Some schools in Victoria are paying explicit attention to ‘thinking’. With the introduction of the new VELS framework, where thinking is an essential dimension of learning, even more will be likely to follow. However, there seems to be a number of different approaches taken by schools. For example, some schools focus on inquiry learning, others emphasise habits of mind and still others explicitly teach their students to use the thinking hats. Despite this diversity, there seems to be a common, semi-historical process that most Victorian schools go through when taking an explicit approach to thinking. Some schools are already a long way through this process. Some schools have not yet begun. I am going to use this pattern to point out different ways schools can have thinking as an explicit goal. The process I describe will allow you to make sense of what is happening in your school, what approaches to thinking your school is taking, and what new approaches your school can take in the future.

Early views about thinking and education: Intelligence more important than thinking

Intelligence and thinking ability were thought to be the same thing, but it was intelligence that was important. Intelligence was a constraint on what education a student could receive, but education and schooling had no influence over intelligence. To be educated, students needed to master difficult subjects, and the ability to master a subject was a matter of how intelligent they were. Intelligent people could be well-educated and unintelligent people could not. Yet intelligence was innate and unchangeable, so teachers could not help students to be more intelligent and hence could not help students to think better. All a teacher could do was to make sure they set work that students had the ability to complete and perhaps stream the more intelligent students into difficult, academic subjects. For example, a Piagetian view held that the tasks a student could complete depended solely on their age and maturity. Young children can only handle concrete tasks, while older children can deal with the abstract. The teacher had no control over this and had to modify their teaching in relation to the cognitive development of their students.

Why thinking in education? Quality thinking is needed for quality learning

A number of related theories about education challenged the strict link between thinking and education. They supported the view that regardless of the intelligence of students, good education required students to apply good thinking. For example, Howard Gardner argued that the goal of school was that students understood what they were learning, but understanding only occurs as the end product of thinking. Another view was that students needed to engage in ‘higher order thinking’ if what they learn is to be more than what Perkins calls ‘fragile knowledge’—the knowledge we remember long enough to use in an
exam and then forget and never use. Finally, constructivism was a popular theory that held that knowledge and understanding was constructed. What these had in common was the belief that knowledge and understanding is the end result of thinking rather than being gained from remembering knowledge and information. In other words—thinking must be part of education.

**Thinking Curriculum 1: Thinking activities**

Some schools and teachers, convinced by these theories, changed their view of what was needed for quality learning and so changed how they taught. The learning activities they presented now explicitly required complex thinking. This was the first type of thinking curriculum. Classroom lessons were redesigned to involve higher order and complex thinking. For example, Bloom’s taxonomy and multiple intelligence exercises were introduced into lesson designs to give the students a chance to use a variety of different types of thinking and hence develop deeper learning. Other schools introduced inquiry learning so students could construct their own knowledge through inquiry.

A second justification for explicitly focusing on thinking in the classroom occurred when it became apparent that thinking was only by good thinking that students will be able to generate the knowledge they need to deal with the unpredictable problems and challenges they will face in their lives and their careers.

the old educational methods would not prepare students for their future. Teachers and theorists saw that there is so much knowledge available that it is impossible to learn everything at school. Also, because the world is changing so rapidly, we don’t even know what knowledge students will need after they leave school. The implication is that schools must focus on the thinking of students rather than acquisition of knowledge. It is only by good thinking that students will be able to generate the knowledge they need to deal with the unpredictable problems and challenges they will face in their lives and their careers.

**Thinking Curriculum 2: Thinking skills**

More schools became convinced that thinking should be an explicit part of their curriculum. It was no longer enough to include learning activities that required good thinking. Now we also needed to teach students how to think well. To teach students how to think well, teachers had to reject the view that thinking ability was determined by innate intelligence. Backed up by theorists such as Edward de Bono, teachers began to see thinking as a skill that can be taught and improved rather than as an innate ability. Research based on this idea showed that thinking skills could be isolated, learned, practised and developed. This led to a second version of the thinking curriculum—a curriculum of thinking skills and the tools for using these skills, for example thinking hats or mind maps. Students are taught to use these thinking tools and hence to improve their skills at thinking.

At first teachers taught thinking skills as a separate subject or topic. Later, they realised that to master the skills, they had to be used productively. This led to a thinking curriculum that included the teaching of thinking skills and then "infusion" or using the skills within different subjects.

**Thinking Curriculum 3: Thinking school**

A new view of the thinking curriculum was developed partly in response to the drawbacks of the other approaches and partly in response to a combination of new research and understanding: about learning, brain functions and intelligence; about school culture, leadership and organisation; and about the function of education, learning, teachers and schools. The new view of a thinking curriculum was the "Thinking School".

In a Thinking School, developing good thinkers is an explicit and core value or goal. Developing good thinkers is part of what teachers and students see as the purpose of education. If this were not the case, even if thinking is included in lessons it will only be a token approach. When there is a conflict of goals—for example when there is not enough time to do the thinking and cover the content—the other more important values and goals will override the goal of developing good thinkers.

In a Thinking School, good thinking is more than having a skill. It is about being a good thinker. We cannot teach...
our students to be good thinkers merely by 'covering' creative thinking or evaluation. Theorists such as Art Costa and Ron Ritchhart have been influential in Australasian schools on this point. However, careful readings of other thinking theorists such as de Bono, show he is also saying something similar. There are three dimensions to being a good thinker:

- **Cognitive**: What we think and know (skills, knowledge, beliefs). Good thinkers have certain skills and abilities. For example, they can compare and contrast and they can come up with alternatives. However, having a skill does not make one a good thinker. To be a good thinker you have to be motivated to use this skill and actually use it when it would be of benefit.

- **Affective**: What we feel and value (feelings, values, interests, dispositions). Good thinkers are disposed towards analysing and questioning, for example. Good thinkers value and have a habit of, for example, being curious and asking exploratory questions.

- **Behavioural**: What we do and say (behaviours, actions). Good thinkers actually use the thinking they are disposed towards. Ultimately being a good thinker is about doing and saying things that poor thinkers do not say or do. A good thinker asks questions, compares and contrasts and invents alternative perspectives. What makes a poor thinker is that they do not do these things. It is irrelevant whether they know how to or not.

We can directly teach thinking skills, but direct teaching will not lead to good thinkers. We can teach students what good thinkers do and say and we can even make them do and say these things in class. However, they are not good thinkers until they value them enough to use them as a matter of habit. Yet we can’t make students value thinking. We can only show that we value it and create an environment where students realise that thinking is valuable. We can only provide them with opportunities for them to practise what they see as valuable thinking behaviours until they become internalised. Because of this, a 'Thinking School' takes developing good thinkers to be about an approach to learning and teaching rather than being a subject or skill that can be taught.

Everything about a Thinking School encourages and promotes good thinking. If we want our students to be good thinkers we have to redesign our whole culture of teaching and learning so it encourages and facilitates the development of thinking dispositions and behaviours. The school provides an environment that will allow thinkers to thrive.

The environment, culture, practices and structures of a school should support and promote good thinking. The attitudes, expectations and values of teachers encourage students to be good thinkers. For example:

- Developing good thinking is not distinguished from the aims and learning of other curriculum areas. All classes are about developing thinking. For example, when doing history, students are learning to think historically, and when doing art they are learning to think artistically and aesthetically.

- There are posters on the walls that show the process and results of student thinking.

- The classroom culture is a safe and supportive environment to engage in thoughtful and prolonged discussion and reflection.

- Time is provided for students to both learn how and to engage in good thinking.

- Teachers are trained to be good thinkers and they share their thinking with students.

- Classroom management strategies are designed to foster reflective thinking and the predicting of consequences by students.

- Thinking is reported on and assessed, and prizes for good thinking are awarded alongside academic, sport and cultural prizes.

Few schools have created themselves as true Thinking Schools. Many schools are moving in this direction, but they first need to change certain practices, structures or values of their school. For example, some schools have thinking timetabled into the week's activities, but the teachers and students see this as just more content to cover. Other schools have thinking explicitly introduced into all classes but ultimately what they see as important is exam results. The exam is seen as the purpose of education rather than as a means to measure that the real purpose has been achieved. Other schools say they are thinking schools, but the senior management discourages independent thinking or questioning from staff. Becoming a thinking school comes down to this: Putting the money, time and actions of the school towards promoting and supporting the development of good thinkers.

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# about

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- Connecting Concepts—
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- Developing a Thinking Classroom: A Workbook for Professional Learning Teams
- Thinking With Rich Concepts: Rich Concepts For Philosophical Questioning In The Classroom

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