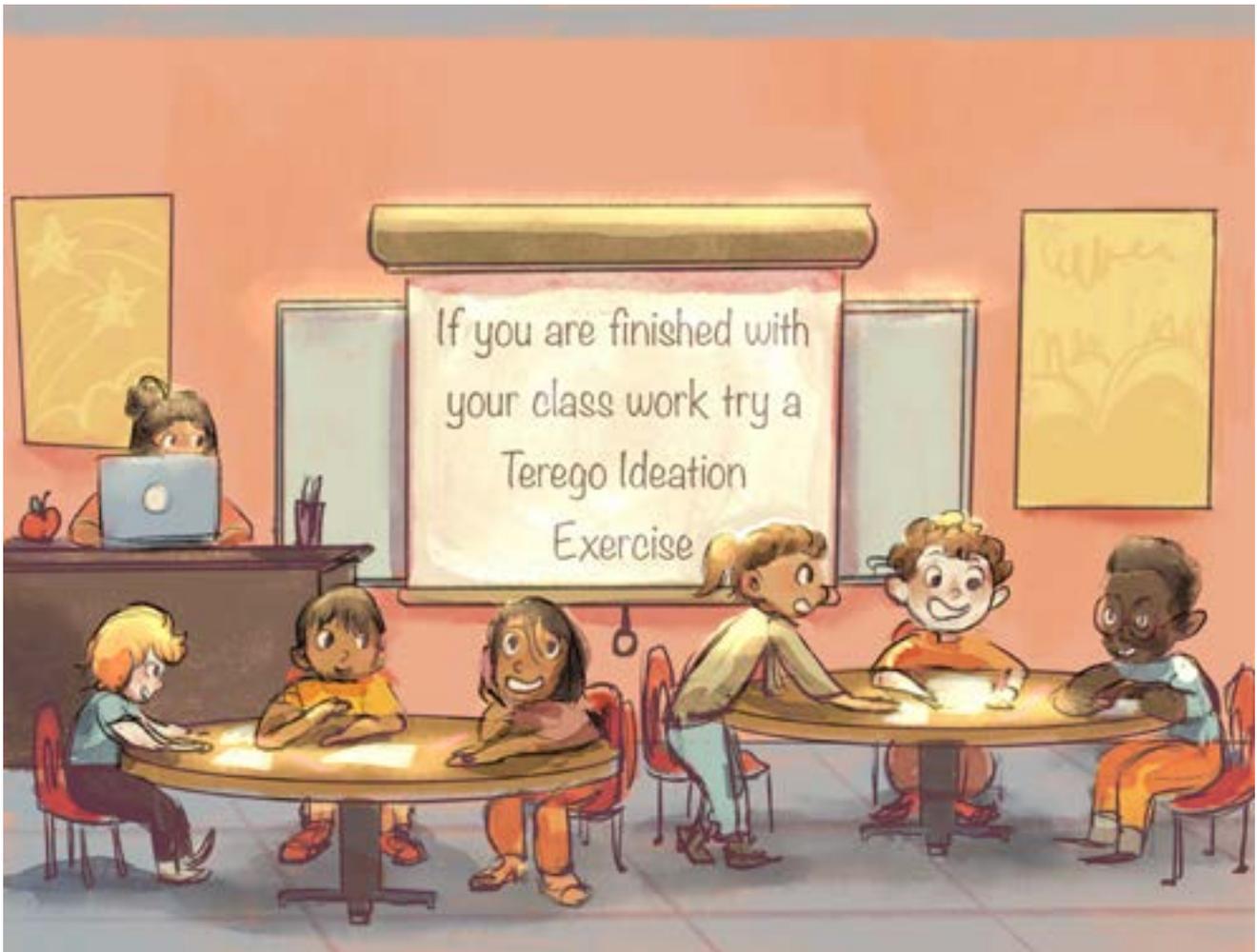


FOR TEACHERS AND PARENTS
THE FREE TEREGO IDEATION METHOD™ WORKBOOK

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FACILITATOR CERTIFICATION

INCLUDES iTIM™ the Knowledge-Mining Tool

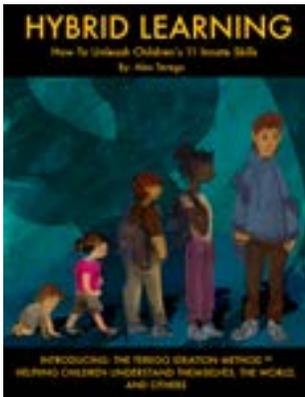


Think Things Through Thoroughly Everytime
Guaranteed

Step-by-Step Instructions on How to Help Children Uncover Facts, Find New Information, and Synthesize the Two into Their Authentic Opinion – Their Justified Belief.

**Complete this Workbook to Become a Certified
Terego Ideation Method™ Facilitator
And Display the iTIM™ Logo**

Help Your Students Think Things Through Thoroughly – Everytime. And On-demand



Companion Guide for ***'HYBRID LEARNING'***

by Alex Terego

“The Terego Ideation Method represents one of the better answers to the call for educational change in America’s schools. Finally, a program that provides a method to utilize what we know about learning and the teaching and learning process.”

- Stephen B. Graves, PhD, Professor of Education, University of South Florida.

SECTIONS:

What Does an iTIM™ Certification Mean for You, and Your Students?

Overview of the Terego Ideation Method™

Best Practice. iTIM™ Explained

The Theory Behind Knowledge-Mining

Learning and Teaching Knowledge Mining or Infoliteracy

A Blue Ocean Strategy for Teachers.

Teachers and Parents as Servant Leaders.

iTIM™ Certification.

iTIM™ Affiliate Program for Teachers and Parents.

Testimonials About the Terego Ideation Method™

What Does an iTIM™ Certification Mean for You, and Your Students?

- As an iTIM™ Certified Teacher, you can expand your function and differentiate your approach to classroom activities.
- The Terego Ideation Method™ or iTIM™ is a tool designed to help Teachers transition from a *Sage on the Stage* to the *Guide on the Side*.
- As an iTIM™ Certified Teacher, you will learn the art of Servant Leadership.
- As an iTIM™ Certified Teacher, you will ensure that your students think things through thoroughly – Every time.
- iTIM™ certification ensures you will conduct guided practice sessions focused on outcomes.
- As an iTIM™ Certified Teacher, you can adapt to the shift to remote learning. Students now wish to complete lessons and turn in projects on their own time. Asynchronous learning allows for more freedom and flexibility in the school day.
- As an iTIM™ Certified Teacher, adapt to Asynchronous Learning. Many students no longer want a schedule dictated to them. They want schools to be prepared to deliver the learning services they need, whenever they feel they need them.
- As an iTIM™ Certified Teacher, adapt to the fact that a growing number of K–12 leaders agree that the school day is no longer limited to 8 a.m. and 3 p.m., and learning is no longer tied to a building.
- As an iTIM™ Certified Teacher, you can adapt to the shift in K–12 education from a provider-based model where students have to physically attend class at prescribed times to that of a platform-based model that empowers students to learn anytime, anywhere.
- As an iTIM™ Certified Teacher, you can adapt to self-paced, asynchronous learning, which polls find is the number 1 element teachers would like to see in their classrooms this school year.
- As an iTIM™ Certified Teacher, you can let students learn at their own pace. Surveys show students prefer not to have a bell telling them when to learn and when to stop learning.
- iTIM™ is designed with your student's mind in mind, starting with a resource they already have – their brain; and especially its need to question.
- As an iTIM™ Certified Teacher, you can help students build mental models - thought experiments.
- iTIM™ helps your students take the guesswork out of problem solving.
- Using iTIM™ you can ensure your students look back using memory (theirs, their colleague's, and Google's) and look forward using imagination.
- iTIM™ helps facilitate creative, divergent, innovative, collaborative or design thinking – anywhere, anytime, and on-demand. And thoroughly.
- iTIM™ ensures that enhanced critical thinking, teamworking, problem solving, and communications are always brought to bear on a topic.
- iTIM™ ensures that everyone involved *'buys-in'* to a solution.
- As an iTIM™ Certified Teacher, you become a trusted trainer in the art of *'Knowledge Mining.'*
- Using iTIM™ you can make sure the *'right'* problems are being addressed.
- With iTIM™ you can train students to optimize teamwork.
-

- Using iTIM™ you and your students can become a consensus-builders when addressing issues or problems.
- Using iTIM™ you can make sure there is a shared understanding about solutions.
- With iTIM™ you can optimize problem solving and decision making.
- iTIM™ can help engender confidence among those tasked with learning and decision making.
- Using iTIM™ you will become more confident in your ability to train students to address and solve issues.
- Using iTIM™ you can ensure that all students responsible for problem solving and decision making are heard and involved. *“Tell me and I’ll forget, teach me and I may remember, involve me and I will learn.”* Ben Franklin quoting Confucius.
- With iTIM™ you can make sure that students are trained to trust *their* analysis and *their* solution to problems.
- Using iTIM™ you can ensure that all students who participate are trained to optimize results.
- Using iTIM™ you can make sure that the network effect of a student-group is optimized.
- With iTIM™ you can ensure an immersive and enjoyable experience for your students.
- iTIM™ ensures you will leverage the skills-diversity of *all* your students.
- Using iTIM™ anyone can intentionally ideate-on-demand.
- Using iTIM™ you can make sure your students build mental models or conduct thought experiments *before* making decisions.
- Using iTIM™ you can leverage and optimize all the innate, [Hybrid Learning](#) all students possess.
- As an iTIM™ Certified Teacher, you can apply the method across, up, and down the curriculum. It is not based on memorization but understanding through critical thinking.
- As an iTIM™ Certified Teacher, you can encourage your students to understand and buy-in to the fact that the four most important skills that all employers need are: Critical Thinking, Problem Solving, Collaboration, and Communication,
- As an iTIM™ Certified Teacher, you can help students understand the value of questioning. Robert Langer of MIT says, *“When you’re a student you are judged by how well you answer questions, but in life you’re judged by how good your questions are.”*
- As an iTIM™ Certified Teacher, you can help your students find the right questions. *“Your most difficult and important job is not to find the right answers but to find the right questions. There are few things as useless, if not dangerous, as the right answer to the wrong question.”* Peter Drucker.
- As an iTIM™ Certified Teacher, you will find solutions to two problems. One: the sheer volume of raw data that is available for refining into knowledge. Two: training students to uncover new information, refine it into information, and further refine to become knowledge. It takes divergent, creative, critical, design, discovery, innovative thinking to do this. And questioning is the answer. But that is the skill which employers demand because they are all moving towards a culture of learning.
- As an iTIM™ Certified Teacher, you will understand that thinking is questioning, questioning is thinking, inquiry begins the search for clarity, only interrogation can ensure that knowledge will be acquired, and then ideation follows. The vital skill is making meaning from data. Ascending from the confusion of raw data to the clarity of a *Justified Belief*. That is *Knowledge Mining!*

- As an iTIM™ Certified Teacher, you will help your students understand that they cannot refine raw data to literacy, and hence power, without disciplined, iterative questioning and hard work. Ascending from raw data to power via questions is what the iTIM™ workbook is all about.
- As an iTIM™ Certified Teacher, you will think of your classroom as an ocean. Is it a *Red Ocean* (static) or a *Blue Ocean* (dynamic)? Ask if you are operating within well-understood spaces where boundaries are accepted, rules understood, and both have been around for a long time? Or, are you offering commodities or innovative thinking? Are new problems responded to with old thinking? Or are you presenting new opportunities? Are you leveraging change? Above all, do you rely on teamwork, problem solving, critical thinking and a willingness to look at the big picture – the context? Can your students communicate their visions clearly? In *Blue Oceans*, teachers constantly challenge their students to adopt new ways of thinking and managing and adapting to changing circumstances. Crucially, ambiguity is seen as an asset. [Facebook/Blue Ocean Schools](#)
- As an iTIM™ Certified Teacher, you will adopt a *Servant Leadership* role. Servant leaders serve the community through a bottom-up approach which is different from traditional leadership where the leader's main focus is making sure their classroom operates through top-down direction.
- As an iTIM™ Certified Teacher, you will become a servant leader in your classroom by sharing power, putting the needs of the children first and *helping them to develop and perform at an optimum level*.
- As an iTIM™ Certified Teacher, you will be focused on answering these questions: *“Do those served grow as persons? Do they, while being served, become healthier, wiser, freer, more autonomous, more likely themselves to become servants?”*
- As an iTIM™ Certified Teacher and Servant Leader you will discover how to better serve and nurture your community; large or small. You will place the good of those you are responsible for at the top of the inverted pyramid.
- As an iTIM™ Certified Teacher and Servant Leader you will learn to stress your listening skills, empathy, an ability to conceptualize, to heal, to be self-aware, persuasive, good at building a community, committed to the growth of those you serve. You are gifted with foresight and can become even better good stewards of the well-being of those you lead through being their servant.
- As an iTIM™ Certified Teacher, you will emphasize Servant Leadership by making suggestions, encouraging your students to do the work, not give them answers.
- As an iTIM™ Certified Teacher, you will teach like Socrates. When he was asked a question, he answered by saying he didn't know the answer. He put the burden back on the questioner's shoulders knowing that the questioner had all the relevant skills to answer that and any question for him or herself – and should.
- As an iTIM™ Certified Teacher, you will teach like Socrates. He called his method *Maieutic* from the Greek word for midwife. His mother was a midwife and that's how he saw himself too – a midwife for ideas. Now you can too. You can help your students think things through thoroughly – everytime.

Overview of the Terego Ideation Method™

“This is at the heart of all good education, where the teacher asks students to think and engages them in encouraging dialogues, constantly checking for understanding and growth.” Prof. William Glasser.

The Terego Ideation Method™ is a Structured Learning System that trains students to think critically in a team about a problem, and then to clearly communicate their agreed opinion as the best solution. In the process they learn how to use facts, uncover new relevant information, and blend these two elements into a solution.

This is accomplished by rules-based procedures. The self-governing team collaborates by asking a series of questions. They learn to think in context, examining the topic by thinking up, down and around it. Following the rules, they learn how to use facts found through research, and then identify new information from questioning and group discussion. The team blends their collaborative knowledge into an agreed thesis statement to identify the optimal solution for a given problem or topic. Each team member will then be able to clearly communicate their authentic opinion or point-of-view on the subject.

The Terego Ideation Method™ applies across and down the curriculum and is not based on memorization but understanding through critical thinking.

Here is an eight-minute video explaining the method. After a twenty minute explanation, a group of teachers examined this prompt [“Why Learning Matters”](#) using the methodology and agreed on their opinion (*Justified Belief*).

The following six instruction modules are designed so that in the first module the teacher is the explainer: *the Sage on the Stage*. Then, as the students progress through modules two through six, the rotating team leaders will become the moderators as the team works autonomously with the teacher counselling where necessary as *the Guide on the Side*.

The twin goals of the initial six instruction modules that make up the Terego Ideation Method™ are as follows:

- 1) To encourage students to understand and buy-in to the fact that the four most important skills that all employers need are:
 - Critical Thinking
 - Problem Solving
 - Collaboration
 - Communication
- 2) To teach students how to work together to master and deploy these skills.

Best Practice Explained.

Six Discrete Modules.

Before each module the teacher and the student-participants review a) the teacher objectives and b) student outcomes.

After the module has been completed there is a test to check how well the students did on achieving their outcomes.

The following modules are designed so that the teacher participation is high during modules one and two as the teacher explains the method via the Power Points, and the students get used to the idea of addressing issues in teams. During the later modules the teacher participation lessens, and the student team's involvement grows until they are totally self-directed. As the students become more self-directed, they may get stuck and need to use the "cheat sheets" provided.

Module One – Thinking About Thinking.

Teacher Objectives:

- Introduce the 10 step Terego Ideation Method™. *Thinking around the Box.*
- Introduce students to Contextual Thinking.
- Using the Terego Ideation Method™ to demonstrate how to think about a subject; in this case "Thinking about Thinking." (Metacognition.)
- Introduce students to the discipline of Collaboration.
- Introduce the students to the idea of Hypothesis.
- Introduce students to the Terego Ideation Method™ which shows them how to develop, in a structured manner, an authentic point of view (a *Justified Belief*) on a subjective issue, and how to communicate this point of view.

Student Outcomes:

By successfully answering a multiple choice test related to contextual thinking:

- Students will be able to demonstrate an understanding of the theory behind contextual thinking.
- Students will be able to demonstrate and understand the importance of context.
- Students will understand the value of developing an authentic point of view.
- Students will understand the importance of the step-by-step approach.
- Students will understand how to develop an authentic thesis statement.

Module One: Video Tutorial

THINKING ABOUT THINKING. 8 minute video

Carefully read each question and then circle the best answer(s), unless otherwise noted.

1. Which ONE of the following is NOT a type of thinking?
 - a. Thinking about thinking
 - b. Critical thinking
 - c. Instinct
 - d. Intuition
 - e. Metacognition

2. Which of the following best describes the 21st century workplace?
 - a. Globalized
 - b. Interconnected
 - c. A place where thinking is highly prized
 - d. All of the above

3. Which of the following is the opposite of FACT?
 - a. Fiction
 - b. A lie
 - c. A subjective opinion
 - d. All of the above

4. After breaking a topic down into its constituent parts and discovering its definition, antonyms, and synonyms, you should:
 - a. Begin writing a thesis statement immediately
 - b. Think of the definition, antonyms, and synonyms in a wider context by questioning
 - c. All of the above

5. What is (are) the correct definition(s) of *thinking*? Circle all that apply.
- Pondering an idea
 - An instinctive reaction to external and internal stimuli
 - An electro chemical process
 - Using our logical reasoning ability to make a judgment
6. How do we think?
- An electro-chemical process
 - In abstract terms
 - In concrete terms
 - Conducting thought experiments
 - All of the above
7. What does thinking enable us to do?
- Overcome obstacles
 - Plan ahead
 - Act, not react
 - Use *knowns* to address and solve *unknowns*Get a job
 - Move forward
 - All of the above
8. To examine an issue, you must ask six kinds of questions. The first question begins with the word **Who**. What are the next five kinds of questions? Circle all that apply.
- If
 - However
 - What
 - Where
 - I don't know
 - Why
 - When
 - Yes, but
 - How

9. Circle any which correctly completes the sentence. **“Intuition is...”**

- a. ...a flash of insight.
- b. ...reason in a hurry.
- c. ...a subconscious understanding.
- d. ...something that should be trusted.

10. Fill in the blanks.

We all think. It's what makes us _____. And now _____ for a living has replaced working for a living. Thinking is all about making _____ decisions. There are many different kinds of thinking such as _____ thinking. We can even _____ about thinking, or think about things that do not exist. We use thinking to overcome _____, survive, and prosper. Our species is differentiated by our ability to _____rationally, not reactively.

Module Two – Critical Thinking.

One of the kinds of thinking identified in Module One is CRITICAL THINKING. In Module Two critical thinking is examined with the teacher's help but with input from the students.

Teacher Objectives:

- To get students understand of the value and importance of critical thinking.
- To get the students to understand the different forms of thinking.
- To get the students to explore **Critical Thinking** and its value to them.
- To reinforce the methodologies by which an authentic outcome is arrived at.

Student Outcomes:

By successfully answering a multiple choice test related to critical thinking:

- Students will demonstrate an understanding of the value they - and their future employers - will place on Critical Thinking Skills.
- Students will demonstrate an understanding the difference between the various forms of thinking.
- Students will demonstrate they understand the importance of reinforcing the method of contextual thinking reinforced.
- Students will demonstrate that they understand the importance of authenticity in any point-of-view.

VIDEO TUTORIAL – [CRITICAL THINKING](#) (5 minutes)

Module Two – Test

Fill in the blanks.

“The more you understand the importance ofthe better your chances of a good job.”

“The more you learn to think the more you will.....”

“Thinking is using logical.....to come to a conclusion.”

“High order thinking consists of.....in context, the.....of new knowledge and the synthesizing of both.”

“Critical thinking means making.....judgements.”

“Which of the following does not value critical thinking? Society, employers, employees?.....

“Give three examples of good critical thinking? 1..... 2.....
3.....

“Critical thinking is important because it.....problems.

“Critical thinking important because most problems do not have a.....or.....answer.”

“Critical thinking is vital when mistakes can be.....”

“Critical thinking is all about using high.....thinking to solve problems with no right or wrong answer just a well thought-out.....”

Module Three – Values

(In Module Three the teacher’s role begins to give way to student participation as they learn the method and begin to take responsibility for the process and outcome.)

Video Tutorial – [VALUES](#)

Teacher Objectives:

- Team leaders and students in teams of four or six will be given a prompt (**Society is Losing its Traditional Values**) to collectively examine, with the first few steps already displayed, and the step-by-step method re-explained.
- With minimal help from the teacher students will examine the prompt following the Terego Ideation Method™
- They will collectively come to an authentic outcome explaining why they believe that society’s values are weakening – or not.
- “Assists” will be provided by the teacher in case the students get stuck.

Student Outcomes:

- The teams will collectively practice examining an issue (in this case Values) by questioning and discussion and creating an agreed upon written output according to the heuristics of the Terego Method™.
- The teams will be able to prove they understand collaborating in a team to solve a problem by addressing an issue, working it through in a step by step method and agreeing on the best way to evaluate the issue in written form.

This is an “Assist Sheet” to be used in case the team or team leader needs help. I have provided answers to help in some cases.

What are values a part of? The machinery and lubricant of society.

Who enforces values? Society.

Who are the keepers of values? Civil and religious tradition.

Who decides on values? Courts and conscience.

What is the machinery of society a part of? Survival of the human race

What's the point of having values? A lubricant

What are the principle values? Integrity, respect, responsibility, and more.

What are some examples of positive values?

Why are values necessary?

Why do some values differ in different places and times?

Where do values matter most?

When do values matter?

How do values impact society?

How did values come into being?

1) Answer as Many of the Questions as Possible Including Your Own.

2) Vote to Decide on the Best Answers.

3) Write an Opinion in the form of a Thesis Statement. A Justified Belief.

Module Three – Test.

To assess how well your students are doing, have them complete the following paragraph by inserting words in the blanks spaces.

“The purpose of this team exercise was to examine values in our..... We began by defining values as a.....of cultural.....handed....down from previous..... We asked and answered as many questions about the word values beginning with the words.....and.....and.....and..... and.....and.....We then voted on which were theanswers and used those words to write our.....”

Module Four – Teamwork.

A semi-Autonomous Team Exercise. Only the initial steps are provided. Pause the video at the end so the students can refer to it.

Teacher Objectives:

- To get the teams to collectively and methodically examine **Teamwork**.
- To get the teams to convince other members of their view of the ideas of values and benefits of teamwork by working collaboratively and examining the abstract idea of teamwork.
- Again, the first few steps will be displayed as will the rules and steps they are following.
- “Assists” will be available to the teacher in case the students get stuck.

Student Outcomes:

By semi-autonomously examining a topic – in this case **Teamwork** – in a group by following the heuristics of the Terego Method™ the students will be able to

- Demonstrate how they can collaborate in a team to examine an issue by thinking their way collectively to an authentic thesis statement.
- Experience in a group setting the value of teamwork, and its value.
- Understand the step-by-step Terego approach, which will become further ingrained as a means of solving abstract or subjective problems and then writing an authentic outcome.
- Pass a test that asks them to individually write down the first ten steps of the Terego Method™

Video Tutorial [TEAMWORK](#)

MODULE FOUR - TEST

Insert the missing words in the Ten-Step Terego Ideation Method™.

- 1) Write the main word of the prompt in the.....of your Paper, White Board or Computer and begin examining the context of that word.**(Zooming Out: A Critical First Step.)**
- 2) Carefully.....the word and insert the definition below the prompt.
- 3) Look up antonyms and.....and write beneath the definition.
- 4) Ask and answer the question “What is the idea contained in this.....a part of?” Do this at for at least.....levels above main word contained in the prompt.
- 5) Divide the diagram into.....segments
- 6) Write the words WHO, WHAT, WHY, WHERE, WHEN and HOW in each of the segments. (.....In For A Closer Look.)
- 7) Ask and answer as many questions as you can.....with these words.
- 8) Write the.....answers in the appropriate segment.
- 9) Decide by vote on which of the best answers are best suited to a thesis.....
- 10) Write these.....down and create a thesis statement from them

Assists for Module Four – TEAMWORK

Who benefits from teamwork?

Who values teamwork?

What are the benefits of teamwork?

What forms does teamwork take?

What other species use teamwork?

Why does teamwork matter?

Why don't more people use it?

Where is teamwork best used?

Where is teamwork not used and should be?

When is it best to act as a team?

When did teamwork evolve?

How does teamwork benefit its members?

How does teamwork help leaders?

1) Answer as Many Questions as Possible Including Your Own.

2) Vote on which are the Most Important Answers.

3) Write an Opinion in the form of a Thesis Statement. A Justified Belief.

Module Five – COMMUNICATIONS

(Independent Team Exercise.)

Teacher Objectives:

- To get the teams to collectively examine the subjective idea of **Communication**, without the teacher helping.

- To do so with only the first few steps displayed and the rules.
- “Assists” will be available in case the students get stuck.

Student Outcomes:

- By autonomously examining the concept of Communication, with only the step-by-step rules on display, the students will demonstrate mastery of the Terego Method™ by collectively solving a problem through critical thinking in a team setting and developing and writing an authentic and agreed-upon thesis statement.

Video Tutorial [COMMUNICATIONS](#)

The video *only* gives the students the first few steps so pause the video at the end and leave it for the student’s reference.

Assists for - COMMUNICATIONS

Who benefits from communications?

Who could benefit from better communications?

What are the main discoveries/inventions involving communications?

What can we do without communications?

What is more important – communicating with others or with yourself?

What did the invention of writing do for communications?

Why is there a need for communications?

Why is there a need for symbols when communicating?

Where do communications take place?

Where would we be without communications?

When did communications evolve?

When are communications most helpful?

How do we communicate?

How important are symbols?

- 1) Answer as Many Questions as Possible Including Your Own.
- 2) Vote on which are the Most Important Answers.
- 3) Write an Opinion in the form of a Thesis Statement. *A Justified Belief.*

Module Five - Test

Fill in the steps to be taken after being given a WORD to examine?

Write the WORD in the.....of the whiteboard or paper. Now write aof the WORD underneath. Write examples of..... and antonyms of the WORD below the definition. Now ask and.....the question "What is the WORD a part of?" Write your answer.....the WORD. Now ask and answer the question "What is that a part of?" Write the answer one step above. Now divide the paper into six..... Insert the Who.....Why, Where, When and..... questions. Ask and answer as many questions beginning with these words and.....in appropriate segment..... for the best. Create a thesis.....from the best answers.

These are the correct answers.

Write the WORD in the middle of the whiteboard or paper. Now write a definition of the WORD underneath. Write examples of synonyms and antonyms of the WORD below the definition. Now ask and answer the question "What is the WORD a part of?" Write your answer above the WORD. Now ask and answer the question "What is that a part of?" Write the answer one step above. Now divide the paper into six segments. Insert the Who, What, Why, Where, When and How questions. Ask and answer as many questions beginning with these words and insert in appropriate segment. Vote for the best. Create a thesis statement from the best answers.

Module Six – CAREERS

The teams are now self-directed with minimal intervention from the teacher. The video should be paused for the duration of the exercise.

Teacher Objectives:

- To get the team to collectively examine the idea of their future **Career** choices.
- "Assists" will be available.

Student Outcomes:

- By autonomously examining the issue of **Career Choices** the students will demonstrate mastery of the Terego Ideation Method™ by collectively critically thinking and examining a problem and coming to an agreed resolution.

VIDEO TUTORIAL CAREERS

Assists for Module Six – CAREER

Who can help me? Parents, teachers, friends, role models.

Who made good career choices?.....

Who made poor career choices?.....

What is a vocation? A calling.

What is an occupation? A source of income.

What is a job? A repetitive task.

What is work? A means of earning money.

What is a profession? An occupation that requires advanced training.

What is a duty? An action required by a moral obligation.

What are my strengths?.....

What are my weaknesses?.....

What skills do I need to work on?.....

What careers pay the best?.....

Why is a career decision important?

Makes a difference between happiness and not. I will work for a long time – better get it right. I will work an average of 7 different jobs

Why is this decision so hard?

Requires looking into the future

Where do I find out about my options?.....

When should I begin looking at my future?.....

How do I decide what my options are? Understand the needs of the workplace and match my skills to its needs.

Module Six - SIX TEST

- A) The students will grade themselves on the thesis statement developed. OR if more than one team is involved they will grade the other team's thesis statement.
- B) Or fill in the blanks. Making a career decision is vital to my future. I need to understand the workplace and the different options I may have. I will need all the help I can get from teachers, parents, and friends. How and when I decide on my options is vital to my future happiness. I need to identify and work on my weaknesses and improve on my strengths.

Here is an example on the issue of CAREERS from a team of 11th and 12th graders at Booker HS in Sarasota who completed all six modules.

"On average most Americans study for 13 – 17 years, work for 45 years, and are retired for another 16 years. So, it makes sense to prepare to make good choices about a career in which we will spend 40% of our waking life."

A Sample Session.

This is an Actual Classroom Example of the Terego Ideation Method™.

What follows is a transcript of a class I held with 12 eighth grade children with Ms. Velez their teacher. This was the first day they would begin studying Algebra. I divided them into three groups of four, appointed a leader, asked them to be polite to each other, and gave them Post-it notes.

First, I wrote this prompt in the center of the whiteboard:

"DOES ALGEBRA MATTER?"

I then divided the board into six large sections around the prompt and wrote the words *Who, What, Why, Where, When* and *How* in each section.

I began by asking them to ask as many questions as they could think of beginning with the word ***"Who."*** And then finding answers, using their smart phones if necessary. I stressed to them that at this stage there are no bad answers.

After some delay as they got used to the idea, they began.

"Who invented Algebra?" One team leader asked.

The various team members got to work and came up with the following answers and took turns writing them on Post-it notes:

"Diophantus. Ancient Greek."

"al-Khwarizmi, Persia"

"The Babylonians,"

"The Ancient Chinese,"

I then asked them to come up with some questions about Algebra beginning with the word *"What?"* and again write their answers down.

"What is algebra used for?" They asked. And then answered:

"Land measurement."

"Keeping track of things."

"Taxes."

"Predicting floods."

"Agriculture."

"Finding unknowns, using knowns."

"Solving equations."

The next questions should begin with a *"Why?"* *"Why is Algebra important?"*

"Because you can calculate something rather than guessing it."

"Because without Boolean algebra search engines could not work."

"Because many jobs need it."

"Where?" questions were investigated next. *"Where was algebra developed?"*

"France, 16th century."

"Where is algebra important?"

"In algorithms."

"Computer programming,"

"Civil engineering,"

"Information technology."

"Any kind of engineering,"

"When?" questions were posed next. *"When do we need algebra?"*

"Algebra is important when we don't know something and need to."

That brings us to the *"How?"* of algebra. *"How could we live without algebra?"*

"No search engines."

"How has algebra affected my life?"

"Bridges, roads, airports, and roads and the internet could not have been built."

I asked each team leader to hold a **vote** for their best three or four answers and paste them in the appropriate section of the whiteboard.

I then read them out and asked the whole group to score each one on a scale of 1 through 10. Winners quickly emerged. I removed the lowest scoring answers which left the following best-of-the-best answers; in no particular order of importance.

“Calculate something rather than guessing it.”

“Finding unknowns using knowns.”

“Without Boolean algebra search engines could not work.”

“Algorithms.”

“Because many jobs need it.”

“Computer programming,”

“Civil engineering,”

“Any kind of engineering,”

“Algebra is important when we don’t know something and need to.”

“Information technology.”

I asked for three volunteers. Most of Ms. Velez’ students raised their hands. I chose three at random and asked them to turn these eight statements into their thesis statement or ideation. I explained they should do so by rearranging them, adding prepositions and conjunctions, and maybe verbs or even new sentences or ideas which may present themselves.

I reminded them that this was a collective endeavor, so they began with these words: ***“In our considered opinion algebra matters because.....”***

After much animated discussion and with the other students watching the process the three editors completed their thesis statement and one read it aloud.

“In our considered opinion algebra matters now more than ever because we live in a technological age, and we depend on computers, search engines and communications technology. And these new technologies, and even older technologies, depend on algebra to get the engineering right. The jobs we will all get will depend on our ability to calculate rather than guess, and to use what is already known to find out what we don’t know and need to.”

This took forty minutes. Ms. Velez applauded her students and encouraged them to congratulate one another adding, *“If you can now see your very own reason to learn algebra, please stand?”* They all did.

That is *Ideation*. That is *Buy-in* via divergent thinking. That is an *Authentic Justified Belief*. That is how to discover the *knowns* - the facts - reveal clues about the unknowns and synthesize them into a *Justified Belief*.

Even though they did not know it, Ms. Velez’ students were ***Knowledge Mining***. A critical skill for this new age.

If you would like to contribute your thoughts or ask questions, please join the group discussion at [Facebook.com Blue Ocean Schools](https://www.facebook.com/BlueOceanSchools).

The Theory Behind Knowledge-Mining

Robert Langer of MIT says, “When you’re a student you are judged by how well you answer questions, but in life you’re judged by how good your questions are.” Peter Drucker agreed, “Your most difficult and important job is not to find the right answers but to find the right questions. There are few things as useless, if not dangerous, as the right answer to the wrong question.”

Throughout this workbook I have stressed the importance of discovering the facts about an issue, and identifying new information through questioning, and then synthesizing the two into a statement – what Aristotle called a *Justified Belief* - before disclosing that statement.

There are two problems all of us struggle with when trying to do this.

The first is the sheer volume of raw data that is available for refining into knowledge. The second has to do with the cognitive skills needed to uncover new information, and refine it to become information, and further refine to become knowledge. It takes divergent, creative, critical, design, discovery, innovative thinking to do this. And questioning is the answer.

But that is the skill which employers demand because they are all moving towards a culture of learning. iTIM™ is the best practice.

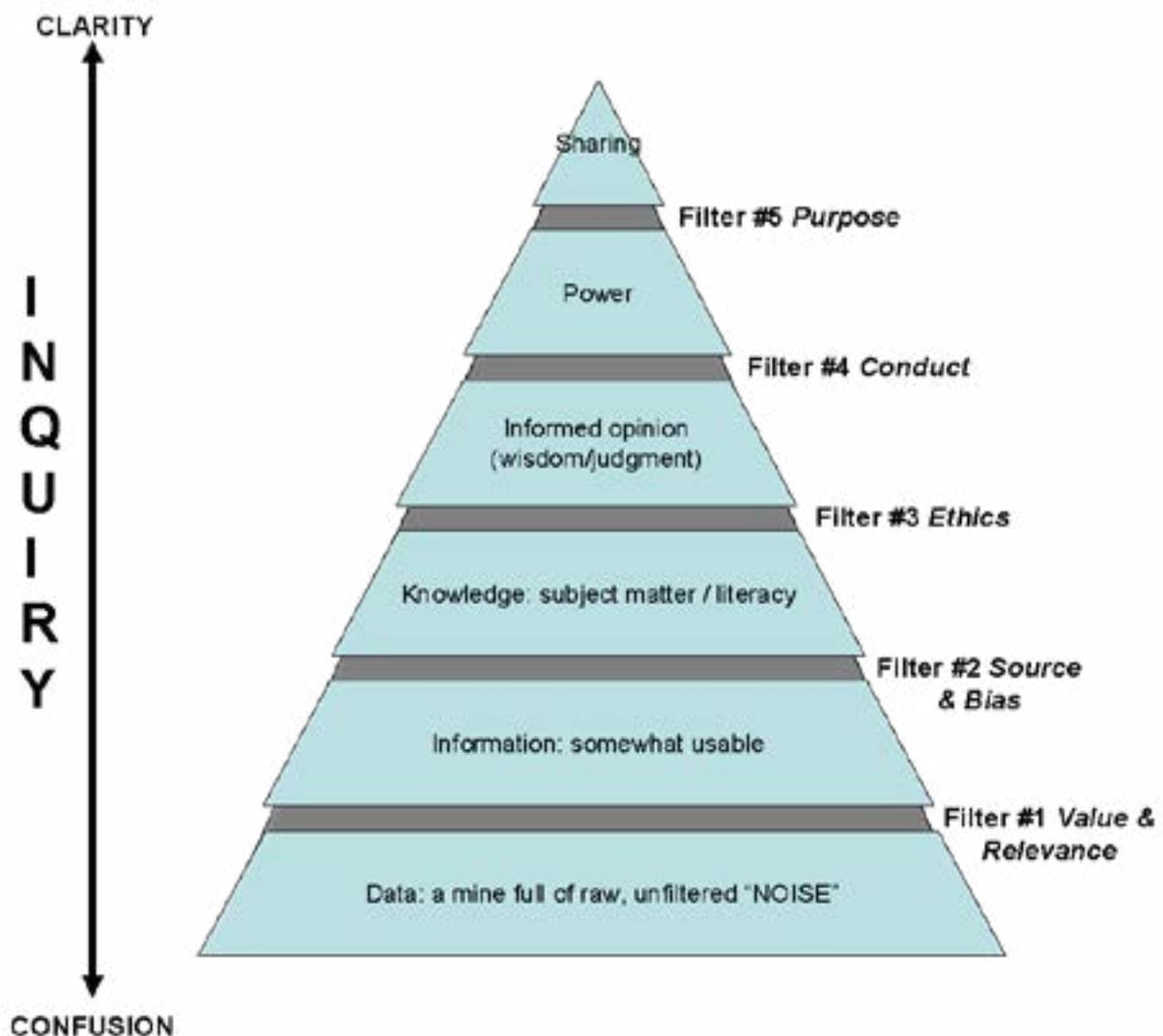
Learning and Teaching Knowledge Mining or Infoliteracy

Think about the early explorers navigating the oceans. They had known for a long time how to navigate from north to south, and back again. The Sun helped them. They knew that there were lands to the east and west, but they had no reliable way of navigating in those directions. Like in an algebra equation, *something was missing*. They knew that they needed an instrument to give them the *missing* information – new knowledge - they needed to guide them as accurately east and west as they could already navigate north and south. And that led to the invention of a clock that could help them keep time at sea, and therefore plot their position. And all that led to longitude and latitude; a grid system that allowed anyone to navigate anywhere in the world. Look how far that needed bit of information has brought us; now even cars and cell phones keep note of our position; without even being asked. Without someone knowing what they did not know and needed to know the Global Positioning Satellites would not be with us, neither would autonomous vehicles.

Necessity is indeed the mother of invention. However, you need to be working on a problem to see the need. That is why inquiry, investigation, exploration, scholarship—call it what you like—is so rewarding. If you are puzzling about something, you will learn more than if you are simply memorizing facts and figure. We are born problem-solvers and it is only when we are in that natural state—looking for answers—that we understand when we do not know something, *why* we do not know it, and *why* we must know it. And that leads to the *how*.

What follows can be viewed as a best practice for all of us who wish to mine and refine data into knowledge.

So, look at the following pyramid diagram before reading on. And encourage your colleagues to be skeptical and active, not gullible and passive. How? Remember this: thinking is questioning; questioning is thinking; inquiry begins the search for clarity; only interrogation can ensure that knowledge will be acquired; and then ideation follows. The vital skill is making meaning from data. Ascending from the confusion of raw data to the clarity of a *Justified Belief*. That is *Knowledge Mining*!



Confusion is the same as ignorance, and clarity is the result of knowledge. And *inquiry* through questioning is the *only* way to get from confusion to clarity, from the dread and fear of – and too often comfort with – ignorance, to the safety and empowerment of knowing.

Data is the everyday noise is at the bottom of the pyramid in the diagram above, power is at the top. Confusion reigns at the bottom where all the data dwell. Clarity shines at the top because we mined and refined the data to produce information, and then by further inquiry we obtained knowledge, wisdom, judgment and finally power.

Your students cannot get from raw data to literacy, and hence power, without disciplined, iterative questioning and hard work. Ascending from raw data to power via questions is what this workbook is all about. If you want that to become a habit for your students, read on.

Not All Noise Deserves Equal Weight: So, Filtering is Vital.

We all put different values on different kinds of noise, and to a large extent we do this automatically. We just do not really know exactly how, but my theory is that the [Hybrid Skills](#) we all are born with have a lot to do with it.

It pays to understand these processes that we automatically employ so that we can be judicious in their application to other inquiries.

A Pyramid of Human Understanding

Think of the process of achieving knowledge through inquiry, and hence power, as a pyramid of human understanding. We should constantly climb this pyramid as each new piece of data comes to our attention; looking to make sense out of all the text, sounds and sights that bombard us.

We do a lot of things automatically such as walking and talking. That does not mean we are contemplating every step we take, in terms of kinesthetics, or considering every word before we utter it, although more of that is probably a good idea. But the better we understand the process of walking and talking, the better able we are able to deliberately improve on the skills. Physical therapy would not work otherwise.

The same goes for thinking; the more we understand the basics of this fundamental aspect of human nature, the better able we will be to practice it, improve upon it, and teach it to others.

I realize that any discussion of this way of looking at how to get from data to power is a little abstract. My purpose in explaining this concept is not so that you can have discussions with colleagues about this idea, but rather that you as a teacher or parent should try to understand the process so you will be in a better position to help your colleagues gain knowledge through inquiry; otherwise known as *Infoliteracy*. If you were helping them with their tennis serve or dribbling a basketball, it would help if you knew the rules of tennis or basketball and the mechanics of serving or dribbling first.

This pyramid has six levels, separated by five filters.

At the bottom is a mine full of raw data—sights, sounds, smells, text and touches, structured data, and unstructured data. This is largely unusable, unfiltered, unsorted, and therefore unavailable and unintelligible. Like fossilized carbon buried miles underground, it is full of potential. But that potential cannot be unlocked without certain processes being undertaken. The knowledge of where the fossil carbon is, and how to get at it, and process it or refine it turns the mere knowledge of where the fossil carbon is literally into power.

Filter #1—Value and Relevance

The first filter is where we retrieve the data, evaluate it, retain some, and discard a great deal. This is the value phase. It is human nature to do this filtering automatically, but it helps to know how we are doing this so that we can know how to consciously adapt this process to all of our decisions and actions.

In discussing the nature of information with students, an excellent exercise is to get them to ask themselves the following about raw data:

- *Do these data help?*
- *How do these data help?*
- *Do these data add to the process of learning, or solving a problem?*
- *Which pieces of data clarify, and which are irrelevant?*

Then ask them to discard some data and retain other data based on this filtering process.

At this stage we are looking for relevance. Our human nature gives us the skill to see and evaluate the relevance of data at the speed of light—and without it ever rising to the level of the conscious part of the brain—we seem to be subconsciously asking and answering these same questions over and over again:

- *Does this piece of data (it is not information yet) help?*
- *Does this piece of data help clarify my situation?*
- *Does it help solve my immediate problem?*
- *Does it have value?*

Having established the value of some of the data because of its relevance, we retain it. It is now somewhat usable information and is beginning the process of changing its nature from data to information.

Filter #2: Source and Bias

Now the raw data is getting closer to being information and is now ready for its second filter. In this stage, we are looking at the *source* of the information, and importantly we are on the lookout for *bias*. We are asking skeptical questions about authenticity, accuracy, and checking to see if the information is current. Information that is biased, inaccurate, or inauthentic is not valuable information. It is misinformation or disinformation. It needs interrogating and winnowing.

These questions help.

- *Do I trust the source?*
- *What are the characteristics of the source?*
- *Is it a mouthpiece for some other source?*
- *Have others checked this source?*
- *What evidence do I have that it is an unbiased source?*

After information has now passed through these two filters it can be deemed subject-matter-literacy: defined as accurate, authentic, unbiased information on a particular subject—any subject—of interest to us. We started with raw data; say a railroad timetable. We checked the data against our destination and preferred time of day. We checked the source, and it turned out to be an authentic, unbiased, and timely; an Amtrak timetable published a week earlier. Now it is no longer just numbers and letters on the pages of a book or website, it is truthful knowledge of the subject matter.

Filter #3: Ethics

The third filter—and one that is *always* necessary, even with railroad timetables—is the one where the first ethical factor comes into play.

- *Did you buy the timetable so that you can take a journey for nefarious purposes or righteous ones?*
- *Did you come into possession of the information in the timetable lawfully?*

Passing through the ethical filter takes knowledge and transforms it into trusted wisdom, which is the realm of opinion and judgment. If an opinion has been arrived at using the concrete steps outlined, it has a much better chance of being a wise judgment based on the facts. Remember to teach your colleagues and your children that there are *always* ethical implications of *any* opinion, judgment, or decision. Without an ethical check, it cannot become a *Justified Belief*.

Filter #4: Conduct

The fourth filter is also one which controls ethical conduct. It is where questions of cultural awareness and respect for confidentiality, and the rights of others are asked, and answered.

- *Do I have a right to this information?*
- *Am I breaking a legal or moral obligation by having this information?*
- *What are my obligations regarding my possession of this information?*

Having passed the tests of the fourth filter, one should be in real possession of the power to make a wise judgment or hold a valued opinion. Data has now been transformed from useless, mostly irrelevant bits of random fragments that are nothing but potential, to instruments of personal power. And wielding personal power is a challenge. What is the purpose of wielding that power?

Filter #5: Purpose

The fifth filter has to do with purpose. Is power—so systematically gained by mining data, refining it into information and then knowledge, then wisdom and finally power—going to be used for good or evil? The final filter has to do with right conduct, using this power only for the benefit of all. This filter is where questions of cultural sensitivity, respect for confidentiality and private property, and good – i.e., ethical - conduct are asked again.

- *If I share this information, will it do harm?*
- *What are the consequences of sharing this information?*
- *What are my obligations regarding my possession of this information?*

Having filtered and refined and mined the data into knowledge, it can be considered valid for inclusion as part of the discovery of a *Justified* or *Warranted Belief*. And the belief, now justified, can now be shared with confidence.

The Use of Power: Sharing knowledge

Finally, we come to the use of power. Power only has a value when it is used. If you were the only person in the world, you would automatically have immense power, but in the absence of others it is sterile and impotent; not really power at all. Another way of saying this is that *knowledge has much less value if it is not shared*. Knowledge should be as open-source as possible. The whole idea of gaining power is, or should be, to further the cause of humanity, otherwise wielding power becomes a purely selfish act, and does not advance the cause of humanity, but only the cause of an individual.

As teacher or parent you are helping your students how to decide what works best for them or the organization when wielding power: altruism or selfishness. This is the classical conundrum of human nature, remembering of course that we all have free will.

Data at the bottom of the pyramid of human understanding is a resource which, when undifferentiated from its surroundings, has no value. Power, at the top of the pyramid, without wisdom, and without sharing its benefits, is of value only to its holder.

A Blue Ocean Strategy for Teachers.

Think of your classroom as an ocean. Is it red or blue? Decide after reading this section. If you are a parent, think of your children's home learning environment as red or blue.

In October of 2005 W. Chan Kim and Renée Mauborgne, two professors wrote a seminal book called [The Blue Ocean Strategy](#). It has transformed the way many businesses as well as organizations to look at themselves and the spaces in which they operate as either *Red Oceans* (static) or *Blue Oceans* (dynamic).

Blue Ocean Thinking can be applied to the largest or smallest organizations: from NASA to a group of schoolchildren in a classroom, or a child at a kitchen table. And teachers and parents are best placed to effect this change from complacency to potency.

Red Oceans represent known and well-understood spaces where boundaries are accepted, rules understood, and both have been around for a long time. Their services or products have long since turned into commodities, and their institutional legacy has stifled innovative thinking. New problems are responded to with old thinking.

Blue Oceans represent opportunities. They are unknowns. They are knowledge-based and complex. They rely on the effective and nimble acquisition and deployment of knowledge. They are the product of leveraging change. Above all they rely on teamwork, problem solving, critical thinking and a willingness to look at the big picture – the context - and communicate visions clearly. In *Blue Oceans*, leadership constantly challenges itself to adopt new ways of thinking and managing and adapting to changing circumstances. Crucially, ambiguity is seen as an asset.

The best practice for teachers and parents is to look at their children or students and the unit in which they operate as either a red ocean in need of becoming more learning-centric or a blue ocean on its way to being even more learning-centric. The principles for becoming blue or even bluer remain the same.

Kim and Mauborgne underscore that the ultimate peril for those operating in a red ocean is the tranquil, self-satisfied, and powerless feeling of floating, unaware that in reality they are in troubled, nutrient-poor, and stagnant waters. *Red Ocean* supervisors resort to tinkering and making incremental changes and modifications, instead of looking for transformative opportunities. Their *Red Ocean* world view is one where boundaries and conditions are a given, unquestioned, and accepted. Consequently, all the stakeholders, even the leadership, have no power to change the accepted rules.

Brand new *Blue Oceans* do arise when boundaries and rules are breached by parents and teachers with new thinking, resulting in strategic shifts in direction.

Why not make that your goal in teaching your children?

Almost all the teachers/trainers/instructors/tutors/coaches/professors/mentors I have ever known, possess these qualities of listening, healing, nurturing, collegial self-awareness, wanting the best for others, self-sacrificing, protective, good stewards; that sounds like most ethical people too: like Mandela, Gandhi or MLK Jr.

Servant leadership is exemplified by the leader who can make suggestions, encourage colleagues to do the work, not give them answers.

The Terego Ideation Method™ or iTIM™ is a tool designed to help you transition from the Sage on the Stage to the Guide on the Side. It will help you be more of a Servant Leader helping you transition your unit to a learning-centric Blue

When Socrates was asked a question, he invariably answered by saying he didn't know. He put the burden back on the questioners shoulders knowing that the questioner had all the relevant skills to answer that and any question for himself – and should.

He called this method *Maieutic* from the Greek word for midwife. His mother was a midwife and that's how he saw himself too – a midwife for ideas. Now you can too. **iTIM™** is a Learning Platform to help you help your children and students to think things through thoroughly – everytime.

iTIM™ Certification.

We prefer the honor system. If you have completed this workbook feel free to display the **iTIM™** Logo

Name..... Insert Registration box here.).....having fully studied and completed all the assignments contained in this course on the fundamentals and best practices Terego Ideation Method™ I consider myself able to ethically use the **iTIM™** method to help others.

Testimonials About the Terego Ideation Method™

“This program represents one of the better answers to the call for educational change in America’s schools. Finally, a program that provides a method to utilize what we know about learning and the teaching and learning process.”

Stephen B. Graves, PhD,
Professor of Education, University of South Florida

“This methodology represents an enormous amount much needed cross-disciplinary, integrative thinking.”

Dr. Peter French
Dean of Academic Affairs, University of South Florida

“With this new method writers become independent thinkers – a goal of all 21st century educators. Critical thinking development moves students outside the box, letting them experience the joy of acquiring and sharing new knowledge. Now Socrates is alive and well again and lives in the classroom.”

Dr. Pat Bishop
Director of Language Arts Hillsborough County Schools

“Students learn that ideas need context. Since the Terego method addresses thinking in a new way students learn to put their ideas into context before writing them. This makes their writing personal, substantial, penetrating, and unique.”

Mrs. Cathy Lane,
Language Arts Booker High School

“I never used to think before writing. Now I do, by asking questions. Thanks Mr. Terego.”

Michael Gironda
12th Grade Lakewood Ranch High School

“If you think like this method teaches you to, the ideas will find you.”

Joshua McDowell
12th Grade Lakewood Ranch High School

"This collection of useful ideas for acquiring and transmitting your personality and identity in written form is very beneficial. The diagram approach is very useful, helping me organize my thoughts by thinking in context."

Hannah Kirsch

12th Grade Pineview School

"It's not just theory, it's useful."

Joshua Sun

12th Grade, Booker High School.

"Instruction on a new way of thinking. Also a new way to strategize."

Bruce Compton Merkle

12th Grade Booker High School.

"Your ideas and methods are revolutionary and extremely beneficial. Bravo Mr. Terego!"

Steven Sloan

12th grade student, Pineview School

"This really altered the way I think about problems. I feel so much more confident in my thinking abilities. This was really fun and life-changing."

11th grade Booker High School student Alexis Aguero. 4/22/14

"The Critical Thinking seminar was phenomenal. I have learned an essential concept that has been lying under my nose for quite a bit. It was like igniting a fire."

12th grade Booker High School student Zabdi Saint-Cyr. 4/22/14

"I am already using the knowledge I gained in the Critical Thinking seminar. It enlightened my mind."

9th grade Booker High School student Erin Lee. 4/22/14

"This seminar will help me think more deeply about decisions in the future. This course taught me the necessary elements of critical thinking."

11th grade Booker High School student Deja Du Bose. 4/22/14

"This was eye-opening. It gave me a whole new perspective."

12th grade Booker High School student Alyssa Johnson. 4/22/14

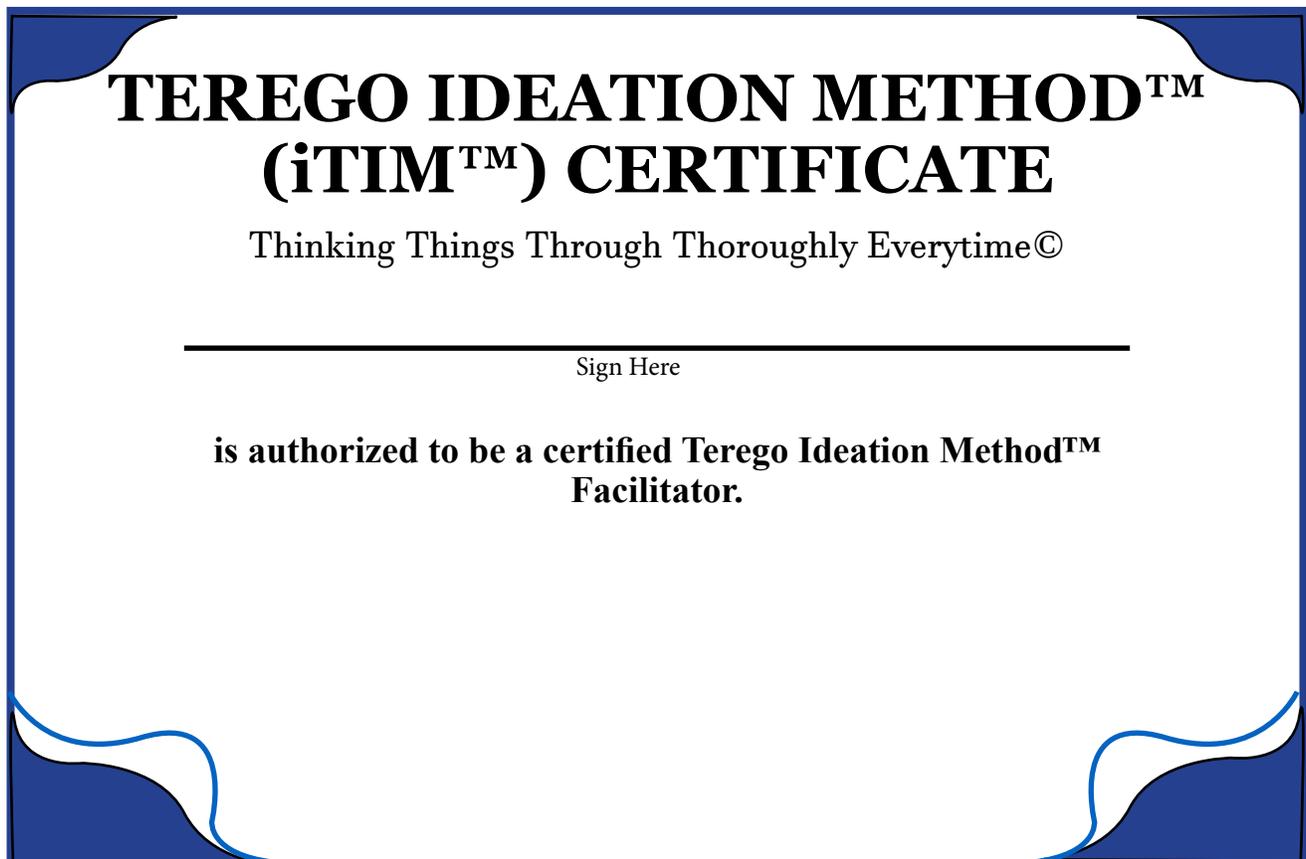
"Game changing. Makes me ask the right questions."

12th grade Booker High School student Rafael de Lima. 4/22/14

"This method changed the way I think about every aspect of the world around me."

10th grade Booker High School student Elizabeth Betancur 4/22/14

"Using this method takes the guesswork out of problem solving," Rafa de Lima Booker HS
12th grade



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