

# **Direct Instruction and Critical Thinking: Finding the Synergy**

## ***The Experience of a Charter School in Alberta***

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Dressed in a jacket and tie, a young gentleman, 12 years old, strides to the front of the class. His classmates, grade seven students in uniforms of grey, maroon and tartan, sit cross-legged on the floor and follow his movements attentively. Holding his presentation notes in front of him, he confidently and boldly states:

*“In a mere 85 years, 20,000 people have died at the hands of Britain. For nearly 100 years they have run amok, and we can wait no longer! Today, in this courtroom, we will take legal action against them, and bring the Government of Britain to justice!”*

As the class proceeds, students take turns alternately accusing and defending “Mother Britain”. Through critically thoughtful inquiry - gathering evidence, analyzing events and making reasoned judgments - students are coming to understand the causes and consequences of historical events, in this case the factors leading up to Confederation in Canada. That this type of independent, self-directed learning is taking place in a grade seven classroom of Foundations for the Future Charter Academy (FFCA) in Calgary may surprise many observers and educational practitioners in this part of Alberta. FFCA is better known for the “direct instruction” model of teaching, which many educators believe to be inimical to the development of thinking skills, deep understanding and student independence. At the same time, proponents of direct instruction may be surprised to learn that critical thinking can not only occur in a “direct-instruction classroom”, but that critical thinking can enhance the achievement of educational outcomes within a direct instruction environment.

Critics of the direct instruction approach to teaching and learning decry it as being prescriptive, rigid, limiting and excessively structured. The more narrow interpretations of direct instruction portray it as a stifling form of curriculum delivery in which teachers simply transmit facts and information that students are required to memorize and regurgitate to satisfy mind-numbing assessment tasks. Some critics of direct instruction see it as a betrayal of the humanistic, egalitarian foundations of public education, and it is often contrasted with constructivist approaches to teaching which de-emphasize instruction of basic skills in favor of exploration and other methods (Brocket, R., Hiemstra, R., 1994; Palmaffy, T., 1997).

Conversely, there are those in the educational community who believe that the transmission of basic skills and content knowledge are the primary and only truly attainable objectives in public education. Consequently, attempts to teach through inquiry and discovery, and to develop the student’s capacity

to become critically thoughtful and independent learners, are seen as a waste of time and resources (Hirsch, E.D., 2009).

Can two approaches to education, that would appear to be on opposite ends of a perceived continuum, co-exist? Founded on the experience and development of a charter school in Alberta, this article makes the case that direct instruction is not antithetical to “humanistic” trends or “progressive” ideas. Rather, there is an important and profound synergy that can be found within this apparent dichotomy. The synergy between direct instruction and critical thinking is proposed as a basis for trying to understand how the educational polemic might be resolved.

## What is “direct instruction”?

Although detractors criticize direct instruction as an “old-fashioned” form of teaching that is stifling to students, in fact it is an approach to teaching which has a strong foundation in educational research. While recent studies (Vukmir, L., 2002) confirm the effectiveness of direct instruction models, particularly for teaching reading, the most comprehensive evidence derives from an extensive federally-funded research and implementation program known as *Project Follow Through*. This \$500-million study of teaching methods rated direct instruction as “the best method by which to improve student performance.” The direct instruction model used for the study was the DISTAR (Direct Instructional System for Teaching and Remediation) program developed in the 1960s by Siegfried Englemann (Egbert, R.L., 1981).

It is useful to distinguish between direct instruction (di) and Direct Instruction (DI) as promoted by Englemann and his colleagues. Sometimes referred to as “big DI”, Direct Instruction refers to a very specific application of direct instruction using highly scripted and copyrighted resources. The promoters of “big DI” make a distinction between direct instruction as a set of teacher behaviours and *Direct Instruction* as an integrated system of curriculum and instruction (Adams, G. L., & Englemann, S. 1996). The term “direct instruction” derives primarily from the work of Barak Rosenshine.

Rosenshine, along with Robert Stevens, identified common teaching functions, abstracted from a series of experiments and studies, which had proved effective in improving student learning. These teaching functions included teaching in small steps with student practice after each step, guiding students during initial practice, and ensuring that all students experience a high level of successful practice. In an influential essay, they referred to it as *direct instruction*, and this is the name by which it is now most often known. As Rosenshine and Stevens described it, direct instruction is a teaching model, not a particular, fully elaborated program for teaching. It is a “generic approach to teaching, in other words - one awaiting subsequent interpretation and development in particular applications” (Carnine, D.W., Silbert, J., Kame’enui, E.J., & Tarver, S.G., 2004).

FFCA has done extensive staff development with Englemann’s associates at the National Institute for Direct Instruction in Eugene, Oregon, and has used DISTAR resources and SRA Direct Instruction resources in its instructional program. However, for the purposes of this discussion, the more generic

application of the term “direct instruction” will apply. This teaching model, as practiced at FFCA, has undergone substantive interpretation and development since the inception of the charter school, much of it connected to the application of critical thinking habits and the partnership between FFCA and The Critical Thinking Consortium\*.

## **Key components of direct instruction**

We believe it is useful to define direct instruction in terms of a few guiding principles and seven core steps which serve as a framework for teaching and learning at FFCA.

### **Guiding principles**

Direct instruction is based on the assumption that the teacher is responsible for providing students with the structure, the context, and the tools needed for learning.

- The teacher determines the goals in light of the curriculum and designs a series of learning activities to help students attain them.
- A direct instruction lesson typically includes a proactive approach to class management where student expectations are clear, age appropriate and connected to the context of learning.
- Fundamental to direct instruction is the belief that learning, if it is to be meaningful, must be connected to prior learning and established understanding. This is best attained when the learning is “chunked” into increments that build on one another, with every attempt being made to ensure that student mastery is attained with each step.
- As they work through the guided practice stage and the assessment of independent practice, teachers monitor understanding, adjust their lesson plans and give feedback to students about their learning.

### **Key steps:**

1. **Identify key learning intentions or targets:** Prior to the instruction the teacher clearly identifies what students should know, understand and be able to do as a result of the teaching.
2. **Establish criteria for success:** The teacher identifies and communicates to students the criteria that will be used to assess the degree of student success in meeting the intended learning targets. These criteria can be developed with students, but the standards to be reached are determined by the teacher.
3. **Consider engagement and prepare student mindset:** Sometimes called the “hook”, the teacher connects the intended learning to prior learning and to students’ lives. Appropriate questioning is used to evoke prior knowledge and assess preconceptions. Establishing relevance or creating a problematic situation both serve to establish a focus for the attention of the student and to create receptive frames of mind for the learning.

4. **Present the lesson:** The delivery of the lesson involves i) input (providing the instruction needed by students to complete the assigned task via lecture, video, reading etc.), ii) modeling (providing students examples of what successful completion of the task does and does not look like, as well as providing students with examples of working with the evidence and criteria to draw thoughtful inferences or conclusions), and iii) checking for understanding (monitoring student understanding of key concepts and skills before moving on). Considerations of scope and sequence are fundamental to appropriate scaffolding of the lesson.
5. **Guided practice:** The teacher monitors students' grasp of the new learning through the application to a problem or activity, during which time the teacher provides individual support and feedback as needed. Students, too, can be involved in reflecting on their own progress and providing feedback to others.
6. **Closure:** Teachers bring the learning activity to an end by helping students draw together key ideas and see applications beyond the specific details addressed in the lesson. It signals to students that the lesson is at an end, helping them consolidate their learning and develop a coherent picture.
7. **Independent application:** The opportunity for students to apply their new learning in different contexts is important to consolidate their understanding of key concepts. This is provided through homework, or by individual or small group work in class, where students use the acquired skills and ideas to solve new or more complex problems.

## Connecting direct instruction and critical thinking

In the 2009-2010 winter edition of *American Educator*, E.D. Hirsch challenged the widely held belief that teaching critical thinking skills should be central to educational endeavors. In the article, Hirsch noted: "Today, it is widely believed that schools need to focus on critical-thinking skills, not facts." He asserts that this view is taught in many schools of education even though cognitive scientists disagree with it.

Clearly, it is unwise to teach thinking strategies to students without embedding these within a foundation of knowledge. Thinking strategies are only one of a set of intellectual tools required for critical thinking. Central to any critical thinking endeavor is access to the requisite background knowledge – and in this sense, Hirsch's argument that schools need to teach a body of knowledge has merit. But information becomes knowledge only if it is assessed and analyzed. The question should not be one of whether or not to teach content, but rather how to engage students in the critical acquisition and use of information.

Our review of the seven key steps in the direct instruction model highlights the opportunities for powerful critical inquiry. When teachers focus the "hook" on being an invitation to solve a problematic situation, or what The Critical Thinking Consortium (TC2) refers to as a "critical challenge", teachers

create the conditions, and a context, for student engagement and achievement. This can be accomplished through the use of critical challenges to engage students in meaningful enquiry, while teacher input helps students acquire the requisite background knowledge and the intellectual tools required for quality thinking.

While the concepts and content identified by curriculum documents provide a focus for learning, delivery of curriculum around a series of critical challenges presents rich opportunities for critically thoughtful learning. Critical thinking involves the ***thoughtful application of criteria to a problematic situation***. Efforts to teach critical thinking as a skill separated from the curriculum have often had disappointing results, especially with regard to the transference to new contexts. The Critical Thinking Consortium encourages the nurturing of critical thinking as a complex competency within a curriculum-embedded approach. The intellectual tools for quality thinking can be developed effectively within the direct instruction model when students are engaged in solving meaningful problems derived from the central learning objectives set out in the curriculum.

As a foundation to the activity described in the introduction, students in Shirley Coughlan's grade seven classes spend considerable time learning about the various historical events leading to Confederation, but this occurs within the context of a critical challenge presented to students. They do not spend several days learning what appears to be obscure information about the past. Instead, learning of the historical content is a vital part of the process as they work to complete the critical challenge. As they learn about these events, they are also learning to determine which ones are the most "historically significant". It is clear that exercising critical thinking has helped these young people go well beyond merely learning facts and dates to understand the historical events. What is less apparent is that a great deal of direct instruction has been brought to bear in equipping these students with solid background knowledge and skills in research, critical thinking and self-expression (both written and oral) that are essential to this exercise.

The synergy between direct instruction and critical thinking comes from teachers presenting a meaningful challenge around which to organize learning, and then helping students to use the intellectual tools for quality thinking. These range from acquiring background knowledge (lecture, discussion, reading, etc), to developing criteria (teacher provided or class generated), to understanding critical thinking vocabulary, to using appropriate thinking strategies (graphic organizers or models), to nurturing habits of mind, including attention to detail, perseverance, and open-mindedness.

Traditionally, classrooms have vacillated between being teaching-centered and student-centered. It is this dichotomy that lies at the heart of the false divide between direct instruction and critical thinking. When teachers create communities of thinkers, there is no longer the tension between didactic teacher talk and student self-discovery. Instead, teachers play various roles, from motivator to expert, from evaluator to coach, within a direct instruction framework, as they establish a critical learning community.

Properly understood and used effectively, both ends of what is perceived as a dichotomy in education can lay the foundations for powerful learning where students become effective creative, critical and collaborative learners able to synthesize information and make sense of disparate facts. Rather than restricting students to only what interests them, inviting students to think often engages them in issues and topics they would often otherwise find irrelevant and disconnected from their lives. Our job as educators is to help students make sense of an increasingly complex world, be able to select and use information to solve problems, and to nurture a healthy and critically thoughtful mindset that allows them to actively participate in the democratic process and to contribute to the global community.

## **Teaching “criterial thinking”**

Researcher Tony Wagner(2008) states that the requirements of the 21<sup>st</sup> century are such that employees will be required to think critically, because “yesterday’s answers won’t solve today’s problems.” In his research, he says, “over and over, executives told me that the heart of critical thinking and problem-solving is the ability to ask the right questions.” How then do students come to develop the ability to “ask the right questions”?

As FFCA embarked on its initiative to integrate critical thinking into its program in 2006, the first objective was to develop the ability of students to ask “powerful questions”. As they went about meeting this objective, many elements of direct instruction were brought to bear. One way of looking at critical thinking is to rephrase it as “criterial thinking”, and so students were exposed to the concept of establishing criteria for decision-making. Determining what was a “powerful question” required that there be criteria for powerful questions, and initial teaching about establishing criteria was done directly. Various definitions and examples were presented, followed by student opportunities to discuss and apply this knowledge with regard to other simple examples, before trying - together and then independently - to establish criteria for more complex examples and circumstances such as powerful questions. This process was initially simplistic, but as the concept is being taught and multiple examples looked at over a period of time, both teachers and students at FFCA are finding that thinking about “criteria” is becoming the norm and has wide application to much of what is going on in all classrooms and with all curriculum areas. What are the criteria for an effective speech? A good badminton serve? A sensible approach to a math problem? A legitimate internet source? A great science project? And so on.

For the grade seven social studies students, learning to determine the historical significance of various events, the criteria for “historical significance” are taught directly, with multiple examples, until the students can apply those criteria on their own. In the example of the trial of “Mother Britain”, students use the criteria of “benevolence” to determine the quality of justice in the British colonies.

However, prior to researching the presence or absence of benevolence in the colonies, the concept is taught directly, the teacher giving examples, the class working together on others, and then students exploring examples on their own.

In her grade nine language arts class, as she leads her students to an understanding of the universal nature of the “hero pattern”, Pamela Hunnisett brings together essential critical questions and direct instruction in the teaching of concepts and skills to create a motivating context for learning. Her unit planning reveals lesson activities that reveal the influence of both direct instruction and critical thinking with the two being effectively synthesized into a powerful learning environment. Students are exposed to different stories utilizing various media including a film, an article, and a book, and reflect on the hero pattern in each one. While the concept of the hero pattern is taught directly, the criteria for determining a hero are worked on together. Students apply and chart the application of the criteria, and use critical questions to guide their work, as well as their planning of performance tasks to demonstrate their learning and their understanding. Critical questions related to their ability to identify the hero pattern, to choose other stories that illustrate the pattern, and to demonstrate their understanding of it, frame the unit from start to finish.

## **Conclusion**

This article, founded on the experience of a charter school working with a critical thinking facilitator, makes the case that a co-existence between the classical view of education and the progressive movements of the past century is not only possible, but fundamental, to a complete and balanced educational experience. The evolution of the program of instruction at FFCA is revealing the potential of the direct instruction model to effectively integrate a variety of teaching strategies. The development of critically thoughtful habits of mind and the introduction of critical challenges into the model provide a stimulating environment for learning that engages students and makes their experience more meaningful.

A synergistic integration of engaging critical challenges with the model of direct instruction takes into account the need to be both effective and efficient with the use of the time accorded to accomplish the multitude of educational objectives which confront teachers and schools. Students benefit from clear objectives and direct instruction for the learning of background knowledge (facts and concepts) as well as skills in literacy, numeracy, habits and thinking, while also benefitting from the opportunity to solve problems, develop their creativity, and apply their increasing capacity to think critically and construct their own meaning in their learning.

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