996. Why did you include those, Melvin?

MF
Because, Phil, they're universal. Nowadays we don't live in industrial age, where it was a question of teaching learners to become competent in specific skills, often with the workforce in mind. The world has changed. It's much more dynamic and rapidly changing, not just from a technological point of view, but also from a social and a cultural perspective.

What are these pillars? To know, to do, to live together. How important is that nowadays? And to be. That is, to be confident in oneself and be aware of one's self-worth. There may be a fifth pillar, which accommodates the pervasiveness and the capacity to participate in digital systems.

These pillars fit what life and living is like in the 21st century, where being knowledgeable, being imaginative, and being creative are crucial. Knowing that one size does not fit all, either from a societal point of view or from a learner's point of view.

PT
Now, it seems to me that these purposes for learning would be dependent on one's mindset.

MF
Yes, in one way, and no, in another. Yes, in the sense that what we do and how we think reflects our mindsets. But no, in the sense that we live in a flexible, dynamic world, where collaboration is becoming ever more important and influential. In fact, mindsets come into play, not just our own mindset.

Values and purposes

21st century requirements

'Curious minds' underpin other purposes

Changed world no longer living in an industrial age

Four pillars and maybe a fifth?

Knowledgeable, imaginative and creative

Multiple mindsets in a collaborative world

We need to cherish, respect, and foster diversity. At the same time, recognize that there is a consistency needed in preparing people for life and work, which applies to all of us.

I should have made a qualification, Phil, to your last question. The way the UNESCO pillars are manifest varies from country to country, from region to region, from community to community, and even from family to family. Still, they provide a kind of glue to bring together what we do with teaching and learning.

PT
Can we move forward now to frame 10, where six fields of learning are shown? I have two questions relating to this. What made you choose those fields, and how does the word 'being' relate to curriculums that are organized around traditional subjects?

MF
Because they represent fields of knowledge and experience that we all need to develop, use, employ, and enact in our everyday lives. The word 'being' is used because it signifies what we do.

We may be being literate, or being numerate, or being expressive through the arts. We are being cultural when we are considering different societies and the values that people have. Being knowledgeable, people say, well, we know what that means. When we are being those things, we become empowered to act in our everyday lives.

The six fields represent a broad view of the curriculum. We are living in the 21st century, not in the industrial age of the past. Quite a bit different from the narrowing of the curriculum that has gone on in recent times due to the prescriptive curriculums and testing to improve student scores. In my opinion, these fields do not conflict with ACARA.

ACARA, Phil, is the Australian Curriculum Assessment and Reporting Authority, and most systems will have a similar organization.

The six fields do not conflict. In fact, the details articulated later in the resource complement it by providing a set of learning barometers through which to reflect on where you're going in your teaching and learning, and the curriculum you have been putting in place.

You won't be dealing with anyone of being literate, being numerate, being healthy, being expressive, being cultural, or being knowledgeable singly. Life isn't like that. You would likely be using knowledge by talking and writing, and there may be some numbers involved too. What you're dealing with might be helping you in being healthy or whatever.

The six fields of knowledge and experience are characteristic of what we require in the 21st century. In my opinion, the being part of it is just doing it in our everyday lives.

Promote diversity yet build consistency

Diversity within and across different cultures

Knowledge and experience people need

'Being' signifies what we do

Broad view of the curriculum and learning

'Learning barometers' for reflecting on teaching and learning

Six fields are interconnected

Twenty first century requirements

PT

Moving along to frame 16 now, and this was where I began to come to grips with the application of a question-led inquiry process. The three question types that you show provide a structure for inquiry, but I'd like you to illustrate how it might look in practice in a teaching and learning setting.

MF

First, Phil, may I say the three types of questions are an unfolding set. They are generic generative questions which can be applied to almost any challenge. Then there's consequent questions which are derived from the generative questions, and in some cases more pointed questions may be needed. They represent an iterative package, one unfolded into the other, continually going backwards and forwards as required.

The 12 generic generative questions are articulated with each one being given a label. For example, what's it like? The label is form. How does it work? The label is function. Who might be responsible? The label is responsibility. The 12 questions cover the broad range of human endeavour, but they are not a definitive list. Some people might come up with a different list, but I think they will find it hard to come up with a more comprehensive list.

Generative questions like - what is it like? Form. Why is it like it is? Causation. And how is it connected to other things? Connection - signify an environment perspective. Other ones like - how is it changing? Change. What's the role of place here? Place. Who might be responsible? Responsibility - are more socially orientated. And others like - Where are the ethical values? Ethical. How is aesthetic diversity manifest? Aesthetic. How might new ideas help? Innovation - have more of a cultural focus?

When we apply these generic generative questions, you translate the ones you have selected into the substance or content of an inquiry. These translated questions can be investigated. They are consequent questions. Sometimes they're not sufficient because the context of the inquiry demands more detailed questions. These are pointed questions.

I might take a few examples to say what this might look like.

PT

Well, just before you do, I'd like to say I'm relieved because you're suggesting that not all 12 generative questions should be applied to every investigative task.

MF

Well, if you want to use all 12 in the same inquiry, Phil, good luck to you. It's an unmanageable task. It's just simply impractical. Experience has shown selecting two or three is manageable.

Selections can be made in different ways. For example, the teacher may simply select two or three and that's it. Or learners might be asked which ones are most relevant to them. And then an agreement is negotiated around two or three. Or each learner might choose two or three to direct independent study. Or each

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Unfolding set of questions

An iterative package

Descriptive labels for generic generative questions

Not a definitive list

Categories that differ in focus

Keep it purposeful and manageable

Different selection processes

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learner might be asked to talk about the ones that are most relevant to him or her, from which groups or research teams can be formed.

Being strategic, you want to have a limited number and not be all over the shop.

Let's be realistic and take a few examples to say what this might look like. Take climate change. Say the generative questions chosen were, how does it work, function, and who might be responsible, responsibility. A consequent question might be, how do climate change processes work? Or a pointed question might be, what are the likely effects of warm currents underneath the ice shelves? Who might be responsible might be translated into a consequent question like, who's responsible for preventive strategies being used in the country or community you're in?

Let's take another example. Say the challenge is to make a flying machine that will fly as far as possible using a junk pile of stuff. The generative question, why is it like it is, causation, might be translated into the consequent question of, what causes wings to lift? A second generative question might be, how might new ideas help? Because learners are being inventive in using materials from a junk pile. A pointed question might be, what could we do with this piece of equipment from the junk pile or change it to do what we want it to do?

Take percentage and proportion. There is much direct teaching involved in how we compute percentage. What if the learning took place through an inquiry into how understanding percentage informs preferences for, say, sport, TV programs, supermarket items, or whatever? What kind of generative questions could you choose? You might say, what is it like, form, which would lead to understanding percentage as a concept. And you might choose, why is it like it is, causation, which might lead to thinking about what a specific set of data means, such as, what does 42% mean in 100, in 1,000, or in 10,000, and so on.

Take another example, which we do a lot in schools, transport systems.
If the focus is on changes that have been happening in the last 10 years, a generative question might be, how is it changing, change, which would lead to a consequent question, what's happened in your local area during the last little while? The generative question, who might be responsible, responsibility, might lead to investigating the role of local authorities, private car ownership, walking, or whatever else.

I could go on forever in the day, but the essence is to select two or three generic generative questions, translate them into consequent questions, and if necessary, some pointed questions. These questions direct investigations, through which tactical questions can then come into action.

PT
Well, thank you, that was illuminating. Question-led inquiries like those you described don't occur in a vacuum. They need to be preceded by an analysis of the situation. Can you take us back to frame 12 now? That addresses some of those important steps in planning an inquiry.

MF

Yes, Phil. Inquiries need to be realistic. Instead of situation analysis, I like to say setting the scene. But it does involve analysis, an analysis of what?

In any situation, there are some simple things that are obvious. Certain things will be a little bit more complicated, in the sense that they're interwoven or interconnected. Some things will be more complex, difficult to work out, and some things may be totally chaotic. All of these are important parts of the context for an inquiry. By identifying them, you are setting the scene, not only in terms of bits and pieces in it, but also from a people and a cultural perspective.

The information collected gives you a picture of the key aspects or the key features of the context in which an inquiry is situated. Not a never-ending analysis of everything, just the key features which give you a picture of the overall scenario.

The process highlights the potential of doing things and benefits that might result, which enables goals and intentions for the inquiry to be refined. But don't let the goals take over, because the drivers of an inquiry remain strategic questions.

Scenario setting is about becoming realistic in a context, which influences how the questions are identified, developed, and enacted.

PT

Well, next time we'll look at several more frames dealing with educational design, in particular an iterative strategy and inventiveness.
Any brief words of wisdom before we wind up for today, Melvin?

MF

No, Phil. I would like to pose the question, though. Who are the resources in educational design?

They are the teachers and the learners. We should be enabling teachers and empowering learners for life and work in the 21st century. We should cherish artistry among teachers, diversity in learning programs, and value learners' talents, knowledge, and experience. We are in an age where artistry in teaching and learning has never been more important.

Understand the scenario or situation

Different parts or elements in a situation

Combinations of parts, people and cultures

Focus on key features

Scenario setting highlights potential

Being realistic affects the questions asked

Artistry never more important