

Concept-Based Curriculum and Efficacious Instruction

Leading for Learning 2019

Dr. Scott Morrison

Agenda

1. Leadership Styles and Student Achievement
2. Educational trends over the years
3. Curriculum Alignment and the Concept-Based Curriculum
4. Scheduled Review
5. Formative Assessment
6. Focus, Simplicity, Competence
7. The Rating Game

Leadership Styles

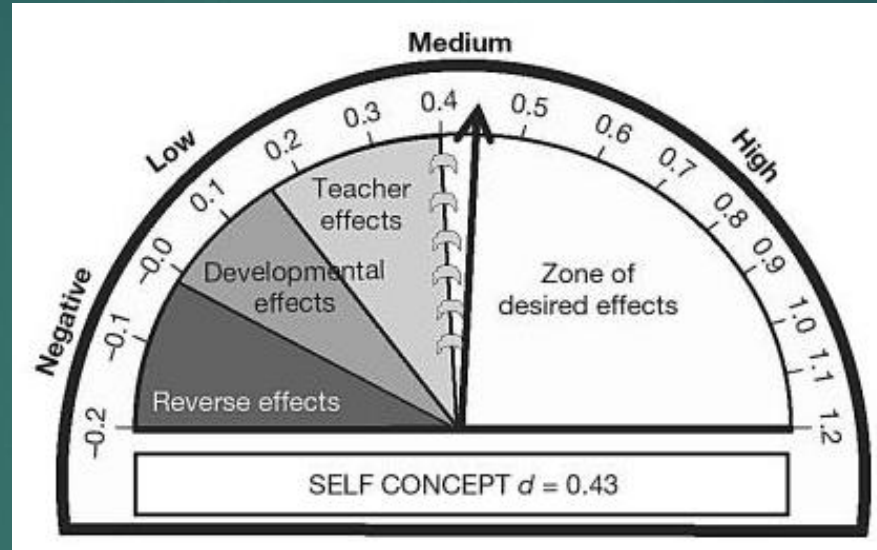
Correlation with Achievement

Instructional leadership refers to those principals who are hands on and hip deep in matters related to curriculum, instruction, and assessment. (Height of popularity:1980-1995)

Transformational leadership refers to those principals who focus on “purposing” by creating shared mission and vision, coupled with motivating commitment through distributed leadership. (Height of popularity: 1995 – 2019)

- ▶ Marks (2013) found more than 80%of school leaders described themselves as transformational.
- ▶ Hattie (2015) notes about 5% to 10% of leaders describe themselves as instructional leaders.
- ▶ Hattie (2015) notes transformational leaders focus more on teachers and instructional leaders focus more on students and their learning.

Impact on Student Achievement



Reverse effects...actually do harm = -0.2 to 0

Effects from development and maturation alone = .0 to .15

Typical “teacher effects” on learning = .15 to .40

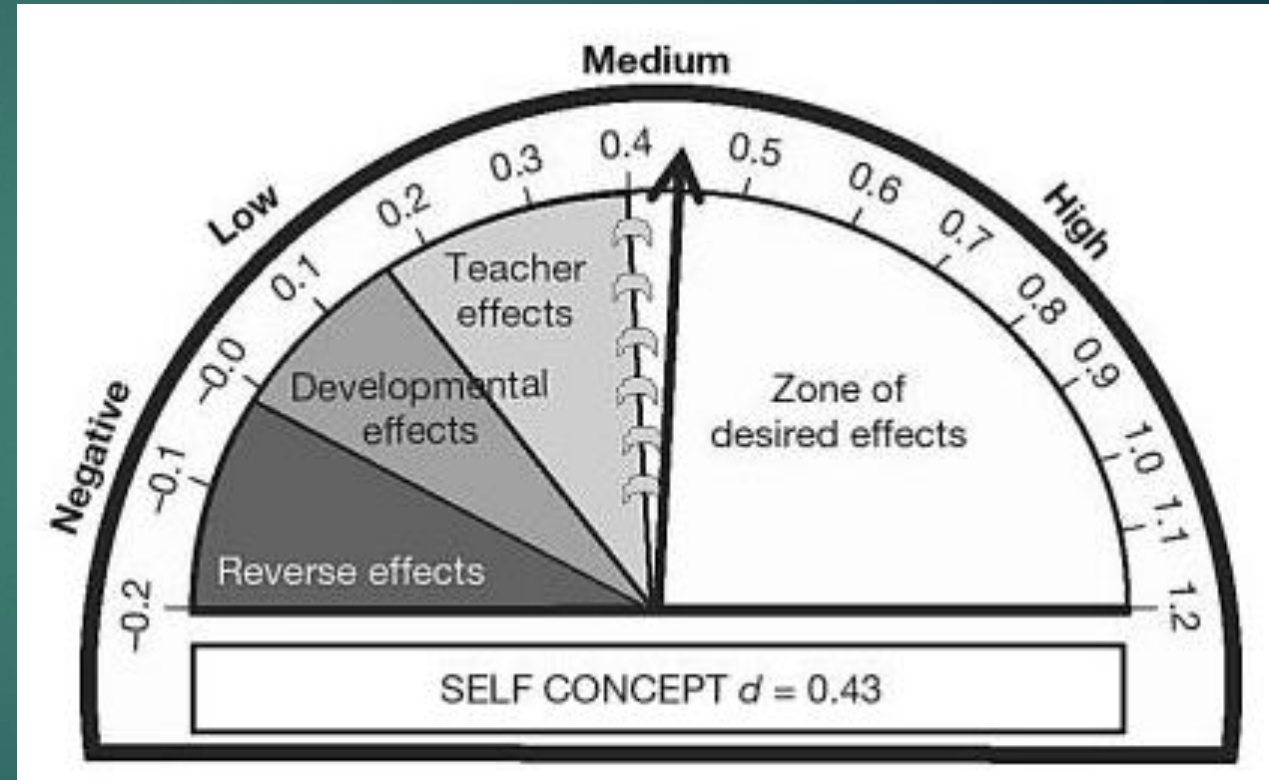
“Zone of desired effects” = .40 and above

(Hattie, 2011)

Instructional Leadership Transformational Leadership “both and”

“The meta-analysis indicated that the average effect of instructional leadership on student outcomes was three to four times that of transformational leadership.”
(Robinson et al., 2008)

“Instructional leaders focused on establishing goals and expectations; resourcing strategically; planning, coordinating, and evaluating teaching and the curriculum; promoting and participating in teacher learning and development, and ensuring an orderly and supportive environment” (Robinson et al., 2008).



Instructional leadership - .42

Transformational leadership - .11

Other - 0.30

High Yield Strategies

Resources for generic strategies, applicable to all grade levels and subject areas:

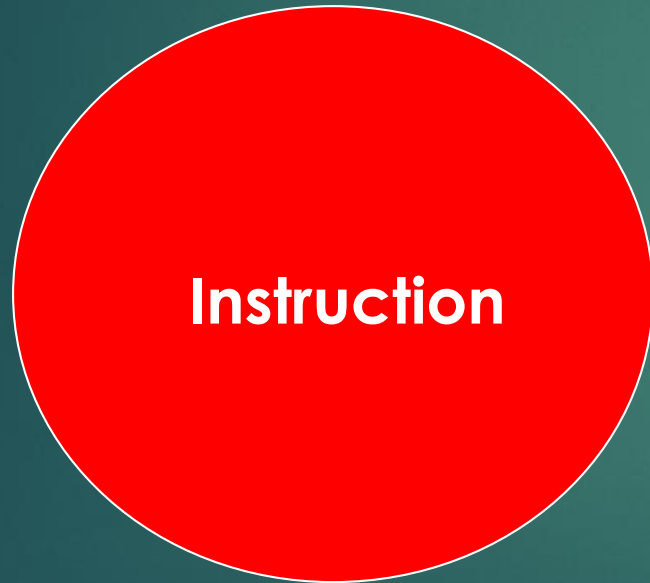
- ▶ *The Art and Science of Teaching* – Marzano (2007).
- ▶ *Classroom Instruction that Works* – Marzano (2001).
- ▶ *Improving Student Learning One Teacher at a Time* – Pollock (2007).
- ▶ *Visible Learning* – Hattie (2009).
- ▶ *Focus* – Schmoker (2011).

Curriculum Alignment
Scheduled Review
Formative Assessment

Curriculum Alignment

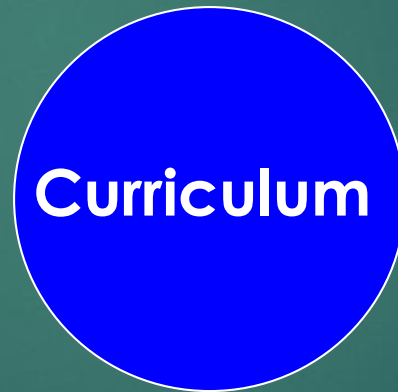
...and the Concept-Based Curriculum

The Instruction, Curriculum, and Assessment Connection



Instruction

What we
teach.



Curriculum

What we are
told to teach.

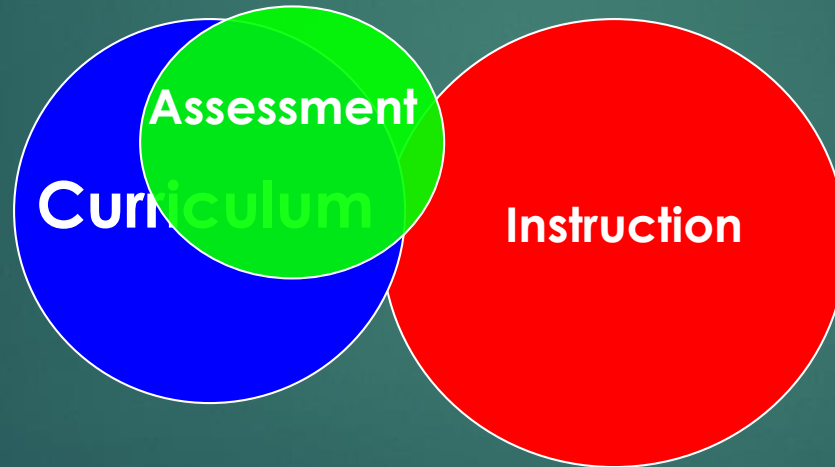


Assessment

What we
grade.

The University Experience

Sociology 1000

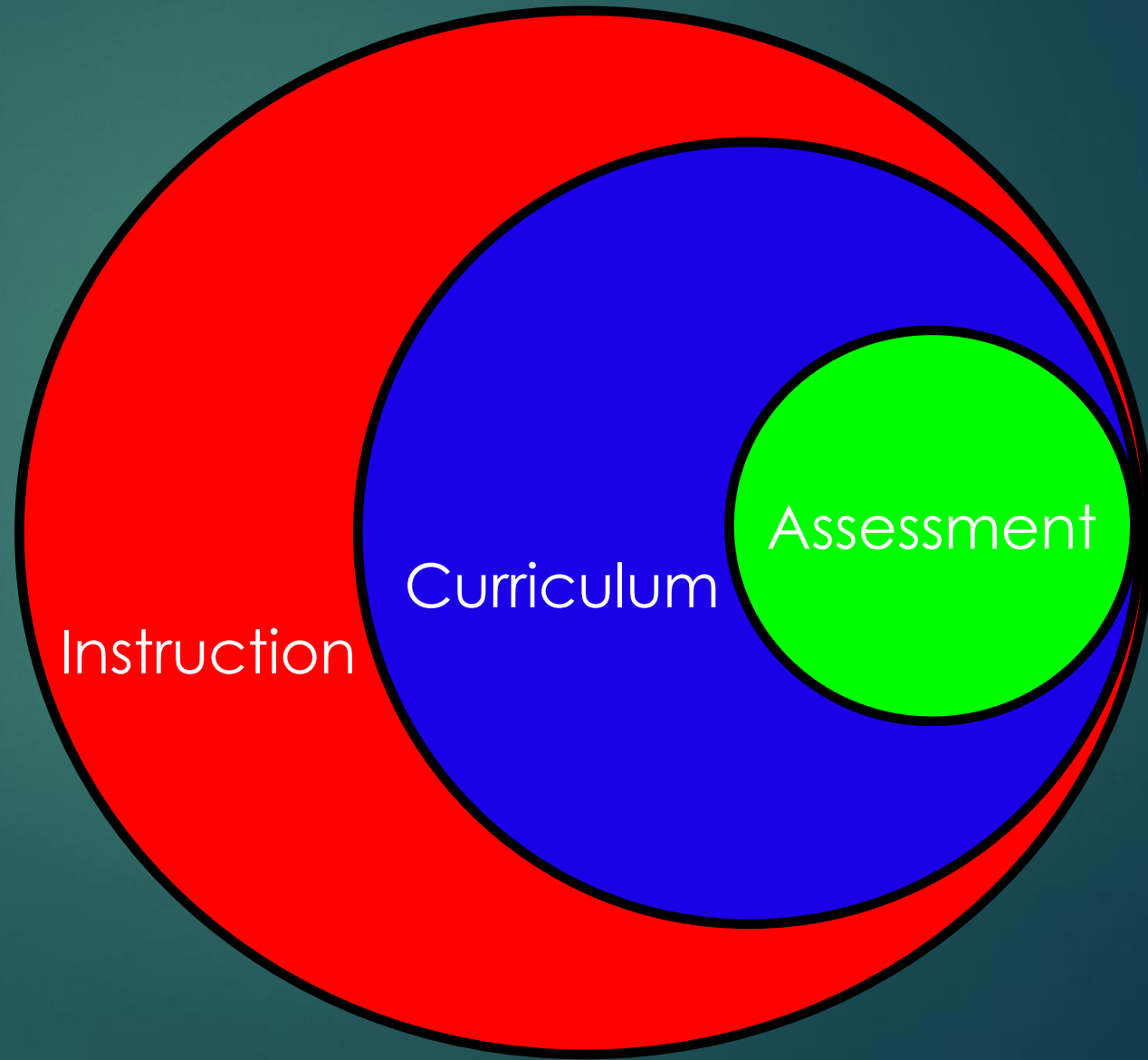


Effective Curriculum Alignment

Teach all of the curriculum.

Teach knowledge and skills above and beyond the curriculum (instruction).

Asses what you teach (instruction) and, especially, what is in the curriculum.



The St. John's Story

- ▶ Second year of teaching.
- ▶ Proof that “failure is not an option” strategies worked...results now!
- ▶ Social PAT year.
- ▶ Three units...six textbooks. Definitions and pages. Skills and pages. **Solution...A study guide and a skills guide.**
- ▶ **Discovery #1:** Concepts and not Facts:
 - Textbook:* Inventions and inventors of the Industrial Revolution in Britain and America.
 - Curriculum:* Domestic System > Mechanization > Industrialization > Urbanization.
- ▶ **Discovery#2:** Poor Alignment:
 - Quality of Life – Physical.
- ▶ **Discovery #3:** How the other half lived without curriculum alignment while teaching Social 9 at Trinity...Tsars, Tsars, Tsars.

Curriculum Aligned Study Guides

Gather teachers in teams/departments to create the guides collegially.

Step 1: Copy and paste every curriculum outcome into a Google Doc.

Step 2: Define knowledge concepts. In math (and science), provide worked examples (illustrative examples) of questions for each outcome. In Language Arts, provide illustrative examples of learning activities that develop the outcome (e.g. predicting, clarifying, and summarizing before, during, and after reading).

Step 3: Identify textbook or other resources that will be used by the teacher to help develop the objectives.

Step 4: Develop test questions and other forms of assessment for each curriculum objective.

Step 5: Identify the skills (e.g. critical thinking) and develop 3 to 5 seminal learning activities to continually practice and refine them.

Social Studies 30

SS 30: The Contemporary World

Topic A: Political and Economic Systems

Theme 1: Political and Economic Systems in Theory

a) Ideologies contain beliefs and ideas about human nature and are used to explain and justify political and economic systems.

Ideology - A systematic set of beliefs that provides a fairly thorough picture of the world that a group of people accepts as true. The key beliefs around which a political or economic system is centered. In general, there is a strong ideological difference between those who value individualism and collectivism. For example, the capitalist ideology values individualism and includes private property, free choice, and individualism, whereas communism values economic equality and collectivism. (*Global Systems* - page 9)

Individualism - A value held by supporters of a political or economic system that allows the individual goals to be emphasized over the needs of society. Capitalists and those who believe in democracy would support this value. Adam Smith's economic ideas justify this value because they emphasize the idea that when people pursue their own goals it will benefit all of society, because they work to provide the best products and services as they seek to make individual profit. Democratic political systems are aligned with this value because people have the freedom to choose the representatives they like the best. (*Global Systems* - page 11)

1. The belief that an economy must be based on the price system in order to function successfully places the greatest emphasis upon which of the following values?

- A. Empathy
- B. Cooperation
- C. Individualism
- D. Social consciousness

Curriculum Objectives

Conceptual Knowledge Defined

Textbook References

Assessment of Objective

Application to English Language Arts

Technological Process:

- ▶ Identify 10 key outcomes: e.g. Preview complex texts for intent, content, and structure to help set purpose for reading.
- ▶ Identify the best practices or activities that allow students to meet those outcomes. Illustrative examples give basic ideas. Develop more.
- ▶ Teach outcomes using identified best practices and activities over and over and over...spiral curriculum.

“Language Arts, more than any other discipline, has lost its way. It is in desperate need of clarity. To that end, we need to simplify and reconceive standards.”
(Schmoker, 2011)

Naturalistic Process:

- ▶ Develop high quality, motivational, and stimulating learning activities.
- ▶ Block out a host of these learning scenarios and then determine which outcomes are met intentionally or ostensibly.

Curriculum Alignment and Concept-Based Curriculum

“Complexity interferes with turning knowledge into action” (Schmoker, 2011, p. 16).

Concept-Based Curriculum

- ▶ Concepts are general categories of similar ideas, events, objects, people, etc., that can store vast amounts of information.
- ▶ Concept-Based curriculums do not delineate topics and facts to the same extent as traditional curriculums.
- ▶ What's are the features of a concept?

Concepts

A concept has several components:

1. Definition
2. Defining Attributes
3. Exemplars (Examples and Non-Examples)
4. Prototype

For Example: Grade 4 Social Studies

Essential Understanding: Active citizenship contributes to the vitality of communities that can promote pluralism among diverse people in a democratic society.

Guiding Question: In what ways can individuals and groups take action to promote the vitality of their diverse communities?

Learning Outcome: Students analyze how individuals and groups can contribute to the vitality of their diverse communities, past and present.

Conceptual Knowledge: community vitality involves the capacity of communities to thrive and change; vital communities are characterized by strong, active, and inclusive relationships; the actions of individuals and groups can promote or hinder community vitality; the actions of individuals and groups prior to 1905 in what is now Alberta influenced the vitality of communities; groups can contribute to the vitality of their communities by sharing their views and taking action to promote rights; current events, from local to global, can inform understandings of how communities thrive and change

Procedural Knowledge: examine ways that First Nations, Métis, and Inuit affected change in and contributed to the vitality of communities.

An Essential Understanding is a Generalization consisting of multiple concepts

Active citizenship contributes to the vitality of communities that can promote **pluralism** among diverse people in a democratic society.

Concept = Pluralism

Definition

- A pluralistic society is a diverse one, where the people in it believe all kinds of different things and seek to understand one another's beliefs even when they don't match their own.

Defining Attributes

- Energetic engagement with diversity, exploring how we're different
- Seeking of understanding across lines of differences
- Not relativism but holding our deepest differences, even religion, not in isolation but in relationship to one another
- Based on dialogue and encounter with one another, and not necessarily agreeing

Exemplar

- We embrace Canada's two official languages via an official bilingualism policy.
- We embrace new Canadians and honour their desire to retain their culture via an official multiculturalism policy.

Prototype

- Learning about FNMI foundational knowledge.

Strategy for Teaching Concepts: Concept Attainment

1. Identification of the concept and presentation of data (exemplars)

- State a definition
- Present labeled examples and non-examples
- Students compare negative and positive examples

2. Testing attainment of the concept

- Students identify additional unlabeled examples as “yes” or “no”
- Students generate their own examples

3. Analysis of thinking

- What are the defining attributes?

Identification of Concept and Presentation of Exemplars

Concept – Pluralism

Definition - A pluralistic society is a diverse one, where the people in it believe all kinds of different things and seek to understand one another's beliefs even when they don't match their own.

Identification of Concept and Presentation of Exemplars

Concept – Pluralism

Definition - A pluralistic society is a diverse one, where the people in it believe all kinds of different things and seek to understand one another's beliefs even when they don't match their own.

Misconception – When it comes to Canada's indigenous peoples, we've often heard the anachronistic view, "Why don't they just get over it? How long do we have to keep apologizing? We've given them all this land and they get all this money. What else can we do."

Identification of Concept and Presentation of Exemplars

Concept – Pluralism

Definition - A pluralistic society is a diverse one, where the people in it believe all kinds of different things and seek to understand one another's beliefs even when they don't match their own.

Examples	Non-Examples

Testing Attainment of the Concept

Concept – Pluralism

Definition - A pluralistic society is a diverse one, where the people in it believe all kinds of different things and seek to understand one another's beliefs even when they don't match their own.

Examples	Non-Examples	Why?

- Teaching about the complex political structure and decision making process in indigenous cultures.
- Teaching about the arrival of settlers in Canada as positive progress for indigenous people.
- Teaching about the treaties being a good deal entered into knowingly by indigenous peoples.
- Teaching objectively about the similarities and differences between Catholic spirituality and indigenous spirituality.
- Teaching about intergenerational trauma resulting from residential schools and the 60's scoop.
- Teaching case studies about success stories in residential schools, ignoring the larger context.

Testing Attainment of the Concept

Generate more examples and non-examples.

What are the defining attributes?

Distributed Practice

AKA – Scheduled Review

Distributed Practice – Distributed practice is the provision of multiple practice periods over a period of time. Without practice to reinforce it, 80% of new information is forgotten within 24 hours. With periodic reviews spread out over an extended period of time, such as four or five months, nearly all new information can be retained. The effect is cumulative: the more information a person has stored in memory, the easier it is for him or her to learn new information. This is because more items of information are available from which to form memory connections.

Content
Problem Solving
Creative Thinking



St. John's Story...Continued

- ▶ Curriculum Alignment Completed: Concepts defined and skills broken into small chunks through scaffolding. Iterative process.

Domestic System - The production of products by hand in the home. This is how they produced goods before industrialization. The domestic method of production required highly skilled craftsmen, and they produced high quality products. The domestic system began to die out when mechanization and the **Factory System** began producing products more quickly and cheaply while using unskilled labourers. Though the factory system offered speed and low prices, the individuality, quality and care that was put in to domestically produced products was gone.

Writing an Essay

Introduction:

Identify issue.

State competing sides and their values.

State your position.

- ▶ Teach exact curriculum concepts.
- ▶ Review. Review. Review....Concepts. **Scaffold and add to schemas about concepts at hand.** (This is remediation and enrichment combined).
- ▶ Practice. Practice. Practice.....Skills such as essay writing and analysis and evaluation of sources (charts, graphs, primary sources, cartoons, maps, etc.)

The Effects of Practice

Study	Focus	Number of Effect Sizes	Average Effect Size	Percentile Gain
Bloom, 1976	General Effects of Practice	13	.93	32
		8	1.47	42
Feltz & Landers, 1983	Mental Practice or Motor Skills	60	.48	18
Ross, 1988	General Effects of Practice	12	1.26	40
Kumar, 1991	General Effects of Practice	5	1.58	44

Implementation for Declarative x 3

Day 1	Day 2	Day 3	Day 4	Day 5
01	02 01	03 02 01	04 03 02 01	05 04 03 02
Day 6	Day 7	Day 8	Day 9	Day 10
06 05 04 03 01	07 06 05 04	08 07 06 05	09 08 07 06	010 09 08 07 01

Implementation for Procedural x24

Spiral Curriculum

Take the ten competencies and develop learning experiences and activities to revisit them time and time again.

Example: Competency of Critical Thinking = Analysis of political cartoons, graphs, charts, etc.

Scaffolded Instruction

Creating a foundation for learning, one piece at a time...break the task into its component parts and teach little by little.

Example: Skill of essay writing = thesis, opposing positions and values, statement of one's own position and underlying values.

Scheduled Review and Bloom's Taxonomy: Anything that is taught can be reviewed.

- ▶ **Knowledge** – Recall social studies concepts.
- ▶ **Comprehension** – Explain science concepts.
- ▶ **Application** – Guided practice of the completion of math problems.
- ▶ **Analysis** – Analyze messages of social studies political cartoons.
- ▶ **Synthesis** – Formulate a hypothesis.
- ▶ **Evaluation** – Evaluate the quality of an idea or piece of work.

Scheduled Review Techniques

- ▶ Simple question and answer sessions.
- ▶ Simple whole group guided practice, breaking complex skills into component parts and completing by calling on volunteers to do each step.
- ▶ Personal Whiteboards, Senteos, Thumbs Up.
- ▶ Post-it note passing.
- ▶ Examples and non-examples for concept formation.
- ▶ Talk about...
- ▶ Popcorn.
- ▶ Vote with your feet.
- ▶ Students ask the questions or formulate the problems.
- ▶ Students evaluate quality of completed work offering evidence.
- ▶ Teacher or student models work completion and students are selected to explain his or her thought processes and/or steps.
- ▶ Add items to a concept web in different colours in subsequent lessons. What is globalization?

Massed Practice

The terrifying Master's
Degree revelation

Frequent Formative Assessment

- Formative versus Summative.
- Formative for growth and Summative for grades.
- Research about impacts of Frequent Formative Evaluation (Marzano, 2007).

Number of Assessments over 15 Weeks	Percentile Gain
0	0
1	13.5
5	20
10	22.5
15	24.5
20	26
25	28.5
30	29

St. John's Story...Continued

- ▶ Identified curriculum concepts and skills.
- ▶ Reviewed and practiced.
- ▶ Assessed every day with review.
- ▶ Assessed every week with a short criterion referenced concept quiz. Criteria were curriculum concept definitions and skill demonstrations (ie: introductory paragraph construction; source analysis of political cartoons, charts, and graphs).
- ▶ Used the results to inform my instructional decisions.
- ▶ So what happened on the PAT that year?

Typical Formative Evaluation Ideas

Social Studies: A weekly short answer quiz on key curriculum concepts.

Science: A weekly quiz allowing students to demonstrate knowledge with a diagram, an oral report, or a written response.

English: Have students submit thesis statements on three selected topics rather than grading an entire introductory paragraph or essay.

Math: A three question quiz given at the start of each class.

Phys-Ed: Break complex skills into their component parts and observe students completing them on a weekly basis.

FOCUS

“...(Some) leaders resist simplicity; they are often irrationally enamored with novelty and complexity, which prevents them from focusing on and implementing their core priorities...Unfortunately, many leaders have a natural prejudice against ‘old ideas and simple prescriptions’ – even though, if implemented, these old simple ideas are the key to better results. Many leaders would rather launch new initiatives, regardless of their effectiveness. Why? Because it distracts them from the harder work of seeing to it that their highest, simplest priorities are implemented – actually done” (as cited in Schmoker, 2011, p.16).

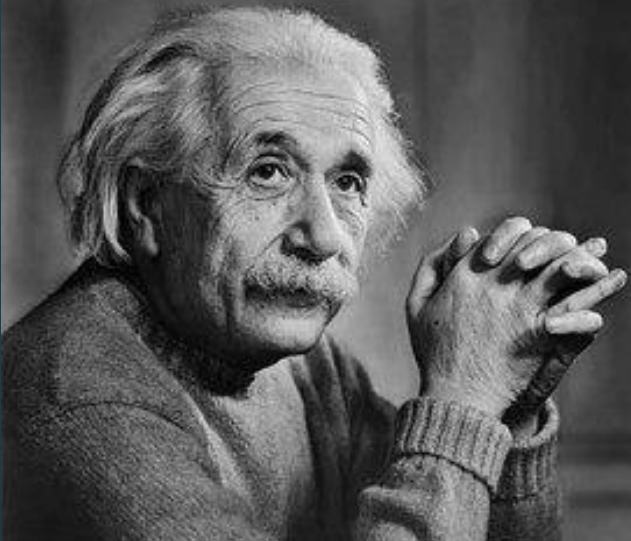
FOCUS

“In contrast, successful organizations aren’t enamoured with novelty, technology, or complexity; they know that success depends largely on implementing what is already known. They know that ‘simple prescriptions’ conveyed with clarity and simplicity are the hallmarks of effective action and leadership...It is critical that schools learn the lesson that ‘best practice’ in effective organizations is rarely *new* practice. On the contrary, the most effective actions are well known practices, with the extra dimension that they are reinforced and carried out reliably” (as cited in Schmoker, 2011, p.16).

Simplexity

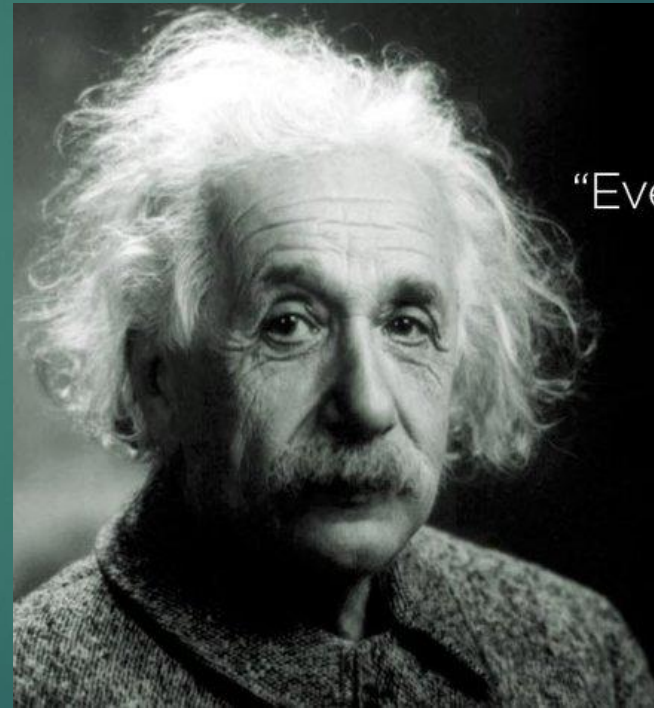
If you can't explain it **simply**, you don't understand it well enough.

– Albert Einstein



“Everything should be made as simple as possible. But not simpler.”

Albert Einstein



Instructional Leadership and the Four Stages of Competence



Unconscious
Competence

Conscious
Competence

Conscious
Incompetence

Unconscious
Incompetence

Thank-You